The Transitivity-Related Morphology of Tetelcingo Nahuatl: An Exploration in Cognitive Grammar

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Linguistics

by

David Harold Tuggy

Committee in charge:
Professor Ronald W. Langacker, Chairman
Professor Sandra Chung
Professor Jeffrey L. Elman
Professor Alain J. J. Cohen
Professor Donald E. Wayne

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1 [The original title had “Space Grammar” instead of “Cognitive Grammar”. Space Grammar, and the abbreviation SG, have been changed to Cognitive Grammar, and CG, throughout this electronic version of the dissertation.]
For Dad
and for Mom,
and especially
for Joy
PREFACE

My original intention or hope in writing this dissertation was to give a fairly comprehensive coverage to some extensive area of Tetelcingo Nahuatl morphology. As a result of learning and trying to analyze Tetelcingo Nahuatl and studying linguistics within the same span of years, I had more than once seen a theory or analysis that accounted elegantly for a limited range of phenomena fail to be able to make obviously relevant generalizations for a larger body of data, forcing me to treat as exceptional cases that were actually following a pattern which was observable in some of the supposedly “regular” cases, but which was uninteresting in terms of the theory. Time and again after doing analysis on some portion of the grammar I was left with the feeling that there had to be more to it than that. Thus I wanted to produce, for a sizeable chunk of Tetelcingo Nahuatl structure, an analysis that would be sensitive to the dictates of the data themselves rather than one that would try to cram them into a theoretical mold they could fit only uncomfortably.

This is the result of my efforts along these lines. I am both quite pleased and somewhat frustrated with it. One of my dissatisfactions is with its incompleteness: for the sake of practicality I had to restrict the range of phenomena to less than I had wished and I have failed to give as complete coverage as I wanted to give to even these limited data. Thus, although I am well aware that this dissertation borders on the monstrous when it comes to size, I feel constrained to apologize for there not being more of it. Particularly I wish I could have dealt more thoroughly with the phonological and etymological questions that pop up throughout this work, and drawn more profitably on the tremendous amount of literature both on Nahuatl and on the many kinds of grammatical constructions I have discussed. Non omnia possumus omnes, however, and having acquired what is to me a quite satisfying understanding of many aspects of the data, and having expressed, albeit imperfectly, much of that understanding, and having seen promise that the approach will allow me to understand the rest of the language and properly relate these data to it, I am basically content.

A deeper dissatisfaction has to do with deficiencies in the depth of the coverage rather than its breadth. I have had to deal with a great many profound questions: unlike the Psalmist, I have, I am afraid, exercised myself in great matters, and in things too wonderful for me. I am fairly confident that what I have said is true, but I am less confident (though still hopeful) that it is not a significantly lop-sided, misleading representation of the truth. In many areas (e.g. the nature of causation, the stem-affix problem, the characterization of specificity, etc.) I feel that I am not far from a more unified and unifying perspective than I have been able to achieve; many issues have been left at a stage where they are almost ready to jell. Or maybe they are not. I am acutely aware of how very limited my knowledge is. I do not know all of what has been available to me; I have not learned from others the insights that they have gathered. Beyond that, there is so much that none of us knows. Language is so extremely complex, and much of the complexity is of the sort which analysis can easily obscure rather than illuminate. We are like the doctors in the famous story, very carefully pulling the rabbit apart to see what makes it tick, and quite consternated when somewhere in the process the rabbit dies. We are like the boy Newton compared himself to, sitting on the beach playing in a little tidepool and finding even it to be more than we should have thought, while right there in front of us is all of God’s ocean, inviting, and yet overpowering with its immensity, all our efforts to understand it.

This study was done within Ronald Langacker’s Cognitive grammar framework [Space grammar, as it was then called], somewhat against Professor Langacker’s own advice,2 because it is the most satisfying theory I have worked with, the one that leads me to expect and permits me to express the kinds of complexity and unity I find in language, the one that I can think best in, the one that gives me the best hope of keeping the insights of the other frameworks while adding its own. I hope that I have not sounded

2 [Langacker had suggested that writing in another model might increase my chances of being hired by the linguistics departments of most universities.]
intolerant and doctrinaire in my analyses and in my occasional criticisms of other theories. I know that many men and women of greater intelligence and knowledge than mine have been content to work under them and accept the answers that they provide; I also know that I could no longer easily do so myself, and I have chosen to express the truth as I see it in the way I know best. I hope I have done so with sufficient clarity for others to at least understand if not accept what I have said.

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To the people of Tetelcingo, Municipio de Cuautla, Morelos, Mexico, who taught me their language. I would single out from among them Don Martín Méndez Huaxcuatitla, Don Pedro Tecla (Tetla) and Doña Paulina de Tecla, the late Don José Catonga, Benjamin Catonga Baizano, Carlos Baizano, Doña Rosa Jiménez de Rodríguez, Nabor Tecla, and especially my good friend Trinidad Ramírez Amaro.

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To those who have taught me linguistics, even though much in this work runs counter to many of their presuppositions. Deserving of special mention as good teachers and friends are Sandy Chung, Don Frantz, David Perlmutter, and Rich Rhodes.

To Fran Karttunen, the Linguistics Research Center of the University of Texas as Austin, and the National Science Foundation, for giving me access to computer listings of various Nahuatl dictionaries, including the Brewers’ Vocabulario. These dictionaries were compiled under N.S.F. Grant BNS78-17447.

To the directorate of the Mexico Branch of the Summer Institute of Linguistics, who encouraged and freed me to embark on this study program and helped pay for computer time through their Staff Scholarship Fund, and to the Linguistics Department at UCSD, for supporting me with a Research Assistantship in 1980-81, and Teaching Assistantships and an Out-of-State Tuition scholarship before that.

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To my grandmother, Dauphine Tuggy, recalling the many times when, upon achieving some dazzlingly brilliant insight, I have thought, with perfect truth, “Of course that is right—my grandma could have told me that!”

To my parents, who taught me a love for language and learning and logical thought, and for whom I feel a great love and respect.

To Joy, who in eleven years of marriage has helped, supported, loved, honored, fed, and put up with me at every turn, and for whom my love and admiration knows no bounds. She, more than all the rest, makes it all worth while.

To Jesus Christ, whose I am and whom I serve, who invented language, language speakers, and linguists. I offer this work to him, believing that my joy in discovery, perception, and understanding corresponds to his in creation, and trusting that the work, with all its great imperfections and limitations, will be acceptable to him, since he has already accepted me with mine.
ABSTRACT

The transitivity-related morphology of Tetelcingo Nahuatl (TN), a modern Aztecan dialect, is examined from the perspective of Ronald Langacker’s Cognitive Grammar (CG). CG differs from most contemporary linguistic theories in claiming (for instance) that meanings are encyclopedic, comprising (with varying degrees of centrality) all the conceptualizations conventionally associated with a form; that syntax, morphology, and the lexicon differ not in kind but in degree; that syntactic structure is almost entirely overt (there is no “deep structure”); that “grammatical morphemes” are meaningful and their usages result from their meanings; that multiple analyses are to be expected; that particular usages should be included in a grammar along with the syntactic generalizations subsuming them.

Chapters 1 and 2 deal with general concepts crucial to characterizing the data. Chapter 1 presents the CG framework; Chapter 2 deals with the characterization of affixality, of causation, and of transitivity, and with how expanding the scope of a verb may change its transitivity. Crucial to understanding these is the process of internalization, in which usage, capitalizing on conceptual salience, heightens that salience, prompting further usage which further heightens the salience, until a notion that was originally peripheral or external to a form’s meaning can become quite central to it. A verb is transitive to the extent that its meaning includes the internalized expectation of construction with a direct object. Such internalization most easily occurs where the verb has a salient but underspecified direct object (landmark) in its conceptual structure.

Chapters 3-7 are data oriented. In TN the transitivity of stems is important; the transitivity of full verbs (i.e. clause-level transitivity) is much less so. Chapter 3 deals with transitivity patterns of simple stems, including the few cases where both transitive and intransitive usages occur.

Noun incorporations in TN (Chapter 4) run the gamut from almost adverbial “manner” incorporations (e.g. iknō-ihta (orphan-see) ‘pity someone’) through time, purpose, and secondary object incorporations to direct object incorporations (which satisfy the transitive valence of the stem) and even subject incorporations. In one interesting pattern, incorporation of an object changes the transitivity, shifting the direct object status to a Thing prominent in the semantics of the incorporated element. For instance, when kši ‘foot’ is incorporated by mōla ‘hurl something’ (a secondary, “goal” type object incorporation), the direct object status shifts from the Thing hurled to the person or animal implied by the foot.

Chapter 5 deals with pronominal object prefixes, which satisfy the transitive valence of their stems. These include the reflexives, which are often used to passive effect, and the unspecified object prefix ƛa-, which can also be used on intransitive stems and may leave a transitive stem still transitive.

TN has an extensive system of causative/applicative suffixes; applicatives commonly translate by indirect object structures in other languages. The usages of two such suffixes are examined in detail in chapter 6. -tiya, for instance, though prototypically a causative (mik-tiya (die-caus) ‘kill someone’), also has verbalizing (pantalōn-tiya (trousers-caus) ‘put trousers on someone’) and applicative usages (te-kal-tiya (stone-throw-caus) ‘stone someone’), and various hybrid causative/applicative usages. The analysis shows the close relatedness of these usages and the naturalness of such overlap.

Chapter 7 gives a brief discussion of nominals, verbals and clauses, with consideration of clause-level transitivity. Chapter 8 contrasts the CG treatment of causative/applicatives with a Relational Grammar account. Extensive appendices discuss constructions relevant to those presented in the text.
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CHAPTER I

Introduction: Tetelcingo Nahuatl and Cognitive Grammar

In original intent, at least, this is a data-based rather than a theoretically oriented dissertation, an attempt to give an account of those aspects of the verbal morphology of Tetelcingo Nahuatl (TN) which have to do with transitivity. As might be expected, however, I was not able to accomplish this investigation in a theoretical vacuum. Ronald W. Langacker’s Cognitive Grammar (CG) provided a framework in which I could express easily and naturally many of the insights I had into the structure of TN. However, since that theory is not widely known as yet and since it runs counter to much commonly received linguistic dogma, I felt that an explication and defense of its tenets was in order, besides a presentation of my data and analyses.

Accordingly, the material in this dissertation falls into two main divisions: Chapters 1 and 2 are mostly theory-oriented and Chapters 3-7 are heavily data-oriented. Here in Chapter 1 is a brief introduction to the setting in which TN is spoken (1.1), a short summary of the kinds of data to be dealt with (1.2), and four rather long sections on CG. 1.3 covers general tenets of the framework, 1.4 deals with how to characterize the meanings of individual morphemes, 1.5 discusses the meanings of constructions, and 1.6 deals with phonology and morphology as viewed under CG. Chapter 2 is a sort of continuation of Chapter 1, in which I discuss in general terms various issues and characterize several notions which are crucial for later discussion. In Chapter 3 the transitivity patterns of simple verb stems in TN are discussed, and in Chapter 4 verb stems which incorporate nouns. Chapter 5 contains discussions of different object pronoun prefixes, including reflexive and unspecified object prefixes; causative and applicative suffixal constructions are belabored in Chapter 6, and Chapter 7 gives a brief discussion of constructions larger than single words. Chapter 8 consists of a short summary of the main points I feel I can claim to have made and a contrast between my CG analysis of causative/applicative suffixes (Chapter 6) and a Relational Grammar approach.

There are extensive appendices dealing with the phonology of TN (Appendix A), with those aspects of its verbal morphology which are not dealt with in the text or other appendices (B), and with various matters which are more directly germane to the constructions discussed in the text, such as perfective and imperfective verb stems (C), non-verbal stems (D), incorporations of stems other than nouns (E), Subject Pronouns (SP’s) and their construction with stems (F), and causative/applicative suffixes other than those discussed in Chapter 6 (G). Two final appendices summarize, for convenient reference, the abbreviations (H), technical terms, and diagramming conventions (I) employed in this work.

1.1 Tetelcingo Nahuatl and Its Speakers

Tetelcingo Nahuatl (TN) is a dialect of Aztecan, called māsēwali by its several thousand speakers, almost all of whom live in the town of Tetelcingo or in two adjacent colonias, Colonia Cuauhtémoc and Colonia Lázaro Cárdenas. Tetelcingo is about sixty miles by road south and a little east of Mexico City, and about five miles north of the city of Cuautla, Morelos, straddling the Pan-American Highway. It is in the municipality of Cuautla. Most of the speakers of TN are bilingual, with varying degrees of proficiency in Spanish; a few old people, mostly women, are effectively monolingual. TN is differentiated from all the other Aztecan dialects in that it has changed the length distinction on vowels to one of phonetic quality (Appendix A). It is also unusual in the extent and complexity of its honorific system (B.3); honorifics are used routinely for speech to or about most adults, and special ultra-honorific forms are used between god-parental relatives and in certain religious and ceremonial contexts.

TN is also different from surrounding dialects in that it has survived. Nahuatl in the surrounding area, including many towns much more remote and inaccessible than Tetelcingo, is either dead or moribund. In Tetelcingo it seems amazingly healthy, considering the sociological pressures against it. The people conduct much of their business with Spanish speakers, the children are educated in schools where they are forbidden
to talk in Nahuatl, and in many cases the parents themselves forbid their children to speak Nahuatl and speak to them only in Spanish, even when they cannot speak it well. In most households a radio or a TV continuously spouts Spanish into the air. But their māsēwal-li seems to be a focus of group- or self-identity for the townspeople; children who can’t learn it at home often learn it from their friends on the streets or (on the sly) at school, and when two young men, both of whom speak better Spanish than Nahuatl, meet, they will usually speak Nahuatl by preference. Much of the town’s political life is carried on in Nahuatl, with decisions being formalized in Spanish. As might be expected in such a situation, there has been a tremendous amount of borrowing from Spanish, both of lexical items and of higher order structures of various sorts. There are well-established patterns permitting productive borrowing and nativization of the loan words. Also the phonology is being affected, particularly among the literate segment of the population.

Richard Pittman has speculated that the Tetelcingans (māsēwalte, as they call themselves) were a servant caste of some sort. The word māsēwal-te (pl. māsēwal-te) in Classical Nahuatl meant ‘plebeian, vassal’, and this might help account for the prevalence of honorific forms in the dialect.

According to oral traditions recorded by Forrest and Jean Brewer and by me, the ancestors of the present day māsēwal-te lived in a place called San Pedro Mártir, a few kilometers west of Cuautla, on well-watered, very fertile land.³ They were moved off that land by land-hungry hacendados (hacienda owners), to Xochimilco (a few miles south of Mexico City) according to some accounts, and then again to Tetelcingo. Some accounts detail an appearance of the Virgin, faked by the hacendados to convince the people to move. The big church in the center of town (called āltepē-Dhtek, which may mean ‘the middle of the world’ or ‘the center of town’) is said to have been built by the hacendados at that time to pacify the people. The date of the move is obscure—ca. 1699 is recorded by the Brewers; I have been told it was within the last 150 years.

During the Revolution (approx. 1910-1919) there was a time of great suffering, when the people of Tetelcingo were caught between the revolutionaries of Emiliano Zapata in Cuautla and the federal troops of Huerta and Carranza; the railway from Mexico to Cuautla (little used today) ran through Tetelcingo. Men were conscripted in the middle of the night, women and girls raped and carried off, houses burned, and food and livestock taken. The town was abandoned for a year or more, the survivors ekeing out a wretched existence in the fields or in less-than-friendly neighboring towns. Little by little they returned and began rebuilding, until the town was established once more.

In the 1930’s, President Lázaro Cárdenas befriended the people, giving them good lands and a water system and initiating several other projects for their benefit. Presently the Tetelcingans are quite prosperous in comparison with other Mexican indigenous groups, many owning large herds of cattle, tractors, trucks, or other vehicles; even the lowliest dwelling usually sprouts a TV antenna.

Linguistically, TN can be considered for most purposes to be a descendant of Classical Nahuatl.⁴ The basic pieces for the honorific system were there in the Classical dialect, though sometimes with different meanings, and the differences in every area seem easily viewed as developments from Classical to TN. Published materials on TN include Brewer and Brewer 1962, Brewer 1969, Pittman 1948, 1954 and 1961, and Tuggy 1979a.

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³ Voegelin, Voegelin and Hale (1962:11) speak of the Aztec language of “Tetelcingo alias Matlapa”: I do not know what historical or linguistic connection they refer to.

⁴ Çanger (1980:17) includes Tetelcingo with Classical Nahuatl (and 13 other dialects) in the central section (b.) of Central Aztec.
The structures on which I will be concentrating in this study are essentially common among TN and Classical Nahuatl and most other modern dialects. The honorifics will not be dealt with, and orthography used is such that forms should be easily recognizable to those acquainted with other dialects. Most of the analyses and conclusions I arrive at, I would expect to be paralleled in the grammars of those dialects.
1.2 The Transitivity-Related Verbal Morphology

The verbal morphology of TN (and of Nahuatl in general) is very complex. Many of the complexities have to do more or less centrally with the transitivity of the stems with which they are associated; these will be surveyed here and discussed more fully in Chapters 3-7 and Appendices C-G. There is as well an extensive and intricate system of tense/aspect/mood marking. The main tenses include present and imperfect (the imperfective tenses), and preterite, future, and imperative/subjunctive (the perfective tenses). Verbs are usefully divided into four major classes on the basis of how they mark these tenses. These matters are treated in Appendix B.1. There are also counterfactuals and conditionals, and two large groups of “aspect markers”, which are surveyed in B.2. And, finally, there are reduplications, plurality markers, and markers of the honorificness of the subject or object of the verb, which are dealt with briefly in B.3.

Verb Stems

Verb stems themselves are of course very crucial factors to the issue of transitivity. Some are basically transitive and others are basically intransitive. Often this difference is not morphologically marked, though stems ending in a tend to be transitive and those ending in i to be intransitive. For some cases one would want to posit separate morphemes -a ‘transitive’ and -i ‘intransitive’. However, counterexamples also exist, transitive stems ending in i and intransitives ending in a. It is not unusual for a stem to take different objects in different construals; in some cases a stem takes one object when it is not reduplicated and another when it is. Some examples of these patterns are given below.

<table>
<thead>
<tr>
<th>Verb Stem</th>
<th>Meaning</th>
<th>Verbal Stem</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>pano</td>
<td>‘pass’ (intrns)</td>
<td>miki</td>
<td>‘die’ (intrns)⁵</td>
</tr>
<tr>
<td>āna</td>
<td>‘grasp, take s.t.’</td>
<td>tolowa</td>
<td>‘swallow s.t.’</td>
</tr>
<tr>
<td>ƛapān-i</td>
<td>‘open’ (intrns)</td>
<td>ƛapān-a</td>
<td>‘open s.t.’</td>
</tr>
<tr>
<td>چōka</td>
<td>‘cry’ (intrns)</td>
<td>teki</td>
<td>‘cut s.t.’</td>
</tr>
<tr>
<td>maka</td>
<td>‘hit s.o. or s.t., give s.o. (s.t.), (rarely) give s.t. (to s.o.)’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ƛakʷa</td>
<td>‘close s.t. (a door)’</td>
<td>ƛah-ƛakʷa</td>
<td>‘close s.t. up (a house), shut s.o. up in jail’</td>
</tr>
</tbody>
</table>

These matters are discussed in Chapter 3.

Subject Pronouns

All TN verbs may be analyzed as bearing a Subject Pronoun prefix (SP), and transitive verbs have an Object Pronoun prefix (OP) as well. The SP’s are as follows:

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⁵ A list of abbreviations and a description of the conventions for citing data which are used in this dissertation are given in Appendix H.
<table>
<thead>
<tr>
<th></th>
<th>Sg</th>
<th>Pl</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pers</td>
<td>ni-/ n-</td>
<td>ti-/ t-6</td>
</tr>
<tr>
<td>2 pers</td>
<td>ti-/ t-</td>
<td>ne(n)-/ na(n)-</td>
</tr>
<tr>
<td>3 pers</td>
<td>ø-</td>
<td>ø-</td>
</tr>
<tr>
<td>impv (2 pers)</td>
<td>ši-/ š-</td>
<td>ši-/ š-</td>
</tr>
</tbody>
</table>

Examples of the usage of SP’s follow.

<table>
<thead>
<tr>
<th></th>
<th>‘I arrive’</th>
<th>‘he arrives’</th>
</tr>
</thead>
<tbody>
<tr>
<td>n-asi</td>
<td>asl</td>
<td></td>
</tr>
<tr>
<td>I-arrive</td>
<td>arrive</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>‘I cry’</th>
<th>‘they cry’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ni-čōka</td>
<td>čoh-čōka</td>
<td></td>
</tr>
<tr>
<td>I-cry</td>
<td>rdp-cry</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>‘you pl will die’</th>
<th>‘Do it! (you pl)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ne-mih-miki-s-ki you.pl-rdp-die-fut-pl</td>
<td>ši-k-čōwa-kā impv-it-do-pl.sbjunct</td>
<td></td>
</tr>
</tbody>
</table>

These prefixes and their usages (they occur on nouns and adjectives as well as on verbs) are discussed in Appendix F. Verbal markings associated with plurality (reduplications and suffixes such as -ki and -kā above) or honorificness of the subject are summarized in B.4.

Object Pronouns

Object Pronouns (OP’s) follow the SP’s, preceding the stem. The basic forms are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Sg</th>
<th>Pl</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pers</td>
<td>nēč-</td>
<td>tēč-</td>
</tr>
<tr>
<td>2 pers</td>
<td>mīč-</td>
<td>nemēč-/namēč-</td>
</tr>
<tr>
<td>3 pers</td>
<td>ki-/k-</td>
<td>k-im-</td>
</tr>
</tbody>
</table>

The nemēč- form is more widespread than the namēč- form. The ki-/k- alternation is (like the Ci/C alternations in the SP’s) an example of Epenthesis and in some cases perhaps of Vowel Deletion as well (A.6, A.8), and also gives clear evidence of being suppletively motivated (Tuggy, 1981). Examples of the usage of the OP’s are given below:

---

6 The alternations between ni- and n-, ti- and t-, and ši- and š- can be accounted for by an Epenthesis (A.6), though there is evidence that they are to be accounted for by Vowel Deletion (A.8) as well, and that they are suppletive besides. This evidence is summarized in Tuggy (1981); such multiple analyses are, as we shall see (1.3), the expected case in CG.

ne- is by far the most common form of the 2 pers pl SP, with na- perhaps next most popular: the variants with postvocalic n, especially nan-, are somewhat archaic.
These OP’s are discussed in 5.1. Reduplication, which may sometimes mark plurality of the object, and markings of the honorificness of the object, are discussed in B.4.

The form for ‘I subject, you object’ is not ni-mie-, as we should expect, but timie-, making it homophonous with the ‘we subject, you object’ form. The ‘you pl object’ OP never has an overt SP before it: nemie-hta means ‘I/we/he/they see you pl’. These developments are discussed in 5.2.

Reflexives

Reflexives are marked by the following forms:

<table>
<thead>
<tr>
<th></th>
<th>Sg</th>
<th>Pl</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pers</td>
<td>no-</td>
<td>to-</td>
</tr>
<tr>
<td>2 pers</td>
<td>ti-mo- / to-mo-</td>
<td>ne-mo- / na-mo-</td>
</tr>
<tr>
<td>3 pers</td>
<td>mo-</td>
<td>mo-</td>
</tr>
</tbody>
</table>

The most basic reflexive form seems to be mo-, which is like an OP in that it follows the SP and precedes the stem. All of the forms have a variant with no final o, occurring (only) before vowels; these variants can be accounted for by Vowel Deletion (A.8). The to-mo- variant is an example of Vowel Harmony (A.7). As usual, the 2 pers pl form with na- is less common than the form with ne-. Reflexives are used with passive as well as strictly reflexive effects. Examples of the usage of these forms are given below.

Reflexives are involved in many semantic complexities. In some cases (e.g. the last three above) they seem to act as derivational rather than as inflectional morphemes, changing the meanings of the stems to which they are affixed and forming new stems to which (other) OP’s may be prefixed. These and other issues are discussed in 5.3. Reflexives are also one of the basic building blocks for 2nd person honorifics and 3rd person ultra-honorifics; those usages are touched on in B.4.

Unspecified Object Pronouns

Another group of OP’s marks unspecified objects: these are listed below.
Of these three, only ƛa receives clearly productive use today; ne in particular seems to occur only in frozen forms. This is doubtless related to the present-day use of tē- and ne- as third person honorific (human) OP’s (B.4). Even more than the reflexives these forms often act as derivational rather than inflectional prefixes: it is very common to find a ƛa- or a tē- preceded by an SP-OP combination, and the precise semantic effects of the unspecified OP’s are often very hard to determine. In fact, ƛa- is sometimes used on intransitive stems, which is certainly odd behavior for an OP. Some examples are given below.

The unspecified OP’s are discussed in 5.4.

<table>
<thead>
<tr>
<th>ƛa-</th>
<th>‘unspecified non-human object, something/things/the usual thing’</th>
</tr>
</thead>
<tbody>
<tr>
<td>tē-</td>
<td>‘unspecified human object, someone/people’</td>
</tr>
<tr>
<td>ne-</td>
<td>‘unspecified (usually human) reflexive’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ƛa-htowa</th>
<th>‘he speaks, talks’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ki-tē-ilwiya</td>
<td>him-unspec.hum-tell</td>
</tr>
<tr>
<td>ƛa-pełān-i</td>
<td>unspec-glitter-intrns</td>
</tr>
<tr>
<td>mo-mati</td>
<td>refl-know</td>
</tr>
</tbody>
</table>

| ki-ƛa-maka | him-unspec-give                                            |
| ƛa-pēwa | unspec-goad/start                                           |
| ki-ne-mač-tiya | him-unspec.refl-know.perf-caus                             |

The unspecified OP’s are discussed in 5.4.

**Incorporated Elements**

A number of different kinds of stems can be incorporated onto verb stems, preceding the stems and following SP’s, OP’s, etc. There are incorporated adverbs, postpositions, adjectives, nouns, and apparently even, in a few cases, incorporated verbs. The stems so incorporated may have a variety of semantic connections with the verb stem; incorporated nouns, for instance, may indicate the manner, place, or time of the execution of the process denoted by the verb stem, or they may represent some secondary object or Thing in the conceptual scene denoted by the verb, or the active portion (such as a particular body part) of the subject or the object of the verb, or the object itself; perhaps even occasionally the subject is designated by an incorporated noun. Not uncommonly a verb with an incorporated noun will take as direct object a different Thing than does the unincorporating stem. A few illustrative examples follow.
Causatives and Applicatives

There is a complex system of closely related suffixal forms with meanings in the range of transitivization. They include causatives, verbalizers of various sorts, and applicatives. Most of these suffixes tend to specialize to one type of usage, but also have more or less extensive usages of the other types. Some examples are given below with -tiya, glossed ‘causative’ because that is its most common usage.

<table>
<thead>
<tr>
<th>Stem</th>
<th>Meaning</th>
<th>Stem</th>
<th>Meaning</th>
<th>Stem</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>k-ičteka-namaka</td>
<td>‘he sells it secretly’</td>
<td>ƛa-kpah-ka</td>
<td>unspec.possr-on.top.of-be</td>
<td>k-it is up on top</td>
<td></td>
</tr>
<tr>
<td>it-secret(ly)-sell</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ki-kʷal-hta</td>
<td>‘he likes/approves of him/it’</td>
<td>ki-pet-tolowa</td>
<td>it-slippery-swallow</td>
<td>‘he swallows/gulps it (s.t slippery) down’</td>
<td></td>
</tr>
<tr>
<td>it-good-see</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ki-htō-s-neki</td>
<td>‘he/it means’ (cf. ki-neki kik-hṭō̃-s ‘he wants to say it.’)</td>
<td>k-iknō-ihta</td>
<td>him-orphan-see</td>
<td>‘he has mercy/pity on him’</td>
<td></td>
</tr>
<tr>
<td>it-say-fut-want</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>yowa-l-nh-nemi</td>
<td>‘he walks around at night’</td>
<td>kʷah-λehko</td>
<td>tree-ascend</td>
<td>‘he climbs a tree’</td>
<td></td>
</tr>
<tr>
<td>dark-nr-rdp-walk</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ki-mā-kʷi</td>
<td>‘he grabs it with his hand / s.t. from his (another’s) hand / him by the hand’</td>
<td>ētō-namaka</td>
<td>corn.ear-sell</td>
<td>‘he sells corn on the cob’</td>
<td></td>
</tr>
<tr>
<td>it/him-hand-grasp</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ki-čpāna</td>
<td>‘he sweeps it’</td>
<td>ki-λāl-ičpāna</td>
<td>it-ground-sweep</td>
<td>‘he drags it along the ground’</td>
<td></td>
</tr>
<tr>
<td>it-sweep</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Incorporations of non-nominal stems are discussed in Appendix E, noun incorporations in Chapter 4.

Footnote:
7 “Applicative” is a term traditional in Aztec studies, which refers to suffixes whose function is to elevate an indirect or secondary object to (direct) object status. The semantic effect is rather like that of the English prefix be- in be-wail or be-lie or be-fall. (In fact, be- is also like these Nahuatl suffixes in being used as a causative and a verbalizer as well as an applicative.) Applicatives are dealt with (mainly) in 6.5.
-tiya and -liya, the two most common members of this class, are discussed in Chapter 6. Another member of the class, -a ‘transiti(izer)’, which contrasts with -i ‘intransiti(zer)’ (cf. A.1) is discussed in 3.2; the usages of the other causative/applicative suffixes are summarized briefly in Appendix G. Causatives and applicatives are also used extensively together with reflexives for honorific marking on verbs; this usage is discussed briefly in B.4.
Knowledge—the fullest possible awareness—of the nature of law is the true way of escape from its shackles ... The way to achieve liberation from the ‘confusion’ of thought on which language is based is not by attack or rebellion. The intrinsic nature of language makes all such attitudes puerile ... It is not the freemen of a city who are likeliest to lose their way, and themselves, in its labyrinth of old and mazy streets; it is the simple-minded foreign nihilist making, with his honest-to-god intentions and suitcase, straight for the centre, like a sensible man.

—Owen Barfield (1947:127)

The temptation of the philosophers [those who would diagram the world] is simplicity rather than subtlety. They are always attracted by insane simplifications ... They have tried to put on paper a possible plan of the world; almost as if the world were not yet made.

—G. K. Chesterton (1925:135, 265)

It is the business of Science to make things simpler than they really are.

—Anonymous
1.3 The Cognitive Grammar Framework

The investigation and analysis in this dissertation is carried out within the framework of Cognitive Grammar (CG), a theory which has been and is being developed mostly by Ronald Langacker. Unfortunately it is not yet well enough known that I can expect to be understood without a lengthy exposition of its tenets, and it runs counter to enough that is common to almost all other present-day linguistic theories that it perhaps needs some defense as well as explication. In this section I will set forth some of the main principles behind it, indicating, as I do so, some of the reasons why I prefer its approach to those of other theories fashionable at present. In many ways it represents a turning from a strictly “scientific” linguistics, as conceived by many, to a more common-sensical approach to language, one which takes a broader view, not so much claiming that the other views are false as that they are incomplete, with the degree of explanation that they achieve grossly overestimated. That is perhaps the strongest reason why I like to work with it: it more nearly than the others achieves the mixture of sanity and subtlety, of commonsense obviousness, general coverage of all the facts, and surprising insight into murky areas, which I take to be a hallmark of truth.

Simplicity is Not the Criterion; Both Generalizations and Particulars are Real

It is hard to pick out any one aspect of the framework as more crucial than any of the others, but perhaps its most important characteristic, and a very far-reaching one, is that it avoids arguing from a narrowly-conceived simplicity or elegance, preferring to argue from psychological naturalness or completeness in accounting for all relevant generalizations, even at the expense of simplicity. Another very important characteristic, just alluded to, is the grounding, insofar as possible, of all the important concepts in cognition, avoiding artifacts, trying not to posit mechanisms with no solid cognitive basis.

A third characteristic, which is closely allied to these two, is that CG is usage-based rather than trying to explain usage away as a result of the grammatical system, it takes usage to be the foundation of the grammatical system. The particular facts of usage are (psychologically) real in their own right, and we must not allow the existence of (equally real) generalizations or rules, of which the particular facts are subcases, to usurp that reality. The grammar of a language would be simpler, it is true, if all the particulars of usage were predicted entirely from the rules, explained away as simply particular cases of the rules’ operation

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8 [“Space Grammar” (CG) in the original of the dissertation. This name had been replaced by Cognitive Grammar by the mid-1980’s.]

9 I hope it will be clear that I do not think that CG is unscientific or inelegant. On the contrary, I would claim that it closely approximates the kind of science that is appropriate to language. I believe it fits the data where other theories do not, as well as where they do, and that it is unscientific to ignore data or to force them willy-nilly into an elegant model that does not fit them. The proper kind of elegance is that which fits the data rather than our preconceived notions of elegance. I might add that the machinery of CG is much less complex in many respects than that of most modern theories (e.g. no separate compartments for syntax, morphology, lexicon, no cycles, deep structure, P-S rules vs. T-rules, etc.) and it is for the most part clearly grounded in independently posited and motivated characteristics of human cognition.

10 I have not studied cognitive psychology and am thus ill-equipped to support with quotations from the literature in that field the basic notions and mechanism of CG; I understand from those more knowledgeable than I that such support is not hard to come by. Certainly those notions and mechanisms seem reasonable to my own naïve view of how I (and others) think, much more so than what is posited by other modern linguistic theories.

11 Throughout this and the following sections I will underline and italicize in a dark blue font words and phrases that are crucial to an understanding of CG, particularly those that are technical terms in the framework. Definitions are given in Appendix I.
which therefore need not be posited as occurring independently, but that would not make it the best model if it wrongly represented the facts of the language.  

For instance, few linguists in the modern tradition would want to posit the word *toes* as a separate lexical entry, preferring to derive it from the independently needed entries for *toe* and *-s*, together with the independently motivated rule forming plural nouns. (E.g. under Transformational Grammar the form would be a result of the interaction of a PS rule of \( N \rightarrow N + Pl \), and lexical rules \( N \rightarrow toe \) and \( Pl \rightarrow \cdot s \); cf. Chomsky 1957:29). Under CG the position is taken that such a treatment is reductionistic: complex and analyzable structures like *toes* may have a high degree of independent status within a grammar without losing sight of the fact that they are instances of the sorts of generalizations expressed by rules in other frameworks. The fact that the form is derivable by rule is not taken to mean that it is nothing but a derived form; this relationship enriches the form rather than impoverishing it. The form can exist in its own right, and the derivational or componential dimension of it can be of greater or lesser importance to it without being either totally absent or present to the exclusion of everything else.  

The cost of this is, as we have said, that at least one type of argument from simplicity has to go out the window: there is a tremendous amount of redundancy built into the grammar, when not only the component pieces (*toe* and *-s* in this case) and the abstract pattern (the noun pluralization rule) but also hundreds of particular cases of combining the pieces according to the pattern are all part of the grammar.

So much for the cost, but the gain is that it fits what happens in language. Children commonly learn plural forms before the corresponding singular forms in many cases, including those of *toes, fingers, shoes and socks*, etc., witness (among other things) the common phenomenon of forming double plurals such as *shoes-es* on those stems. It does not make sense to claim that having mastered these forms as units children later forget that mastery as soon as they realize that they are in fact componential, immediately beginning to henceforth compute them productively each time they are used, since this makes for a simpler linguistic model. Rather it makes sense to claim that the singular may well remain cognitively more complex than the plural while formally simpler, a kind of back-formation from the more strongly established plural form. We find, in fact, what amounts to a continuum of cases, from virtually novel plurals (such as, perhaps, *polytheism-s* or *plowshare-s* or *ptarmigan-s* or *portcullis-es*), where something like the traditional analysis can be reasonably claimed, through cases where the singular is probably more strongly entrenched but both are probably well established in the language (e.g. *head-s, house-s, horse-s*), to cases where the plural may well be more strongly entrenched (*toes, fingers, hands, buttons*, etc.) to cases where the singular will unquestionably be considered secondary by anyone but the most determined linguist (e.g. *clothes, scissors, trousers, pliers*), where the singular form occurs only in compounds or related forms, and the meaning of the plural is almost dissociated from the component parts.  

And, of course, the plural construction is but a single instance; the general phenomenon is ubiquitous. The word *im-mense* fits in a paradigm with *im-possible, in-describable* etc., even though many speakers have never realized it (including myself till recently); *ru-th*, as in *rueless*, unites *rue* and a nominalizer according to the same pattern as *true and tru-th*: but those patterns should not have to mean that the words do not occur in the lexicon in their own right. *I'll be damned!* is an example of a future tense passive construction involving

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12 Of course, everyone accepts this; “saving the appearances”, covering the data, is the first requisite of a model. However, in practice what has been done is to throw off particular facts which the model cannot account for with some such shrug as “Oh, that’s just pragmatics”, or “that’s part of the lexicon and has nothing to do with syntax”, or “that’s a matter of performance rather than competence”, or “that’s diachrony; leave that to the philologists”. Semantics itself was so treated for years, during the structuralist era, as outside the bounds of linguistics. I am saying that I prefer a model that will let me see these areas as interrelated, governed by the same sorts of principles, rather than one that will make me divide each off from the others. In short, I want a linguistics that will encompass all of language and not just some arbitrarily selected part. If that linguistics turns out to be less simple, finite, and self-contained than I had hoped, I am willing to put up with that.

13 This fits in with the fact that many people have begun to say “this scissors/trousers/pliers”, or “That scissors is really dull”, etc.
a first person singular subject and the verb *damn*, but that should not be taken as exhausting its meaning. In short, there is evidence all over the place that complex structures whose form can be predicted by rule do exist in their own right. Yet we do not want to, in over-reaction to the excesses of the rule-seekers, simply split related forms apart, ignoring the generalizations linking them. There is something in common between *toes* and *polytheisms*; even between *clothes* and *polytheisms*. Instead of being either splitters or half-hearted joiners, we need a theory that will let us join the splitters’ analyses with the joiners’⁵. But it will mean we will have to stop arguing for either type against the other on the basis of simplicity.

Units and Conventionality

In CG a mechanism is provided for expressing insights such as these. The grammar of a language consists of a structured inventory of *conventional* (or more strictly, *conventionalized*) units which are used for communication through language. A *unit* is a cognitive or psychological structure which is deeply enough entrenched in a person’s cognitive system that he can manipulate or wield it as a whole, without particularly focussing on its internal structure.¹⁴ It is an established cognitive routine or habit through which he can run without appreciable mental effort. The letters *A*, *B*, and *C* in English are well-entrenched units, as is the sequence *A-B-C-D*. Words like *toe* and *toes* are units, as may be much larger constructions, such as (for linguists) *capture significant linguistic generalizations*. And there are many cognitive units which are not primarily linguistic, such as knowledge of the rules of chess or of the procedure for doing long division. There are also psychological units which are not cognitive in the narrowest sense, particularly perceptual units such as how to recognize your father or what a skunk smells like, and motor units such as how to walk, chew, or throw a ball.¹⁵ Unit status is, of course, a matter of degree. For a beginning chess player remembering the rules takes as much or more mental effort than playing the game: for a Bobby Fischer elaborate structures of tactics and strategy, both in the context of particular historical games and in more absolute terms, have been superimposed on the system of rules to the point where he probably plays many a game through, strictly according to the rules, without once paying them any particular attention.

A unit is *conventional* to the extent that mastery of it is shared and known to be shared by the members of the relevant speech community.¹⁶ Thus, in the case of the word *toes* in English, to the extent that it is a well-established cognitive routine capable of being manipulated by all speakers without particular attention being paid to its composition, it is part of the grammar of English, alongside of *toe*, -s, and the *schematic* or abstract N-PL unit which is the CG counterpart of the Phrase Structure N ➔ N + Pl rule. All of these may be simultaneously part of the grammar, and one cannot argue for the exclusion of any of them on the basis of simplicity. They can, of course, differ in the degree of their entrenchment as units or in their degree of

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¹⁴ For convenience, a summary of definitions such as this together with a summary of the formalisms used in diagrams is given in Appendices H and I.

¹⁵ These kinds of units are also relevant to language, both in how they enter into the characterizations of meanings (part of the meaning of *Daddy* is what he looks like, and part of the meaning of *throw* is how to perform the action) and in how they affect phonology. Particular articulatory routines involved in pronouncing the words of a language are motor units, and the auditory routines involved in hearing those units are perceptual units: abstract phonological units (e.g. morphophonemes, the schema(s) for words, etc.), while still clearly motor- and perception-related, are also clearly cognitive in nature. Well-established allophones would be somewhere in between. See 1.6 for further discussion.

¹⁶ It is *conventionalized* to the extent that its conventionality is established or reinforced by usage. This distinction will be discussed a little later.
conventionality, and thus in their degree of grammatically (i.e. of centrality to the grammar). This, happily enough, fits in with the facts previously mentioned, and with the fact that grammaticality does seem to be a matter of degree rather than an either/or proposition.

Schematicity and Schematic Hierarchies

Generalizations in CG are expressed, as intimated above, by schematic structures. A schema is a cognitive structure containing elements common to the particular cases (elaborations or instantiations of the schema) but omitting the points on which they differ. A schema covers the same cognitive territory as its instantiations, but does so in lesser detail, projecting the image, if you will, on a coarser grid, giving just the gross outlines rather than the fine details.

In a notation which is by now traditional in CG, units are represented by rectangles or square brackets (non-units use ellipses or parentheses) enclosing a specification of certain cognitive material, and the relation of schematicity is represented by an arrow leading from the schema to its instantiation(s). Thus [A] → [B] means “A is schematic for B,” or “B instantiates (elaborates) A.” Schematicity is a relative notion: an instantiation of a schema will often have even more elaborate structures instantiating it. A structure in which a number of cognitive structures are shown as related by schematicity is called a schematic (or taxonomic) hierarchy. Thus in 1.3.a A and B are units which elaborate the unit C, and the non-unit D is schematic for its instantiating unit E which in turn is elaborated by the non-unit F and the unit G. (For example, A and B might be dog and armadillo, with C being mammal; E might be sister where D was ego’s female relative of the same generation, including girl cousins as well as sisters, and F and G were unmarried older sister and younger sister.) Schematicity is transitive: by virtue of being schematic for E, D is also schematic for F and G. However there is a notion of “distance” involved: D is more “distantly” or less “directly” schematic for F and G than E is.

One thing that is not adequately represented in this notation is the gradation in degree of entrenchedment or habitation which distinguishes units from non-units and strongly established units from marginal ones. We are, in effect, representing a continuum as a dichotomy. Actually, the dividing off of schema from instantiation is clearly another such oversimplification: the differences between them are also matters of degree rather than properties with sharp co-occurring cut-off points. This difficulty is largely ameliorated by the possibility of inserting as many intermediate schemas as are found relevant.

Another parameter along which structures in a schematic hierarchy differ is that of prototypicality. Prototypicality is a kind of habitual and/or natural salience or cognitive prominence which distinguishes one or more structures in a taxonomic hierarchy from the others. A prototypical structure, either because it

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17 I hereby serve notice that I am using the term “grammatical” and its derivatives, as above, in the specialized sense of “being a part of the grammar”, as opposed to being predicted/generated/allowed (the CG term is sanctioned) by the grammar. Thus toes is grammatical, but polytheism-s, while sanctioned by the grammar, is non-grammatical. (Note that the opposite of “grammatical” is “non-grammatical” rather than “un-grammatical”.) The mechanism of sanctioning will be discussed later.

18 This is to be distinguished from an intentional salience such as any unit will receive when it is focussed on (i.e. is the center of attention).
occurs the most commonly, because it is the most directly relevant to humans, or for some other reason, is
the most strongly entrenched, most salient, first thought of structure in that area of a person’s (or a
language’s) cognitive system. To use a by now traditional example, the prototypical bird is like a robin or a
bluebird: ostriches, swans, spoonbills, and chickens are non-prototypical birds. It is not that chickens, etc.
are not birds: they are just not the sort of bird you think of first. Distinctions along this parameter will be
represented, where relevant, by putting the rectangle representing the prototypical unit in boldface, and in
general salience will be represented by boldfacing. Thus in 1.3.a. A is characterized as prototypical relative
to B or C. Once again the notation is an impoverishment, a representing of a graded continuum as if it were
a binary distinction. Prototypicality tends strongly, of course, to parallel entrenchment: the more naturally
salient a concept is, the more it is likely to be used and thus entrenched more deeply, until it achieves unit
status. And habitual salience is almost automatically equivalent to entrenchment. Conversely, units tend to
be more salient than non-units, and well-entrenched units than marginal units. But the two concepts are not
strictly equivalent, and will be distinguished.

The distinction between the schema defining a class and the prototypical member(s) of that class is a
very important one. There will be, in the CG of English, a schema of the word *bird* whose specifications will
be vague enough to allow ostriches and chickens to be denoted by the term; there will also be a more salient,
prototypical sub-schema which will specify such features as size, type of plumage, shape of beak, flight,
habitat, etc., enough so that chickens and ostriches are excluded and only prototypical birds are included.
Similarly, for many other kinds of categories, including grammatical ones such as Subject and Object, a
valid distinction along these lines can be made. Much linguistic endeavor has gone wrong by taking
prototypes (“the clear cases”) as normative, as schematic for the whole class; it is one of the ways we move
towards arguments from simplicity, and is a tendency we must constantly guard against. Many examples of
the usefulness of making the distinction will be seen later on.

Units, we have claimed, are grammatical (in the technical sense of being part of the grammar) to the
extent that they are conventional. Perhaps it would be even more accurate to say that they are grammatical
(or, perhaps, “grammatical in the prototypical sense”) to the extent that they are *conventionalized*,20 i.e.
established or reinforced as conventional through linguistic usage. A cognitive structure or relationship may
be conventional, shared by all members of the relevant speech community, but have no usage depending on
it: new usages depending on it, while understandable, will be felt to be novel. This is one factor involved in
the traditional dichotomy between semantics and pragmatics. CG views that distinction as a gradation or
group of gradations rather than an absolute dichotomy, with the “truly” semantic and the “truly” pragmatic
as limiting cases, endpoints of the continuum. Prototypically pragmatic considerations are conventional but
not conventionalized, whereas prototypically semantic considerations clearly involve conventionalization.
Langacker has in fact said that semantics can be considered to be conventionalized pragmatics.

Yet another parameter along which units vary is that of *analyzability*, or the degree to which other units
are salient as components of a unit. As previously noted, units like *toes* are complex, their complexity
consisting of the fact that other units (in this case *toe* and -s) are part of them. There is a continuum running
from essentially unanalyzable units of this type (*morphemes*)21 through partially analyzable but rarely
analyzed units, through clearly analyzable (but still independently existent) units of varying degrees of
complexity (*constructions*). Traditionally, different areas along this continuum are cordoned off as the
preserves of the lexicon, morphology, and syntax; in this model those categories are held to differ only in
degree, not in kind.

20 Langacker uses both terms: e.g. (1982a) “Semantic structure is conventionalized conceptual structure”, and (1981a) “grammar …
takes the form of a structured inventory of conventional linguistic units” (italics omitted). The particular technical meaning I am
giving the term “conventionalized” to distinguish the two is probably not being focussed on in these passages.

21 To be more explicit, a morpheme is an unanalyzable symbolic unit; there are also semantic and phonological units, which also
vary along the parameter of analyzability.
The parameter of analyzability tends strongly to run parallel to the parameter of schematicity. Morphemes are predominantly highly elaborate, while constructions with a high level of complexity, involving many analyzable component units, tend to be schematic. This is only a tendency, and not an absolute law; there are schematic morphemes (e.g. “grammatical” morphemes) and elaborate constructions (e.g. “idioms”). This tendency may be seen as a result of the impossibility or inutility of learning millions of such complex structures as, for instance, “Mary went over the plans with a fine-toothed comb” or “Fido thought it unworthy of Jim’s eminence to bring him a single bone”. This tendency, I believe, accounts for the differences in regularity, generality, and productivity (all differences of degree) between prototypical morphemes and prototypical highly complex analyzable structures (“syntactic structures”) that lie at the base of the traditional lexicon/morphology/syntax split.

Continuums, Tendencies, and Predictiveness

It will no doubt have been noticed that everything seems to be a matter of degree in this model. That is indeed a prominent feature of the framework, and not without significance. There is a desire to avoid positing a dichotomy where in fact there is a continuum. This is a good thing, once again, in that it fits what we find in language. Not all the structures of a language are mastered equally well by all speakers (gradations of entrenchment or unit-hood), and not all the structures are shared at all by all members of a speech community of any size (gradations of conventionality). We thus find varying degrees of grammaticality when we appeal to speakers’ intuitions; some things are very firmly entrenched in the center, as it were, of the grammatical system, whereas other things are on the periphery, either going out or coming in or just sitting in limbo. Similarly, it is a matter of degree how felicitously something may be called a bird: prototypicality is clearly a matter of degree. Complexity is of course a matter of degree; even the difference between an unanalyzable morpheme and a di-morphemic construction is a matter of degree: is hammer analyzable? How about drawer? Trailer? Rocker? Computer? Frier (chicken)? Toddler? (Corn) popper? And so forth. In these and many other areas the phenomena of language seem more scalar than dichotomous. Furthermore, dichotomies in general can be explained as oversimplifications or special cases of scales or continuums, but not vice versa. But there is a cost. Each time a continuum is posited the model loses simplicity. In particular, a sort of vagueness is introduced that makes absolute prediction almost impossible. CG posits few absolute laws, but many tendencies, and most of its bets are hedged.

This is likely to be so unpopular that perhaps it merits more discussion. The idea of explanation itself is in CG a scalar notion, a matter of degree. I would define the notion as “relating a phenomenon to independently substantiated phenomena so as to lessen its surprisingness or increase its expectedness”. Explanations may legitimately range from ex post facto conjectures through accounts of varying degrees of probability to statements that are certainly true and highly relevant to, perhaps, as a limiting case, strict, unhedged prediction. As limiting cases tend to be, this one is so salient as to be a prototypical kind of explanation, even though it is seldom if ever actually achieved. In taking this view CG departs radically from much modern linguistics, which feels called on to be scientific, and feels that such a goal can be achieved only by demanding absolute predictiveness, saying, in effect, that you have not accounted for why a phenomenon is as it is until you have demonstrated that it could not be otherwise; you have not explained a thing until you have explained it away. (This is, of course, closely tied in with the demand for simplicity discussed earlier).

The price of such a demand is exorbitant, I believe. Firstly, there are often explanations with a good deal of predictive power which are likely to be discounted as irrelevant either because they do not account for every relevant case or because they are sometimes countermanded, i.e. because they are tendencies and not absolute laws. Linguists are, I believe, ill-advised to ignore the similarities of “Extraposition it” to other examples of the third person singular neuter pronoun, or of “There-Insertion there” to other examples of the distal locative demonstrative, even though those similarities do not account for all the relevant facts. They are also, I believe, ill-advised to ignore tendencies such as constantly turn up in historical studies, for
instance, even though there are few if any of them that on close examination turn out to be exceptionless; Grassman’s law is not the less real for not being a law. It is no accident that morphological layering tends to correlate with semantic scope, even though it does not always do so (Langacker 1981), and the tendencies of Subjects to be animate, volitional, concrete, etc., are both real and significant.

On the other hand, when such tendencies are not discounted, but are instead set up as laws, an inappropriate kind of compartmentalization inevitably results. Any cases that deviate from the law must be treated as something different in kind from the cases that obey it. Morphology is not syntax (and never the twain shall meet), because it breaks many syntactic laws, although this dichotomy obscures the fact that it keeps many of these laws or keeps them in some cases but not in others. Allophonics is claimed to be something totally different from morphophonemics, because the laws under which it operates are different. The fact that they are alike in very many crucial ways is thereby deemed irrelevant.

Another way of objecting to the same thing is to point out that it leads to a species of circular reasoning: we know that the law is true because it always holds for the relevant cases, and we know that these (and not those) are the relevant cases, because the law holds for them. What bothers me about this sort of argumentation is not so much its circularity (all thought is ultimately circular) but the small size of its circle, the limited amount of data that it will encompass, and the effort it takes to force it upon the data. It is one of Chesterton’s “insane simplifications”. It is not enough to account for differences in usage or following of rules between different groups of constructions: sanity requires, in the face of simplicity, that we account as well for the similarities that there are.

It should not be surprising that the primary data of linguistics, i.e. the facts of language, resist explanation in terms of absolute prediction, since they are products of the human mind, which itself notoriously resists such explanation. Whether or not the mind is ultimately governed deterministically by fixed, unalterable laws, its complexity is such that it must be treated, at least at the present stage of our knowledge, as if it were not. Langacker speaks repeatedly of the “plasticity” of human conceptualization, of our ability to manipulate a conceptual situation, to view it from many angles, through lenses of different focus and power, to transform it into myriad fantastic shapes in which we can nevertheless recognize the original. This conceptual plasticity can be illustrated by such examples as the metaphors of poetry and everyday speech, the capacity to find pictures in cloud formations, the creation of mythical beasts such as griffins and unicorns, the phenomenon of figure-ground reversal, scientific reifications like “gravity”, “energy”, and “momentum”, and—in speech—the constant efforts of the attentive speaker to assess the knowledge and

22 For instance, under most present day models suffixes such as -tiya which are dealt with in Chapter 6 must be analyzed as essentially accidental collections of homophonous morphemes; cf. the discussion of how they would be treated under Relational Grammar in Chapter 8: the causatives observe the laws of causatives, and the other cases must be something totally different since they do not. Analysts do often recognize such an accidental collection as a historical accident, but in so doing they are usually thinking better than their theory, as the theory does not provide a way to express, much less explain, the necessary historical changes. Yet if the extensive semantic, morphological, syntactic, and phonological similarities are exhibited and schemas are set up to express them, as I have tried to do for -tiya in 6.1-4, the historical changes become much less surprising, a high degree of explanation (though hardly strict prediction) is achieved, and in the process the synchronic relatedness of the forms is clearly established.

23 I do not mind admitting that I am quite convinced that human thought cannot ultimately be explained as the necessary result of the interaction of impersonal laws: such an explanation, being a specimen of human thought, explains itself away. Assuming it to be true, there is no reason to believe it or any other thought, to point to it as an example of how we ought to think. Those who think it cannot help thinking it, and those of us who disbelieve it cannot help disbelieving it, and there’s an end of the matter. As Chesterton puts it, the thoroughgoing skeptic must become skeptical of his own skepticism: “Reason itself is a matter of faith … If you are merely a sceptic you must sooner or later ask yourself the question, ‘Why should anything go right, even observation and deduction? Why should not good logic be as misleading as bad logic? They are both movements in the brain of a bewildered ape?’” (1909:56). I do not believe thought is absolutely predictable because doing so would make it impossible for me to believe that or anything else.
viewpoint of his interlocutor, to update this assessment throughout the flow of discourse, and to adjust the content of his utterances accordingly. —Langacker 1979:88

As is clear from the sorts of examples Langacker gives, language reflects this “conceptual plasticity” in many ways. Since human conceptualization is not susceptible to treatment in terms of rigid law, we should not be surprised that its linguistic expression is not so either.

I strongly deny that this is an unscientific approach. Rather it is appropriately scientific. It would be unscientific to force our data into a mold of rigid exceptionless law when they do not fit it. Common sense tells us that many things may be both true and relevant to an issue without forcing it to be resolved in a certain way, and humility ought to restrain us from claiming that the explanation we have stumbled on is the absolute one. Put another way, a rightly scientific model of language will predict where and to what extent it will be free from rigid law, where tendency, chance, conceptual plasticity, and even free will will enter into the picture.

And I would claim that when an explanation approximates or even actually achieves total prediction, even if it manages to account for data as a necessary result of laws that apparently are really absolute, that does not render it complete and other, perhaps less strongly predictive, explanations irrelevant. In other words, I believe that most things, including language, are more than just whatever scientists know about them. It is simpler to assume that what we know is the whole story, but that does not mean that it is right. The facts and relationships that science deals with should be taken as an enrichment of the significance of the object being studied, not an exhaustive account of it, a reductionistic demonstration that “that’s all there is to it”. In the vision of C. S. Lewis (1947:88-89),

The regenerate science which I have in mind ... when it explained ... would not explain away. When it spoke of the parts it would remember the whole ... Its followers would not be free with the words only and merely ... To 'see through' all things is the same as not to see.

It is bad science to conclude, on noticing e.g. that passives can always (well almost always) be derived from actives, that they are “merely” transformed actives; they may be transformed actives, but they may be much more as well. Using our explanation to “see through” them will cause us to stop seeing them for what they are.

Multiple Analyses

CG, then, seeks explanations and generalizations, but does not demand or expect that they be absolute. It is not surprised or perturbed when a given generalization fails to cover all the relevant cases, or an explanation is contradicted in some cases. Since the grammar is usage-based, and usages can in principle exist in their own right with a high degree of independence from any generalization (schema) which accounts for them, it is not surprising to find cases where they do so in fact. Functional explanations in particular are sought after—explanations grounded in independently existing psychological, physical, social, and other aspects of the speakers’ natures. But such explanations never free one from the responsibility of stating the particular facts on their own terms, as independent entities.

A further characteristic along the same lines is that CG is quite amenable to multiple analyses, even when they are apparently contradictory. Since there is not the requirement that a generalization must cover

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24 Of course what is “scientific” and what is not is a matter of definition. Let us admit that “science” is one of the most potent incantory terms or buzzwords of our culture, and one which I and everybody else are therefore (of course) anxious to have on our side. But insofar as it means systematized knowledge of a field as it truly is, I feel justified in claiming the term, because from my viewpoint (at least) the results produced by this model more closely approach such true, systematized knowledge of language than do the results of the other linguistic models I have worked with, and, from what I can tell, of many that I have not.
all the relevant cases, another generalization covering the rest of the cases and some of the first cases is to be expected; it in fact is what will show them to be relevant to each other.

Many linguistic debates of great ferocity have stemmed from trying to impose an either/or structure on what is actually a both-and situation. As Langacker points out (1982a) the rule/list (or generalization/particularity) dichotomy is such a case—what we need is not only rules or only lists, but both rules and lists. As one special sub-case remember the many arguments over whether passive structures are derived from the actives or whether they exist in their own right (including having the relevant morphological pieces listed in the lexicon). Or consider the incessant arguments over whether a given phonological alternation is suppletively or phonologically governed, and if phonologically, which form is to be taken as underlying.25 Or take the arguments over whether certain phonological features are articulatory or acoustic/auditory. In all such cases the answer is almost inevitably that it is both, in varying degrees. It is very hard in CG to argue that a given analysis is wrong; the best one can do is make a plausible case for something else being more salient.

In terms of a priori simplicity, of course, this is deplorable: in terms of what we find in language it is beautiful, even elegant. The generalizations we posit usually do not hold everywhere: there are usually little corners of the language where the counterexamples lie, motivating a quite different analysis, which also does not hold everywhere. This can now be expressed. The case was quite well put in Hankamer (1977); examples of this kind of problem in TN are the Class IV verbs (Appendix B.1, Tuggy 1979b, cf. Çağlar 1980) and the positive exceptions to Epenthesis (A.6, Tuggy 1981).

Also, this provides a mechanism for explaining historical shifts: rather than being differences in kind between an earlier analysis or construal A and a later development B, the historical differences are a gradual progression, from A-with-hardly-any-B to A-with-appreciable-B to A-and-B to B-and-A to, ultimately, B-with-hardly-any-A. Newman’s (1981) analysis of Raising and Equi constructions in English and German is a good example of the sort of data this kind of model will account for. Historical changes in languages are not, by and large, abrupt, and it is good to have a model that does not expect them to be.

25 Relative to this issue of suppletive motivation (i.e. the habit of pronouncing the particular form in a particular way) vs. the phonological motivation (i.e. the existence of a more general principle which independent of habit makes us pronounce the form in a particular way), note that most non-linguistic human behavior is prompted by more than one motivation. We eat meals not only because we enjoy the food but also because we are hungry, because we believe it is good for our bodies, because we are in the habit of eating meals, because we enjoy the company of our fellow-diners, and for any number of other reasons. Not all these factors are equally active in every incident of eating, of course, nor are they equally conscious, but they all may be present at once, and several of them are usually present. We wash up before meals because we think it hygienic, because our mothers told us to, and because we are in the habit of doing so. I am writing this dissertation because I enjoy it, because I want to fulfill the requirements and get a doctorate, because I think it will help me learn more about language, and because I have gotten into various habits which encourage me to come over and work on it. Psychological models explaining such actions on an either/or rather than a both-and basis will of course be simpler, but by no means the better for it. In practice such a complexity of motives is taken as normal—the governing of life by one motive is a sign of abnormality or insanity. And linguistic behavior is not something radically different from other human behaviors: I know of no grounds for claiming that it (and not they) is of such nature as to require explanation in either/or terms instead of both-and terms. If we wash up for more than one reason, why may we not pronounce a form in a given way for more than one reason? I believe that we do and that therefore our model must allow those different motivations to be expressed as simultaneously active to varying degrees.
Multiple analyses are actually a special kind of cross-classification: both are expressed in CG by having more than one schema instantiated by a single more elaborate structure. Thus in the schematic hierarchy in 1.3.b, D, E, F, G, and H represent thoroughly mastered cognitive structures which are related to each other by being instantiations of the schema B. C is another schema or generalization, uniting F, G, and H, with each other and with I. B and C represent dual analyses for F, G, and H, alternative ways in which they can be classified. A is a super-generalization uniting B and C, but one which has not achieved unit status. D is instantiated by the unit J and the non-units K and L. B, D, F, and J are the prototypical units in this schematic hierarchy. B will thus be the prototypical way to account for D-H, but simply appealing to it will not give a complete account of the total structure or of F-H in particular.26

Furthermore the schematic hierarchy as a whole (and all schematic hierarchies) is presumed to be incomplete: other relationships are sure to exist, all adding to the significance of the different units, helping to explain them, but coming short of totally accounting for them.

Semantic, Phonological, and Symbolic Units

CG posits only three kinds of linguistic units: semantic units, phonological units, and bipolar symbolic units, which pair a semantic with a phonological unit. The term “semantic” applies to any conventional(ized) cognitive or conceptual structure used in language, with “cognitive” or “conceptual” used in a very broad sense, including perception, emotional association, volition, and other aspects of human thought beyond logical manipulation. Thus in a broader sense of the term all units are semantic: the sounds and sequencing and (ultimately) motor commands of phonology are matters of cognition and are certainly conventionalized, and the association of a given phonological complex with another unit cognitive structure to form a bipolar symbolic unit is itself a cognitive matter and conventionalized. All three types of units are thus ultimately of the same type. However, I will usually use the term “semantic” to mean non-phonological and non-symbolic cognitive or conceptual structure.

There are no special morphological or syntactic units: such units, including the schematic constructions we know as rules, are special cases of symbolic units. They form a continuum with the unanalyzable symbolic units we call morphemes. A morpheme like toe, for instance, is a symbolic unit linking a semantic

26 For a real example with pretty much the structure of 1.3.b, try the following (for a person who lives where prairie dogs are common): A = ANTENNAE-LESS ANIMAL, B = MAMMAL, C = BURROWING ANIMAL, D = DOG, E = TAPIR, F = PRAIRIE DOG, G = BADGER, H = MOLE, I = WORM, J = GERMAN SHEPHERD, K = LHASA APSO, L = SALUKI.
unit TOE (which designates a certain sub-part of a foot) with a phonological unit /to/ (phonetically [thow]).

In diagrams we will place the semantic unit above the phonological unit, with a line connecting them,
marked with a dot in the middle of it, symbolizing the symbolic relationship joining them. (The dot
represents the theoretical line between semantic and phonological spaces.) 1.3.c illustrates these conventions
for toe.

![Diagram of semantic and phonological pole]

**1.3.c. toe**  
**1.3.d. toe-s**  
**1.3.e. toe-s**

### Constructions

1.3.d. illustrates how constructions are represented diagrammatically. When the symbolic unit toe is
combined with the symbolic unit -s, there is a particular integration at the semantic pole, represented
diagrammatically by a line joining the units, forming a complex semantic unit TOE-PL. This unit is
represented by the rectangle encompassing both TOE and PL and their integration. Similarly, there is a
phonological integration yielding a complex phonological unit /to-z/. (The natures of these integrations
will be discussed in later sections). The relationship between the two complex units is one of symbolization: toe-s
is a symbolic unit joining the semantic unit TOE-PL with the phonological unit /to-z/. Finally, the relationship
between the semantic integration and the phonological integration is one of symbolization as well, and so is
represented by another symbolically joining line. (This last line will be omitted in many later diagrams, as in
1.3.f. below.)

1.3.e is a constituency tree, an alternative and more complete diagrammatic form of representing
structures like toe-s. The nature of the different relationships in this particular diagram is specified by the
letters c, s, and i on the particular lines: these markings will be omitted in later diagrams of this sort.
Especially when the structures involved get very complex, this type of diagram is easier to read than the type
represented in 1.3.d., and it permits an explicit characterization of the structure achieved by combining the
component parts.

Earlier we claimed that the construction toe-s instantiates a schematic N-PL construction, which also had
non-units such as polytheism-s and very strongly entrenched, almost unanalyzable units such as clothes
among its instantiations. Actually these constructions are even more directly instantiations of an N-z
construction, a prototypical member of the class of N-PL constructions, which also includes, for instance, a
N-en construction. A schematic hierarchy representing these relationships is given in 1.3.f. Note that this
schematic hierarchy is incomplete at every level. There are other N-Suffix constructions with which the N-
PL constructions should be related. There are other kinds of N-PL constructions besides those given. In

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27 In this chapter I will follow the practice, illustrated in the last sentence above, of representing semantic units by small-capitalized
words, phonological units by words enclosed in slashes, and symbolic units by bold italic [green] type. In later chapters I will
usually bold-italicize [and use a green font for] the phonological elements as well as the symbolic.
particular, there would be for English a further schema N-sibilant elaborating the N-PL schema but subsuming a N-s and a N-az schema along with the N-z schema. No instantiations are listed of the N-en schema (e.g. children, oxen, brethren); it is probable that those instantiations are more salient than their parent schema. And of course there are many more instantiations of the N-z schema than those given here.

The Sanctioning of Novel Formations

When a novel formation like *polytheism-s* is made according to the pattern of a schema like N-z, the schema is said to sanction the new formation. This is one of the main mechanisms used in CG to express linguistic creativity.\(^{28}\) A novel formation will be well-formed and automatically acceptable in proportion to the degree to which its sanctioning schema is entrenched, to the degree of productivity of the schema, and inversely to the degree of “distance” between the schema and its novel instantiation. The N-z schema is strongly entrenched, and the “distance” between it and *polytheism-s* is not great: it consists only of the difference in elaboration between the schematic Noun specification in N-z schema and the noun *polytheism*.

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\(^{28}\) Another factor important in certain kinds of linguistic creativity is the perception and utilization of partial or warped schematicity or (what is probably the same thing) the ability to set up a new schema uniting things formerly classified as different. This is important e.g. in metaphorical extensions. [Note: I would not now say that the ability to set up a new schema is probably the same thing as perception of warped schematicity. They are so closely tied together as to tend to occur simultaneously and they facilitate each other, but they are still usefully distinguished. D.T. 1998]
The productivity of a schema is the extent to which its use in sanctioning novel formation has become habitual (i.e. achieved unit status). In this case the N-z schema is clearly productive, making its sanctioning of polytheism-s even stronger.\(^\text{29}\) Thus we recognize the novel expression as well-formed, even though we have not heard it before and it is certainly not grammatical in the sense of constituting a part of the grammar.

### Transformational Rules and Grammatical Morphemes

Modern linguists have for many years put great emphasis on transformations deriving one linguistic structure from another, usually synonymous, one. This is not nearly as important a concept in CG; in fact CG generally avoids positing that one linguistic structure is derived from another. It is common for one structure to be a component of another (as toe and -s are components of toe-s), but that is a different matter. Synonymy is not to be accounted for by derivation, but by showing how the semantic structure of one expression closely parallels that of the other, making it possible for both to be used to code the same situations. Identity of meaning is, if it exists at all, an extremely rare limiting case; virtually all synonymous expressions differ in meaning to some degree (cf. 1.5, Bolinger 1977: vii-x, passim; Tuggy 1980).

The similarities of meaning that do exist between synonymous morphemes or constructions can, of course, be perceived by speakers, and that relationship of synonymy can achieve unit status (like any other cognitive relationship) and be conventionalized and even have a directionality, with one expression felt to be the more basic one. This would be the functional equivalent of a classical transformational rule. But it is the result rather than the cause of the synonymy, an almost meta-linguistic structure built on top on the basic facts and unlikely to be as crucial or central as the facts themselves.

Transformational accounts are not necessarily false, but they usually do not deal with many of the most central issues. In any case, there is certainly in CG no salient, integrated “deep” or “initial” structure. As Langacker (1982a) says, “Grammatical structure is almost entirely overt”.

A closely related matter is that CG takes quite seriously the meanings of “grammatical” morphemes. They are not gotten out of nowhere and introduced, naked of meaning, by syntactic or morphological rules deriving “surface” structures. As a limiting case they may have no semantic content other than their association with a certain construction (even that is a kind of meaning), but by and large they are used in their constructions because they have the appropriate meanings for such usage, and there usually are clearly discernible elements of meaning which are independent of that usage. There is no sharp dividing line between “grammatical” and “content” morphemes, only another continuum.

### Summary

Let us sum up the claims made in this section.

(1) CG sets up psychological naturalness and generality above formal simplicity as criteria for evaluating analyses.

(2) Both generalizations and particular statements subsumed by those generalizations coexist in speakers’ minds, and therefore should exist in the grammar. This introduces a great deal of redundancy into the model.

(3) All cognitive structures used in language are grammatical (i.e. part of the grammar) to the extent that they are thoroughly mastered (i.e. they achieve unit status) and are conventional (shared and

\(^{29}\) There is also involved here the fact that nouns in -ism are usually not conceptualized as count nouns, and the N-pl. schemas at least prototypically specify a count noun, but there are established patterns for getting around these specifications. They do add somewhat to the strain, however, making polytheism-s less strongly sanctioned than, say samovar-s. samoyed-s, or sousaphone-s.
known to be shared by all members of the relevant speech community). To be more exact, grammatical structures are conventionalized units (units established or reinforced as conventional through linguistic usage).

(4) Generalizations are expressed by abstract structures or schemas. In accordance with (2) and (3) above, both the schemas and their instantiations are grammatical to the extent that they achieve the status of conventionalized units.

(5) Novel expressions are well-formed by the canons of the grammar to the extent that they are direct instantiations (at a minimal “distance”) of well-entrenched, productive, schemas. The schema in such a case is said to sanction the novel construction. Productivity is the extent to which such sanctioning usage has itself achieved unit status.

(6) The notions of entrenchment or mastery of a unit and of conventionality are matters of degree. Thus grammaticality is a matter of degree. So are schematicity, prototypicality, sanctioning, and indeed most notions crucial to CG.

(7) It is important to distinguish between the schema defining a class and the prototypical (most salient) member(s) of that class.

(8) There is no clear dividing line between semantics and pragmatics—semantics is largely conventionalized pragmatics.

(9) Units differ in analyzability, the extent to which component units are salient within a unit.

(10) Syntax, morphology, and lexicon differ not in kind but in degree. The structures in which they deal are all symbolic structures varying along a number of parameters, including analyzability, schematicity, and productivity.

(11) In line with (2), relationships of schematicity do not exhaust the significance of the units involved in them. Explanations are not expected to explain away: they are ways of seeing a phenomenon, not of seeing through it. Thus explanations and generalizations are not absolute; only rarely does the model approach strict predictiveness, though it is rife with tendencies. This is not un-scientific, rather it is the kind of science that is appropriate to language.

(12) Multiple analyses, each correct to some degree in spite of contradictory features among them, are to be expected. They are expressed by multiple schemas subsuming the units under analysis.

(13) There are only three kinds of linguistic units: semantic units, phonological units, and bipolar symbolic units, which link a semantic unit with a phonological unit.

(14) All three types of units are subclasses of semantic units, using the word “semantic” in a broader sense.

(15) Transformations of one grammatical structure into another, synonymous, one, while they may exist as conventional units, are secondary, almost metalinguistic, aspects of the structures involved. There is no salient, integrated “deep structure”.

(16) “Grammatical” morphemes form a continuum with “lexical” morphemes: their meanings must be taken seriously.
1.4 The Semantics of Predicates

What is meaning? Let us take a simple case, say that of the morpheme *toe*. We have already said that it is a symbolic unit of English grammar, in which the phonological unit structure /to/ is linked with the semantic unit structure TOE. A semantic structure like TOE, which is the semantic pole of a single morpheme, is referred to in CG as a *predicate*. What is the nature of this predicate, then?

Profile and Base

A dictionary (Webster’s New Collegiate) gives a rough first approximation: “one of the terminal members of a vertebrate’s foot.” A *Thing* is designated\(^ {30} \) which is characterized by its relationship to another *Thing* (a foot, which itself is relative to a leg and ultimately to a body). This kind of situation, where a designated entity is characterized relative to another entity or entities, is claimed by CG to be universally characteristic of semantic units; it is one manifestation of the figure/ground organization so pervasive in cognition. The designatum is always designated against some background necessary to identify it. It is said to be *profiled* against a *base*. The profile of *toe*, then, is that of a Thing which is characterized relative to a base which includes saliently a foot and somewhat less saliently a body. (The body itself must ultimately be characterized relative to a base involving 3-dimensional space and a number of other *domains* collectively called its *matrix*. Langacker speaks of *basic domains* such as one, two, or three-dimensional physical space, sound, taste, color, kinesthesia, etc. and *abstract domains* of many types, such as, in this case, the human body, which are characterized relative to more basic domains and then in turn function as domains for the characterization of other semantic structures.)\(^ {31} \)

It is important to emphasize that both the designatum (profiled entity) and the base against which it is profiled are part of the meaning of a predicate or other semantic structure. Neither is sufficient of itself. You cannot understand or define *TOE* without reference to its base, and the base by itself certainly does not mean *TOE* (or *FOOT* either, for that matter). The importance of this matter will become clearer later on.

The meaning *TOE*, with the toe profiled against the base, can be represented diagrammatically as in 1.4.a, by boldfacing [and, as of 1998, coloring red] the appropriate subportion of a picture of a foot, which

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\(^{30}\) The concept of “designation” or “profiling” replaces (and includes as a prototypical case) the notion of “reference”, with its implication of the designatum’s existence in some sort of “real world”.

\(^{31}\) E.g. CIRCLE can be characterized relative to 2-dimensional space, but RADIUS must be characterized relative to CIRCLE, not to the basic space domain. Most semantic structures have quite abstract domains in their matrix. Any coherent conceptual complex or *functional assembly* no matter how far it is from being directly characterizable in terms of the basic domains, can function as an abstract domain for the characterization of another semantic unit. The canonical speech situation, the human body, the calendrical cycle, the kinship network, a book, a school, the history of China, the movie *Star Wars*: all these can function as abstract domains against which such notions as YOU, FOOT (and less directly, TOE), AUGUST, NEPHEW, EPILOGUE, PROVOST, THE MING PERIOD, and JEDI KNIGHT can be characterized.

In “Space Grammar” (the original name of CG) such domains are often analyzed under the metaphor (scientific model) of their being “spaces” (e.g. phonological space, symbolic space, color space, kinship space) defined by different dimensions or parameters and having concepts located at different places defined by those dimensions. (This was not, according to Langacker, the etymology of the name; he waxed mysterious about what it was.)

It will be noted that some domains (e.g. basic domains, the human body, the speech situation) are likely to be universal, whereas others (e.g. Star Wars, the history of China) are limited to different cultures or sub-cultures. CG emphatically does not take the position that semantic structures are necessarily common to all languages: much the reverse is true. Languages differ drastically in the types of functional assemblies they contain, and many of the problems of translation have to do with attempts to use as equivalent terms whose bases are not equivalent, or the need to construct some semblance of an appropriate functional assembly where there is none. It is like trying to explain to a child what a *gavel* is, or what *casting* is in chess.
also implies a body.\textsuperscript{32} The red boldfacing is the diagrammatic representation of profiling or designation; non-boldfaced elements are part of the base of the predicate. This is appropriate because profiling is a type of salience, the salience of the figure against the ground. Note that this implies that profiling is ultimately a matter of degree: the distinction between what is profiled and what is in the base is not absolute, nor is it always easy to draw the line. This proves important for an understanding of e.g. how demonstrative adjectives can fade into demonstrative pronouns and vice versa.

**Encyclopedic Meaning**

Is 1.4.a an adequate representation of the meaning of \textit{toe}? No, in more ways than one. One problem is that what I have represented is a prototypical instance of a toe, but although abstract (it is not any particular person’s toe, and perhaps I will be forgiven for making it the first toe in the series; it must be understood that any of the others would have done) it is not abstract enough. When we think of a toe, we (naturally enough) think of a human toe; this amounts to having a strongly entrenched, prototypical version of the predicate \textit{TOE} specify that it is a human toe. This is 1.4.a. However, as Webster reminds us, the overall schema for the predicate must be abstract enough to allow designation of an analogous Thing on the body of other vertebrates. Cats and dogs have toes (on both their forefeet and their hind feet), and there is fairly common and very consistent usage telling us so. We posit other well-entrenched (though less than prototypical) versions of the predicate \textit{TOE} to express that fact, with the overall schema abstracting away from the anatomical differences between humans and cats and dogs. The meaning of \textit{TOE} would, then, be more adequately represented by something like 1.4.b.

Notice that the difference in meaning among the various versions of \textit{TOE} in 1.4.b is more a matter of differences of the base rather than differences of the profile. This is in general true of differences in schematicity: the profile remains relatively constant, while different aspects of the base are faded out of focus in the more schematic constructions. For instance, \textit{DIGIT} would annul the hand-foot distinction, \textit{APPENDAGE} would even further de-specify the base, \textit{BODY PART} would do so even more, and finally, if all the specifications of the base are faded out, the concept would be simply \textit{THING}.

In these cases there is little question as to the felicity of calling something a \textit{toe} as opposed to, let us say, a \textit{finger}. But in other cases such a designation is not a well-entrenched unit. I do not know whether the digits on a monkey’s hind limbs are fingers or toes: they have clear affiliations with the prototypes of both categories, and I have heard them talked about so rarely that neither analysis is conventionalized. Part of the difference is apparently the function: as long as the digits are used (mainly) to aid in locomotion they “feel” like toes (especially if the locomotion is walking rather than hanging: but notice that it is a \textit{3-toed} rather than a \textit{3-fingered} sloth). But to the extent that they are used saliently for grasping and manipulation they “feel” like fingers. The shape and size relative to the hand-or-foot (whichever it is) to which they are attached is another factor: toes are shorter and stubbier than fingers and all attached at one end (the front end) rather

\footnote{\textsuperscript{32} The question of the appropriateness of pictures for representing meanings will be addressed later.}
than around half of the periphery. The similar fuzziness as to whether something is a hand or a foot is of course very relevant: monkeys have hands; frogs can have either hands or front feet; cows do not have hands. Thus a monkey has fingers, and a frog can have either fingers on his hands or toes on his front feet, but a cow can only have toes. Do the long bony structures in bats’ wings count as toes? No. As fingers? Probably not. They are too long, and do not have enough flesh on them and are (presumably) not manipulable enough. What about the little dewclaw projection on a cow’s foot? Probably not a toe: there is only one per foot, for one thing: a foot with a single toe seems anomalous. (This is almost certainly involved with the fact that children learn to say toes before toe.) Also, it is attached to the wrong place. The same goes for a rooster’s spur. Or maybe those are toes. What about claws? They are not toes: they are made of the wrong material.

What all this illustrates is that the meaning of a word like toe is quite complex. Involved in its base are more things than the dictionary told us. There are more or less strong expectations (expressed as specifications of more or less strongly entrenched sub-versions) as to the kind of animal the designatum goes on, how it is situated and shaped and sized relative to the foot, whether it is on a fore or a hind limb, whether it is fleshy or not and how fleshy it is, whether or not it is a member of a group of similar Things, whether or not it is used for locomotion and what sort of locomotion, whether or not and to what extent it is used for grasping and manipulation, and so forth. There are also usages (which we won’t go into) in which the dictionary’s stipulations are violated: non-vertebrates, even non-animate entities can have toes. Higher than the schema that corresponds to the dictionary’s definition (and less prototypical than it) are schemas that neutralize such distinctions. Meaning is no simple matter.

CG accommodates such facts by claiming that meaning is encyclopedic in the sense of Haiman 1980, rather than (merely) dictionary-like. What that means in this case is that everything that a person knows about the class of Things designated by toe is part of its “meaning”, in at least one sense of the term. Not all of this knowledge is of equal status, of course; some specifications are very strongly entrenched and central to the meaning, others are less so. Whatever is non-conventional is in a very different category from what is conventionalized by repeated usage. But all these things are matters of degree.

Semanticists have spent much effort trying to separate denotations from connotations, semantic meanings from pragmatic meanings, and so forth (see e.g. Leech 1974, Chapter 2, with seven classes of meanings; esp. pp. 24-27 on demarcation problems), and they always find it very hard to know where to draw the line. They are of course aware of the kinds of snags in their theories that I am adducing here, and often enough bring them up themselves. For instance, Leech (p. 88) says that the distinction between the semantic (logical) and the factual “becomes a question of how far a semantic theory can be extended. The more facts that can be explained the better; but …[ultimately]…the notion of a finite and exhaustive specification of meaning cannot cope with the open-ended vastness of human knowledge”, and the encyclopedic approach must be rejected because it opens the door into that open-ended vastness.

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33 Peter Landerman uses what he calls the “phonetic analogy”: meaning specifications and interrelations, like phonetic specifications and interrelations, can always be pushed just a little farther. “How fine”, he asks, “should our semantic distinctions be? The answer is ‘fine enough’” (Landerman and Frantz 1972:215).

34 Elephants, Leech notes, are fourlegged, hornless, incapable of speech, etc., and thus certain statements about them (e.g. The elephant had eighty legs) are (he says) necessarily false. “If we wanted our semantic theory to explain the absurdity of such statements, we should have to include such features as ‘fourlegged’ … in our definition of elephant. But if we included all such features, we should end up not with a dictionary entry but with an encyclopedia entry of indefinite length.” Leech objects to this on the grounds that it implies “an indefinite number of possible definitions, the choice between which is no less arbitrary than the toss of a coin”. This argument assumes that all knowledge is homogenous, built up of atomic features which are all equal; postulating, as CG does, differences in degree of salience, or abandoning the reductionism that explains meanings as nothing but the sum of the atomic features, will vitiate it.

Leech concludes that the meaning of elephant cannot be defined any further than “an animal of the species elephant”, and that sentences such as “The elephant had eighty legs’ … are absurd in a way that semantics cannot explain.” This is in contrast to the absurdities of sentences like “This orphan has a father” (p. 85), or “The panda confessed his mistake” (p. 99), which are to be explained by semantics.
He notes that this admittedly somewhat arbitrary “way of attempting to ‘draw the line’ reflects an assumed difference between the finite systematic character of conceptual meaning, and the indefinite, open-ended nature of extra-linguistic knowledge” (p. 89).³⁵ Cf. pp. 15-16, where he distinguishes open-ended connotational from finite, systematic denotational meaning, claiming that “it is taken as fundamental by anyone who studies conceptual meaning that the meaning of a word or sentence can be codified in terms of a limited set of symbols (e.g. … a finite set of discrete features of meaning) and that the semantic representation of a sentence can be specified by means of a finite number of rules.” This is justified because linguists do the same thing in syntax and phonology, and because otherwise “one can scarcely attempt to describe language as a coherent system at all”.

In other words, Leech is honestly admitting that his objection to the encyclopedic approach is not that it does not fit the data—in fact he shows that in many ways it fits them better—but that if we use it we can not ultimately describe the data in their totality. It fails to make language simpler than it really is, leaving it too big and too complex for us to give it a “finite and exhaustive specification,” in a word, to deal with it “scientifically”.

Semanticists find it hard to know where to draw the line; CG takes the position that it is in principle impossible to draw a consistent, motivated line.³⁶ These linguists are responding to something real in each case, but the parameters along which the distinctions are made are matters of degree rather than either/or questions, and can be taken as sharp distinctions only by trying to take the prototypical cases at the ends of the continuums as normative. To the extent that any concept of whatever kind is linked with an appreciable degree of salience to a linguistic form, and to the extent that such association is conventionalized, hallowed by usage—to that extent the concept is part of the meaning of the form.

This helps explicate a lot of things that are otherwise very puzzling. The fuzzy areas between denotation and connotation, between matters of meaning and matters of style, between pragmatics and semantics, are all to be expected. It is not at all surprising to find diachronic changes where what was once a “non-linguistic” association becomes an established connotation and finally a central denotation (cf. villain and frank in 2.1, or Leech’s (1974:123-124) example of the “connotational” suspension of work on a holy day becoming “criterial” (i.e. denotational) in holiday). Innovative usages depend on such non-central pieces of meaning. Cf. Clark and Clark’s excellent (1979) study of denominal verbs, where are given such examples as Houdini one’s way out of a closet, Houdini ESP experiments (i.e. expose them as fraudulent) or get Houdini’d (in the stomach), all from a supposedly meaningless proper noun.³⁷ Grammatical valences crucially involve semantic connections, yet the semantic connections involved in many constructions are very far removed from the central meanings of the pieces involved. Clark and Clark (p. 767) mention Ferrari woman, used in a

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³⁵ Cf. Palmer’s (1976:45) taking Katz and Fodor (1963) to task for assuming that the difference between two senses of bill in the bill is large is the province of semantics, but the differences between the senses of take in take [junior/the bus/the lion] back to the zoo are not, because, “it is suggested, we [would] have to know all about boys, buses, and lions, and … such information cannot be included in a semantic theory.”

³⁶ Others have, of course, come to this conclusion before. E.g. Palmer (1976:50-51) speaks approvingly of Firth’s views, saying “it is almost certainly impossible, in principle, to decide what is ‘in the world’ and what is ‘in language’. If this is so, Firth is surely to be praised rather than criticized for refusing to draw a clear distinction … between the [level] that deals with language and the world and those that are wholly within language … One virtue of Firth’s approach was that he set out to make PARTIAL statements of meaning. It may be that this is all that we can ever hope to achieve.”

³⁷ Clark and Clark’s discussion comes to the conclusion that the crucial facts are not meaning but only mutual (i.e. conventional) knowledge. It is not clear how they propose to draw the line between mutual and semantic knowledge. What they say about the theory of interpretation, mutual knowledge, etc. (784-808) is as true of well entrenched, “non-contextual” words (see their own examples) as of the innovations they are trying to explain. In fact, if those pages are taken as describing what semantics is all about instead of a separate collection of considerations for dealing with innovations, they read almost like a textbook for CG.
newspaper to designate a woman who had specified in her will that she be buried in her Ferrari. Aronoff (1980) mentions that evaluative expressions such as GOOD may be describing goodness along any of an essentially inexhaustible number of parameters. E.g. a good toe might be good for kicking a football, jumping, running, or eating, or excellent in shape, flexibility, you name it. Or consider the phrase “peanut diplomacy” which was used during the late 1970’s (presumably it is “jellybean diplomacy” now). It could be used because the knowledge that Jimmy Carter was both a peanut farmer and an important diplomat was conventional knowledge, and as such part of the meanings of both peanut and diplomacy. This information, while not in the topmost schema nor even in the most prototypical schemas, would be specified in some deeply-embedded schema in the hierarchy representing the semantics of each word. The usage capitalized on this conventional knowledge, and in so doing, conventionalized it still further. Of course these facts are still far from central to the meanings of the two words, but it is not inconceivable that they could become so; stranger things have happened in the history of languages. The differences between them and central meanings are all matters of degree rather than absolute differences of kind.

The cost, of course, is that, once again, we have to abandon all hope of ever really knowing everything there is to know about even the smallest pieces of the language. We cannot exhaustively describe the meaning of TOE, because to do so would involve describing, ultimately, virtually all the knowledge of the speakers who use the predicate. However, I think that recognizing this is simply facing reality: language and meaning really are that complex, and logical semantics is, if used reductionistically rather than as a useful but incomplete view, simply a fairly attractive bed of sand in which to bury one’s head.

With respect to the profile/base distinction, it is probably not the case that any of the semantic specifications of a predicate like TOE or PEANUT can be viewed as part of its profile, other than the fact that it is a Thing. There is a tendency for intrinsic qualities (such as shape) to be more central than extrinsic qualities (such as relationship to other entities), but they can be dissociated historically from a predicate. Note that for TOE the relationship to FOOT is clearly more important than the intrinsic shape relationship. Constant, unchanging qualities (again shape, color in many instances, etc.) will tend to be more central than transitory qualities, qualities or relationships that directly affect humans tend to be more central than those which do not, and so forth. There are many tendencies along these lines, but there is no way that one can absolutely state which will be central in any given instance. They are all parts of the base, variable to differing degrees.

Of Pictures and Diagrams

I will continue to use pictorial diagrams like 1.4.a and 1.4.b to represent the meanings of structures like TOE, since they are useful, but it should be clear that they are nothing like exhaustive representations of all relevant semantic specifications. Rather (and particularly when it comes to representing non-schematic units) they are simply meant to jog one’s memory, giving a representation of some visual characteristics since those are what can best be expressed in the medium. (Fortunately, visual characteristics such as shape tend to be central to meanings as well.)

Some linguists will, no doubt, be uncomfortable with such representation of meaning by drawing pictures. There is a lot of history behind such feelings, and different reasons for them. One of the strongest is the view that all meaning is propositional and properly expressed in logical formulas rather than in anything so unscientific as pictures. CG, however, claims, as we have seen, that meaning is conventionalized cognition, and that any type of conceptualization, whether formulaic or imagic or emotive or whatever, as long as it is conventionally associated with a phonological form, is part of the meaning of that form. Meaning is not composed of discrete features which are added up productively each time to arrive at a total meaning: gestalts and images are crucial, in which the whole is greater than the product of its parts. The kinds of concepts which can be nicely expressed through symbolic logic and other algebraic notations are a quite specialized subcase of human thought and therefore of semantics. Some concepts are more easily
explicated through visual imagery, and drawing pictures, even stick-figures, will more adequately represent them than will a series of parentheses and logical operators.\textsuperscript{38} Even dictionaries have to resort to drawings.

Perhaps this would be an appropriate place for a discursus on the theoretical status of these diagrams which are so constantly used by Cognitive Grammarians. Let us separate them into two components (the difference between which is ultimately a matter of degree): the more rigidly formalized boxes, arrows, dotted lines, and boldfacing, and the freer pictorial representations we were discussing above. E.g. in 1.4.b, the boxes representing unit status, the arrows coding the schematicity relations among the units, the boldfacing of boxes indicating prototypicality, and the [red] boldfacing of the toes indicating profiled status are elements of the first sort: the drawings of the human, the dog, and the cat are of the second. Elements of the first sort fulfill several functions. In the first place, they are convenient. They can often present complicated configurations of factors more compactly or succinctly, with the interactions of those factors more easily grasped, than is possible with verbal explanations. Secondly, they are a kind of formalism, and they offer the advantages (and disadvantages) of formalisms: they force ideas to be translated into a relatively rigorous and unambiguous medium, clarifying and molding the conceptualizations of both the analyst and his audience. They are neither whimsical nor arbitrary; they are meant seriously, and changes in even quite small details in them often represent quite drastic changes in the analysis.

On the other hand, they have their limitations. It has already been mentioned that it is hard to represent gradations along the many parameters involved in the structures we are discussing. Another problem, which arises particularly in the representation of the meanings of individual, non-schematic morphemes, is the inability to represent at all or well many kinds of meanings. How do you diagram the taste of \textit{sweet}? Yet the concept consists largely of (the memory of) that taste. How do you diagram or picture the sound of an \textit{oboe} or a \textit{french horn}? Yet those sounds are important parts of the meanings of the words. How do you represent the motor- and kinesthetic-related units which are part of the meaning of \textit{run}? Part of the problem is that we (or at least I) do not know the relevant parameters for establishing the position of many concepts in the relevant domains. If we did, and could determine that position with sufficient accuracy, we could chart or graph it; the diagramming conventions we are using are crude attempts at such charting or graphing along parameters which seem to be of general importance. But meanwhile I have no way to adequately express in these diagrams many relevant concepts. (I might add that verbal explanation suffers from the same inadequacies. You cannot really explain \textit{red} to a blind man. And logical formulae are even worse in most cases.) A further problem is that even if I knew how to graph many of these semantic specifications, it would take so long to elucidate the representations and educate the reader in their interpretation as to bring communication to a standstill. And that is where the pictorial element of the diagrams comes in.

Those pictorial elements, though admittedly somewhat arbitrary and even whimsical at times, are in fact a form of graph as well, crude and intuitively guided, but intended to represent certain aspects (variations along two dimensions of space, the light-to-dark gradation, etc.) of visual images, which are a very important part of human conceptualization (see e.g. Shepard 1978, Kosslyn 1980, etc.). Specifications relating to such images are often central to the meanings of linguistic units, and these “graphs”, though crude, are comparatively easily grasped by un instructed readers. Yet even viewed in such terms (and quite apart from my obvious limitations as an artist) these “graphs” are not to be taken too seriously. Pictures are irremediably elaborate rather than schematic. This results in an inability to represent “virtual” concepts, schemas of which only the instantiations are representable in the medium chosen. How do you picture a

\textsuperscript{38} Leech (1974:15) admits that, if connotative meaning is considered (as we have claimed that it must be) “whatever connotations the word \textit{baby} has can be conjured up (more effectively, since the medium is representational) by a drawing of a baby, or an imitation of a baby’s cry” than by [+HUMAN, -ADULT] and whatever other “semantic” features he would posit in the denotative meaning. Lyons (1977:209; Leech essentially admits the same on pp. 204-205) says that even the denotation of \textit{cow} would best be specified to those ignorant of it not by the dictionary definition “mature female bovine animal”, but “by confronting them with a few specimens (or pictures of them) and perhaps drawing their attention to one or two salient features (the horns, the udders, etc.). The point being [that] there may be no single correct way … of specifying the denotation of a lexeme.”
TOOL which is neither a saw nor a hammer nor a wrench but could be any of the three, or how do you draw a triangle which is neither specifically isosceles nor specifically scalene? How do you represent the version of RUN which neutralizes the differences between water running and a car’s engine running? For that matter, how do you draw a foot which is not of too specific a shape (too fat for some, too thin for others) or viewed from one particular angle (the shape specification of FOOT will be indifferent as to angle of view), or how do you draw a TOE that is neither specifically the big toe nor any of the others? Pictures, then, when they are used in these diagrams, are meant to be a sort of reminder of certain visual aspects of the semantic units involved; they are woefully inadequate in portraying even them and much worse when it comes to portraying non-visual aspects of meaning. Very often (far too often in fact), since I cannot suitably portray such non-visual aspects of meaning, I simply ignore them, using a picture as a mnemonic trigger, hoping the reader will have the right associations to make communication possible. (It’s rather like speaking in that regard; phonological structures are mnemonic triggers as well.) Similarly, I am feeling free to use written labels in the diagrams where it seems useful.

In short, diagrammatic representations, with or without pictures, are another explanatory device (like verbal explanation or logical formulae) of the sort we should expect from CG: useful for understanding but partial; representing better than other media certain important aspects of the structure under consideration but falling far short of an exhaustive accounting of it. They are not a sine qua non for CG analysis, but they are serious and important, and, I believe, helpful. The best representations of meaning are but shadows; I do not think that these are any worse, “if imagination mend them”.

The “Interconnected Network” Model

We have been using (and will continue to use) a Schematic Hierarchy model of meaning, in which the meaning of a unit is represented as content, as specifications contained within the unit. Another model, in some ways primary over the Schematic Hierarchy model, is what I will call the Interconnected Network model, which represents meaning under the metaphor of connection or access. It would represent a person’s knowledge, and similarly that subset of his knowledge which he knows to be conventional or conventionalized to a significant degree, as an interconnected network in many dimensions, with each interconnection representing a semantic association.39 Schematicity would be one of the myriad dimensions of the network,40 as would conventionality. A predicate (or indeed any semantic unit) would be a designated point or area of entry into the network. From that point any other point in the network could be in principle accessed, but certain points would, because of their proximity or because the connection between them had been strengthened by usage, be much more easily accessed. Most others would, of course, be so far removed, accessible only through many intermediate nodes, that they would be only rarely and with difficulty accessed. Depending on the local topography of the network, certain connections might be necessary, indispensable routes to take in order to access the rest of the network. Or, to change the metaphor slightly (for all scientific models are metaphors), a predicate is a window from the viewpoint of which certain features of the interior landscape stand out while others are, through distance or obstruction or angle of presentation, much more difficult to perceive, but from which, if enough depends on it, everything can be seen.

39 Leech (1974:21-22) agrees that most meaning (excepting the sacrosanct logical or denotative meaning) “can be brought together under the heading of ASSOCIATIVE MEANING”.

40 Thus the Schematic Hierarchy model can be viewed as expressing the subpart of the network which lies along the dimension of schematicity. To say the same thing another way, one kind of connection between nodes would be a schematic-elaborative connection, and the Schematic Hierarchy model deals with nodes related by such connections. Connections in other dimensions are represented in the Schematic Hierarchy model as contents (i.e. by the “meaning is content” metaphor). This disparity causes some problems, as we will see below (and in 2.1).
The difference between the two models may perhaps be brought out by seeing the differences in how they would handle the semantics of **TOE** and **FOOT**. In the Schematic Hierarchy model there is internal to **TOE** a reference to **FOOT** and to the body as a whole. Similarly part of the meaning of **FOOT** is a reference to **TOE** and to **LEG** and to the body as a whole. In the Interconnected Network model **TOE** would be one point of entry into the network, and a very strong and well-entrenched connection would lead one from that point to the point marked **FOOT**, with its connections to **LEG**, etc. Entering in at **FOOT**, the same strong connection exists between **FOOT** and **TOE**, though it is relatively less salient because there are equally strong or stronger connections to **LEG** and to **BODY**, to **SHOE**, and to many other nodes.

This takes care of one problem with trying to represent encyclopedic meaning in the Schematic Hierarchy model, namely the fact that that model would wind up with apparent duplication where in fact there is access to the same conceptual structures. The meaning **TOE** would be built into the meaning **FOOT** and the meaning **FOOT** into the meaning **TOE**. Similarly **SHOE** and **LEG** would be built into **FOOT** and **FOOT** and many other structures into them. The same thing would be happening in the characterization of all linguistic structures, resulting in tremendous, and as far as I know unmotivated, duplication. The **FOOT** within **TOE** and within **SHOE** and within **LEG**, and **FOOT** considered by itself, are all in fact the same semantic structure, but that fact would be represented only ad hoc-ly by the Schematic Hierarchy model. In the Interconnected Network model **toe** and **foot** and **shoe** and **leg** are closely related points of access, and the duplication is non-existent: all the forms simply have access to the same node in the network, in the case of **foot** directly and in the other cases less directly.

A related problem is that of the circularity of definitions; **FOOT** being necessary for defining **TOE** (or more clearly, **PARENT** being necessary to define **CHILD**) and vice versa. This is not a problem in this model because you are not trying to build up definitions from basic atomic units. Of course you define **TOE** in terms of **FOOT** and **FOOT** in terms of **TOE**; in a definition you are trying to characterize the relationships of each node to the others, and in these cases each is accessible from the other. Neither one need be posited as more basic: each can be accessed from the other, but neither need be derived from the other. Arguments over whether **DEAD** is “really” **NOT-ALIVE** or **ALIVE** is **NOT-DEAD** are pointless: both are “real” and either can be accessed from the other: neither explains the other away. Similarly **PARENT** and **CHILD**, both directly accessing the same portion of the network, are obviously closely related in meaning, but each exists in its own right and neither is to be removed from the language because it can be explained in terms of the other.

Note that in this model there is no contradiction in having a larger, more inclusive structure be a part of the meaning of a smaller, component structure. This will prove important when we come to a characterize the meaning of grammatical morphemes as consisting largely of the syntactic constructions in which they function (see 2.1, 2.5, 5.1, etc.).

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41 Another area this model illuminates is what was said previously (1.3) about phonological and symbolic units being in a sense subcases of semantic units. One subset of the interconnected network will be phonological, consisting of entrenched paths (units) accessing, with varying degrees of directness, the motor and perceptual mechanisms relating to sound. Another subset will embrace entrenched access paths to myriad other cognitive areas—these would be the semantic structures. A third subset would consist of established paths connecting nodes of the first type with nodes of the second. These would be the symbolic units. In each case, the crucial thing is an association: with a given point are associated all the conceptions of **TOE**, in all their varying saliences and relevances, with another are associated all the various motor and perceptual conceptions of **/to/**, with all their varying saliences, and there is another strongly entrenched association between the two points, which constitutes the symbolic unit **toe**.
Meanings are Expectations\footnote{Although this particular way of viewing meaning has not been stressed by Langacker and thus is not part of the CG framework as he has presented it, it is clearly compatible with it and will be important to us in later sections.}

Another metaphor which it is helpful to apply to the question of the nature of meaning is that meaning is expectation. Semantic specifications of varying degrees of salience can be thought of as specifications which are expected to vary degrees. The less salient are only casual expectations, the more central are strongly expected.

For instance, TOE, as we have seen, strongly involves the expectation that the designatum is a Thing that goes on a foot; it also involves less strong expectations that it will be one of a set of such Things, that it will have a certain (stubby, jointed) shape, that it will be on the hind rather than the fore limb of an animal, that it will be fleshy rather than hard, that it will be used in walking but not in grasping or manipulation, etc.

Yet even the strongest expectations can be disappointed. A dismembered toe, or even a toe sculpted in isolation from any foot, would still be a toe. Whenever an expression is used, its meaning may be viewed as the collection of characteristics that are conventionally expected (in varying degrees) to be true of its designatum. The usage will be conventional (or felicitous, grammatical) to the extent that these expectations are fulfilled.

This concept of meaning as expectation will be useful later, e.g. in 2.5 where we will claim that transitivity, the expectation of a direct object, is a kind of meaning.

Ambiguity vs. Vagueness

Meaning, then, is encyclopedic. The number and extent of the expectations aroused by an expression is essentially open-ended. This is expressed in the Interconnected Network model by the fact that there is access to the whole network from any point in it. It is expressed in the Schematic Hierarchy model by having an indefinitely large number of subschemas instantiating any meaning structure, varying along many parameters, including particularly those of salience and of conventionalization. And these differences in salience and conventionalization mean that we don’t have to abandon the “dictionary” approach entirely. We can see where it is valid as well as where it failed.

If one filters out (as one must in practice) all specifications below some arbitrary level of saliency and/or conventionalization, one will be left with something very like a dictionary definition.\footnote{It would, of course, differ from a dictionary-style entry in referring directly rather than verbally to e.g. memories of taste, smell, sound, feel, and looks, and also in listing aspects which are salient but not contrastive, perhaps leaving out contrastive but non-salient aspects. The most salient aspects of the meaning of HORSE do not necessarily include those things that make horses different from mules.} We will of necessity be using many such characterizations of semantic units. We are obliged by practicality to set some threshold below which we will ignore all specifications, although there is no principled way to know exactly where to set that level. The practice of linguistics, as Chesterton observed of art and morality, consists largely of drawing the line somewhere. But we should be aware of what we are doing, and of the fact that many changes that seem abrupt and violent in their effects above that line are often products of more gradual changes below it.

For instance, in language change, a morpheme with a “single” meaning sometimes splits into two homophonous morphemes with “different” meanings. This is usually the result, however, of a gradual process in which contrasting subschemas become relatively more salient while the schema uniting them
becomes less and less salient to the point of practical invisibility.\textsuperscript{44} What starts out as a non-salient distinction between subcases of a strongly entrenched schema becomes a strong distinction between well-entrenched units united, if at all, by a very non-salient (homophonous) schema.

The two end states of this process correspond to the notions of vagueness and ambiguity, and just as the change from one to the other is gradual, so the distinction between vagueness and ambiguity is a matter of degree.\textsuperscript{45} This is borne out by the facts, for we find many cases where it is difficult to decide whether “different meanings” or “different subcases of the same meaning” are involved.

Starting at the “vague” end of the continuum, AUNT is a strongly entrenched, unified concept. The meanings MATERNAL AUNT and PATERNAL AUNT, while distinguishable, are (for me) certainly vague subcases of AUNT. However, the BLOOD AUNT vs. AUNT BY MARRIAGE distinction is more salient: my father’s (or mother’s) sister and his brother’s wife are my \textit{aunts} in almost two different senses of the same word.

As an example lying toward the middle of the spectrum, last November (1980) Hudson and Bauer on radio station KFMB gave out advice on “how to prepare your turkey for Thanksgiving dinner”. The gist of it was that you should not just bluntly say “Tom, you’re gonna die”, but go at it a little more tactfully (“Tom, are you religious?”). Two senses of the word \textit{prepare} are at issue: is the relationship between them one of vagueness or one of ambiguity? In some sense it is both. The activities of cutting up, seasoning, and cooking food and of counselling one about to be traumatized are so different as to give the feeling that a pun was committed. Yet it seems clear that both are (being viewed as) sub-cases of a more schematic activity of preparation.\textsuperscript{46}

And, towards the ambiguous end of things, the differences between common \textit{sense}, the five \textit{senses}, and the different \textit{senses} of a word are certainly salient, but is there no semantic connection between them, no schema or chain of schematically related units joining them? It is hard to put into words what they have in common, but one feels as if they are somehow the same word, for all the differences.

CG can easily express these situations. Two homophonous expressions are vague to the extent that they are joined by a homophonous structure directly schematic to both of them which is more salient than they are. They are ambiguous to the extent that they are not joined by such a schema. If there is no such schema, if it is schematic only at a great “distance”, or if it is much less salient than its instantiations, they will “feel” ambiguous.

Many cases will be discussed later in this dissertation (e.g. Chapter 6) where there will be questions of this nature: are we dealing with one morpheme or two homophonous ones? The answer in each case seems

\textsuperscript{44} Lewis (1960: 139) in his discussion of \textit{sense}, cites the grammatical vs. juridical meanings of \textit{sentence} as a case in point: “This is an excellent example of the merely homophonic status to which the different uses of a word are finally reduced. If you said ‘Jeremy Taylor can boast the longest sentence of any English writer’ and someone replied ‘Poor Wilde had a longer one’, this would be a pure pun.”

\textsuperscript{45} The classical tests for ambiguity vs. vagueness (e.g. Lakoff 1970), involving conjunction and/or reduction, do separate prototypically vague from prototypically ambiguous pairs of expressions. Thus passing the test (having the conjoined structure be acceptable) damages a position that the forms are ambiguous, and failing the test would damage the position that the forms are vague. However, passing does not prove vagueness nor does failing prove ambiguity, in any strong sense.

And in fact, at least for me, there are a good many cases where the tests do not coincide or where they give equivocal results. E.g. if I have been painting park benches and John has been painting portraits, I do not think I could say, except of course facetiously, \textit{I have been painting all morning and so has John}. If he has been painting murals, I am not sure. If I have been painting murals I am quite sure I can. If I have been writing by hand and he on a typewriter I can certainly say \textit{We have both been writing all morning}. But if our hands have gotten tired from the two activities, I do not think I can say \textit{My hands have gotten tired from writing and so have John’s}. Cf. Green’s (1972:92) need for a “limited sort of vagueness”, for linguistically significant distinctions which nevertheless fail the tests for ambiguity.

\textsuperscript{46} Barbara Levergood pointed out to me that either or both kinds of preparation (psychological and physical) could be involved in \textit{The doctor prepared the patient for the operation}. 
to be that to a certain extent and in certain respects each analysis is correct. The distinction between one morpheme and two homophonous morphemes turns out to be another matter of degree.

**Things and Relations**

Semantic structures may be classified according to the type of profile they have. Perhaps the most basic distinction to be made is between Things and Relations.

A Thing can be defined as “a bounded area in some conceptual domain or domains”. Physical objects are prototypical Things, but substances, qualities, even actions can be construed as Things. A Relation we will define as an entity that profiles at least two entities (prototypically Things). Actions, positions, and qualities are often construed as Relations. The schema which neutralizes the Thing-Relation distinction is called entity, an entity is either a Thing or a Relation.

Things are by convention represented in diagrams as boldfaced circles, entities are represented by rectangles, and Relations are recognized by having at least two entities or things profiled, often with a boldfaced line connecting them, representing the Relationship between them. Sometimes this line is labeled to represent its character ad hoc-ly; sometimes it is broken, to represent a vague (schematic) character. Thus in 1.4.c A is (i.e. profiles) a Thing, B is an entity, and C is a schematic Relation between two Things, D and E. F is a Relation in which Thing G has a relationship of wanting Relation H.

**1.4.c. Things, Relations, and Entities**

**1.4.d. Schematic Relations of Entity, Thing, and Relation**

1.4.d diagrams the schematicity relations of the notions Entity, Thing, and Relation.

**Trajectors and Landmarks**

Within every Relation (at least at the level of predicates and above) one of the entities entering into the Relation is singled out as the figure, with respect to which the other is ground. The figure is called the **trajector** (abbreviated as tr and colored bright purple in diagrams) and the entity serving as ground is termed the **landmark** (lm).47 This is a second layer of figure-ground organization within the profile, which is already

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47 The notion “trajector” is very close (identical in some situations) to Talmy’s (1975) “Figure”; “landmark” is very close to his “Ground”. The term “landmark” is from Miller and Johnson-Laird 1976.
construed as figure with respect to the base. Langacker has claimed (1981b:12-13) that the notion “trajector” is equivalent to the notion “subject” at any relevant level of complexity of constructions.48

As the names imply, the landmark serves as a point of reference for locating or tracking the trajector. For instance, the predicate BESIDE (treating it as unanalyzable) profiles a Relation in which two entities (prototypically Things) are located in close proximity to each other with the displacement between them being along the horizontal dimension. However, the two Things are not of equal status: one of them (the trajector) is singled out as figure and located with respect to the other (the landmark). \textit{John is beside the car} does not mean the same thing (though it may designate the same situation) as \textit{the car is beside John}: in the first case John is located with respect to the car; in the other the car is located with respect to John. It is this sort of asymmetry that the trajector/landmark distinction is intended to express. BESIDE can be represented diagrammatically as in 1.4.e.

In other Relations the same distinction holds. Pairs such as \textit{ABOVE} and \textit{BELOW} profile the same Relation against the same base, but reverse the trajector/landmark alignment. In a verbal Relation (process) such as \textit{TELL} the teller is trajector, the person told is landmark; \textit{HEAR} might designate the same situation, but reverse the trajector/landmark alignment, with the person told as trajector, and the person telling as landmark.

In complex Relations there will often be more then one sub-Relation involved, each with its own sub-trajector and sub-landmark. In those cases one entity is still singled out as the overall figure: this entity will be called the Trajector (TR) with a capital T. Similarly the most salient landmark (which may be a trajector with respect to other sub-landmarks) will be called the Landmark (LM). For instance, in the Relation \textit{THROW}, the Trajector is the Thing (prototypically a human) who in certain specified ways causes another Thing (the Landmark) to initiate a sub-trajectory in which it moves with respect to various sub-landmarks (including, perhaps, the Trajector itself).

Also, there are Relations where there is clearly a trajector, but there is no single salient landmark that stands out.49 For instance, in the Relation \textit{RUN}, the person running is clearly the trajector, but there are a number of landmarks relative to which his position or movement in running its calculated, and it is difficult to decide which one is the most salient. Is it the person himself, the parts of his body relative to which the movement of the other parts is calculated? Is it the road he runs on? The place he gets to? The distance he runs? It is not easy to decide, and we should not be surprised when the pattern is varied from usage to usage or from language to language.

The notion of trajector vs. landmark is also relevant for Things as well as for Relations: to the extent that one particular entity (esp. a Thing entity) in the base of a Thing is salient, it can be thought of as a landmark. Thus in \textit{TOE} the foot is a landmark, in \textit{FATHER} the offspring is a landmark and in kinship terms generally the “ego” is a landmark, in \textit{LID} the container is a landmark, and so forth. These nouns are what have been called “relational nouns”, and one can see the appropriateness of the term. Yet they are not Relations: there is a difference between the noun \textit{FATHER} (a Thing) and the verb \textit{FATHER} (a Relation). There are also Relational pronouns (e.g. \textit{THIS}, when used alone; its landmark is the region proximal to the speaker) as well as Relations involving a pronominal Thing (e.g. \textit{MY}).

Langacker speaks (e.g. 1982a) of certain Relations as being basic in that they must constantly be invoked to characterize other Relations, and many other Relations can be reduced to instances of these. They are the \textit{IN}, \textit{OUT}, \textit{IDENTITY}, and \textit{ASSOCIATION} Relations. They can be diagrammed as in 1.4.f below. One can

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48 I will be using the term “subject” in a more specialized sense, but one still appropriate to Langacker’s concept, namely calling subjects Things that in a construction elaborate the trajector of a Relation, or even more specifically, of a verb.

49 When these Relations are verbs they are, of course, naturals for intransitive usage.
see, for instance, how BESIDE can be analyzed into an association relation on the horizontal dimension and an identity Relation on the vertical dimension of an oriented 2- or 3-dimensional space domain. (ASSOCIATION itself can be analyzed into the Relations A OUT B, A IN C, and B IN C, and perhaps IDENTITY into A IN B and B IN A.) I will not make much of these Relations, but will assume that they are universally available concepts and use these diagrammatic representations for them, especially for IN and ASSOCIATION situations. In the second diagram for IDENTITY the identity Relation is represented by a line of integration. Such lines will be used very frequently in later diagrams; they are also referred to as lines of correspondence.

![Diagram of Basic Relations]

**1.4f. Basic Relations**

### Statives, Perfective and Imperfective Process

A major distinction between types of Relations is that between *stative* Relations and processual Relations or *processes*. Stative entities (Things are stative as well as some Relations) are atemporal and profile a static configuration, while processes profile a continuous series of Relations, each of which would, by itself, constitute a state, and which are related to a continuous series of points in time. These points in time constitute what is called the temporal extension or *temporal profile* of the process. Processes differ from statives in having a positive temporal extension or temporal profile; statives have none. This temporal profile will be indicated in diagrams by [red] boldfacing an arrow at the bottom of the unit rectangle, representing the time dimension. The arrow is marked “t” in 1.4.g below and some subsequent diagrams; usually that mark will be omitted. As an example, the process ENTER is represented diagrammatically in 1.4.g. The dotted lines are lines of integration or correspondence such as we saw in 1.4.f; they indicate an identity Relation between the entities they connect.

Processes themselves are of two varieties: *perfective* and *imperfective*. The difference is whether any change takes place in the profiled Relation during the profiled time span. In perfective processes, the Relation is viewed as changing through time, whereas in imperfective processes it is viewed as unchanging; the initial state is simply perpetuated through time.

In 1.4.h are given conventional ways of diagrammatically representing schematic Relations of different types. (Relations of Things are assumed in each case.) By convention in such diagrams the trajectory is uppermost. The difference between perfective and imperfective processes is represented by a wavy vs. a straight time arrow: a process schematic as to perfectivity is represented by a dashed arrow. In more highly elaborated cases such as that of ENTER in 1.4.g above, the perfectivity or imperfectivity is independently visible in whether the representative states

![Diagram of ENTER]

**1.4g. ENTER**
portrayed are similar (imperfective) or different (perfective), but I will use the wavy vs. straight line convention anyway, as I have done in 1.4.g.

1.4.h. Stative Relation  Process  Perf Process  Imperf Process

Some examples of these distinctions are the following: LIKE or SIMILAR TO differ from RESEMBLE largely in that the former are stative Relations, while the latter is an imperfective process. DEAD is stative, DIE is perfective, BE DEAD is imperfective. ALIVE is stative, LIVE is imperfective in usages such as he lives here and perfectiv(ized) in usages such as he lived in the 1800’s, where the complete life cycle of birth, life, and death is intended. IN is stative, OCCUPY is (usually) an imperfective with a salient IN component; ENTER is a perfective.

Parts of Speech

The different categories we have encountered so far enable us to reconstruct quite exactly and intuitively the most important members of the traditional class of “parts of speech”.

- The notion “Thing” corresponds to the grammatical category “noun”. (Pronouns and noun phrases profile Things as well, and thus would by this definition be nouns, a not unsatisfactory result from an intuitive point of view. Further specifications could reduce the category to nouns as more strictly defined.)
- “Process” reconstructs the category of verbs. Some (e.g. RESEMBLE, LIVE) are imperfective; others (e.g. THROW, DIE) are perfective, denoting a Relation that changes through time.
- Adjectives (e.g. RED, DEAD) are stative Relations whose trajector is a Thing; adverbs (e.g. QUICKLY, VERY) are stative Relations whose trajector is a Relation.
- By these criteria prepositional (or adpositional, as I shall call them, since TN uses postpositions) elements such as ON or LIKE are sometimes adjectives and sometimes adverbs, which again is intuitively not unsatisfactory (e.g. a knot on his head like an egg vs. run on the sidewalk like a crab). Adpositions can be defined as transitive stative Relations, whereas adjectives and adverbs in the stricter sense are intransitive stative Relations.51

51 It is interesting in this regard that the English prefix be- which transitivizes verbs (e.g. wail, be-wail, lie, be-lie) can also change adjectives or nouns with a Relation prominent in their base into prepositions (e.g. low, be-low, yond(er), be-yond, side, be-side).
1.4.i. Parts of Speech

In 1.4.i I give a schematic hierarchy for these concepts; in 1.4.j schematic diagrammatic representations are given for each category. The representation of transitivity for the Adposition diagram will be discussed later.

1.4.j. Parts of Speech

Verbs, in virtually all the cases we will be dealing with, construe their trajector and landmark as Things. Thus the diagrams in 1.4.k will be used for schematic verbs in most future diagrams, representing the strongly prototypical cases.

1.4.k. Verb  Imperfective Verb  Perfective Verb

Different Construals

In the light of all that has been said, it will perhaps be clear that in CG one does not necessarily expect to ever find a true synonymy. We have seen, for instance, that the same entity can be profiled against different bases. Given the notion of encyclopedic meaning, the specifications expected by the bases of two different structures are almost sure to differ. Differences in “connotation”, or forms differing in “speech-style”, “register”, regionality, and so on, usually involve this kind of difference in meaning: appetizers and hors d’oeuvres are different because there are different expectations about certain aspects of the base (e.g. the
The classical emphasis on truth value as the most important (or only) aspect of meaning amounts in many cases to reducing meaning to the designatum, ignoring the ground against which it is viewed. Half full is taken to be semantically identical with half empty, I gave him the ball is identical to I gave the ball to him, and John kissed Mary is the same as Mary was kissed by John, because in each case (virtually) the same class of Things or situations is designated, and thus the truth values are (virtually) identical.

CG takes the position that even when the designatum is the same, guaranteeing correspondence of truth values, the base may, and usually will, be different. It is obvious, when one thinks of it, that while Ronald Reagan, the President of the United States, and the man Hinckley allegedly tried to shoot all designate the same man, they say different things about him, portraying him against different backgrounds. I can (colloquially) designate my car as the van, the car, the Dodge, the family chariot, and so forth, and though the designata (and therefore the truth values) of the expressions coincide, the meanings do not. German finger-hut (finger-hat) and hand-schuh (hand-shoe) do not mean the same thing as thimble and glove, though they designate the same classes of objects. The expression used in Seri (a language of Sonora, Mexico; data are from Cathy Moser Marlett) to refer to an apple is, literally, “thing that the circumcised Chinaman ate”. That does not mean the same thing as apple: though a member of the same class of objects is designated in both cases, the bases against which it is profiled are drastically different.

A closely related matter is the way in which semantic structures differ in terms of their compositionality. This involves a difference in the base as well, since what different compositionality does is emphasize different aspects of the base for the expression as a whole. Many of the examples we have just mentioned are of this type, and involve drastic changes in the base, profiling the same entity against a very different base. But consider also the differences in meaning among the expressions five, four plus one, and three plus two. By the lack of compositionality in FIVE no substructuring is posited. In the other two expressions different subgroups are given prominence. This will, of course, affect the felicity of their usage in a given context, though not usually their strict truth value. When Barliman Butterbur told Gandalf that the number of people “killed dead” was “three and two” (Tolkien 1965:271), “four and one” would have been, strictly speaking, true, but quite inappropriate, since it was three big and two little folk that had been killed. Similarly, TN mahłakči wan=śé (ten and=one) does not mean exactly the same as English eleven, although both designate the same number.

It is also obvious that, besides differences in the base, the same situation can be construed under different kinds of profiles. A situation of similarity can be construed as a process, RESEMBLE, as a stative Relation, LIKE or SIMILAR TO, or as a Thing, SIMILARITY. A situation of living can be construed as a Thing, LIFE, a stative Relation ALIVE, or a process LIVE. The notion of rapidity can be conveyed by a noun

52 Chafe (1970:87-88) speaks of “the over-willingness of present-day linguists to assign identical meanings, and therefore identical deep structures, to different surface structures … recent linguistic theory has suffered from a most unsubtle view of meaning identity. The view has been essentially that two … surface structures … have the same meaning if, wherever one would be true statement, the other would be also.” Chafe contends that “… the criterion mentioned is misleading, and the only valid criterion for sameness of meaning must be whether one surface structure conveys exactly the same message, thoughts, concepts, or ideas as another.” He notes (p. 89) that Chris, my oldest son, my wife's oldest son, my sister-in-law's oldest nephew, etc., while designating the same person, “focus on this person in different ways.” He also mentions (p. 88-89) the closely related difference of analyzability (see following paragraphs), showing that even if the same conceptual picture is arrived at in the end, arriving at it by two different compositional paths precludes true semantic identity.
RAPIDITY, as adjective RAPID, an adverb RAPIDLY, or a verb HURRY. An action of running can be a noun RUN or RUNNING or an adjective or adverb RUNNING or a verb RUN. INTO construes statively the same sort of situation unfolding through time that ENTER construes processually. Even when the profile is the same, the trajector-landmark alignment can be varied; an A OVER B situation can also be construed as a B UNDER A situation.

It is to a large extent a matter of choice how we construe things, and thus it is to a large extent a matter of convention how languages will construe them. Not all construals will be as strongly entrenched or even available in different languages. Languages do take different conventional points of view on different kinds of situations, and conventionally say different things about those situations.

For instance, in English we code situations of remembering or forgetting or dropping with the person involved as trajector: these are things that we do. In Spanish these situations are usually construed with the Thing remembered or forgotten or dropped as the trajector, and the person as a landmark: these are things that happen to us. The English I dropped it and the Spanish se me cayó (refl me it.fell), literally ‘it fell itself to me’, although each is the prototypical way to code the same sort of situation, do not mean the same thing, because they construe that situation differently. Or, again, in Spanish the Thing designated directly in English by hat is designated by the form sombrDero (shadow-er), highlighting the (potential) shading function of the designatum.

Whether or not the difference involves the base or the profiling, or both, virtually all cases of synonymy are cases of similarity or of functional equivalence rather than of strict semantic identity. It is impossible to say exactly the same thing in different words; one can only construct a closely similar image, take a different view on the same scene, say something slightly different but of the same practical import.

In fact, in line with what has been said previously about multiple analyses and encyclopedic meanings, it should be clear that even the same expression as used on different occasions or construed by different people is likely to be taken differently. Meanings will vary according to the experience the interlocutors have of the designata and of the usages involved; the meaning the speaker intends and the meaning the hearer perceives are never quite identical. And even if the same overall meaning is assumed for a complex structure, different facets of that meaning may be given to different components. Identity of meaning, even of isomorphic expressions or of the same expression from different people’s viewpoints, is the end of the rainbow; it can be closely approached, but never actually achieved.

Summary

To summarize the claims made in this section:

(1) Every semantic structure involves the profiling of a designated entity against the background of other semantic material, which is collectively called the base. This is a linguistic manifestation of figure-ground organization.

(2) The base will typically involve specifications in a number of domains, collectively called the matrix. Domains constitute an essentially open or unbounded class—any conventional, coherent conceptual complex (functional assembly) can be a domain against which the designatum of a structure is profiled.

(3) Meaning is encyclopedic. All concepts, of whatever type, which are conventionally associated with the designatum are, in their degree, part of the meaning of the semantic unit. Differences in centrality or salience of these concepts are matters of degree.

(4) One useful model for expressing this uses the metaphor “meaning is association” and conceives of the semantic structure of a language (or of a person) as being a vast network of associations, with particular morphemes or other structures being designated points of entry into the network.
Any place is in principle accessible from any other, but some connections are more direct and more firmly established than others.

(5) Another useful metaphor conceives of meaning as expectation: the more central specifications are more strongly expected to hold, and the less central are less expected.

(6) Ambiguity and vagueness are the opposite ends of a continuum; there are many cases where a definite distinction of senses is perceptible (a characteristic of prototypically ambiguous cases) but the two senses are clearly related by a salient higher schema (a characteristic of prototypically vague cases).

(7) A basic distinction among kinds of profiled entities is that between Things and Relations.

(8) Within the profile of a Relation there is a further layer of figure-ground organization: one of the related entities is picked as trajector (figure) and the other(s) as landmark(s) (ground).

(9) Another important distinction is between stative and processual entities. All Things are statives. Processes (which are all Relational) are further subdivided into perfectives and imperfectives.

(10) The major “parts of speech” may be characterized as follows: nouns are Things; verbs are processes (processual Relations); adjectives, adverbs, and adpositions are all stative Relations. Adjectives have a Thing trajector, adverbs have a Relational trajector. Adpositions may function as either adjectives or adverbs, but they differ from the simple adjectives or adverbs in that they are transitive, expecting an object.

(11) “Synonymous” expressions rarely, if ever, have the same meaning: usually they differ in their bases, and they may involve a shift in profile as well. Even the same expression, used on different occasions or examined from different people’s viewpoints, will typically differ in meaning to some extent.
1.5 The Semantics of Constructions

Constructions are analyzable entities, involving syntagmatic combination of their component elements. Semantic constructions range from simple two-predicate structures like TOE-PL through structures as elaborate as, let us say, the semantic structure of Tolstoy’s War and Peace. We will be dealing with structures only at the lower end of that range, mostly with those smaller than a clause.

The Construction TOE-PL

As a first example, let us consider our old friend TOE-PL, the semantic pole of the symbolic construction toe-s. TOE, we have claimed, profiles a particular Thing against a base including saliently a foot and less saliently a body and myriad other entities. PL, it is claimed, is a predicate profiling “a particular kind of mass object, one defined as consisting of indefinitely many replications (in type) of a discrete object. The nature of this replicated discrete object is left unspecified within the plural predicate . . . Note that the individual discrete objects are in the base of [PL] but are not profiled.” (Langacker 1982a).

We will diagram PL as in 1.5.a , with the dots representing indefinite replication.

When TOE and PL are put into construction, the replicated discrete object in the base of PL is identified as a TOE. We can diagram this as in 1.5.b, by drawing a (dotted) line of integration such as we used in 1.4.f-g to represent that identification. Note that in fact there is a relationship of schematicity holding between the predicate TOE and the “discrete object” which is replicated in PL. The vague, schematic characterization of that object as a Thing is elaborated by the addition of the specifications of TOE. This is represented by the schematicity arrow running from that Thing to the rectangle representing the unit TOE. An element in one structure which is in this way elaborated by another syntagmatically related structure is termed an elaboration site (or, more shortly, an e-site), and its status as such is marked diagrammatically by [blue] cross-hatching, as in 1.5.b. In a configuration such as this, PL is said to be dependent on TOE. One final factor is that the profile of the composite structure TOE-PL is that of a mass Thing consisting of replicate discrete Things, rather than that of a discrete Thing. In other words, the profile of PL rather than of TOE is adopted as the profile of the composite structure. PL, then, is profile determinant, and its status as such is represented by boldfacing the rectangle corresponding to it.

1.5.b is a filled out version of the semantic pole of 1.3.d. The similarly filled out equivalent of the semantic pole of 1.3.e, which is a more complete structure, is given in 1.5.c. In the topmost rectangle is represented the concept which results from the syntagmatic combination of TOE and PL. It can be achieved (in prototypical cases like this one) by superimposing the corresponding structures in the two component

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53 The prototypical (human) version of TOE is assumed throughout—a complete account must of course include the other versions. Note too that the left-right alignment of the predicates is not significant. In general, to avoid crossing the lines of symbolic connection, we will arrange the predicates to parallel the left-right alignment of the phonological pole, which is significant of the passage of time.
structures, retaining the profiling of the profile determinant. Thus the notion TOE, though very salient in TOE-PL, is not profiled: what is profiled is a mass Thing consisting of replications of TOE. The component relations are one of schematicity from PL to TOE-PL, and one of identification of the profile of TOE with a subpart of TOE-PL. Note that the notion of profile determinance is expressed quite exactly by the schematicity arrow from PL to TOE-PL. The profile determinant in a construction is that element which is schematic for the whole.

I am claiming that TOE-PL includes all that is in 1.5.c, in spite of the fact that the topmost unit is essentially predictable from the combination of the bottom units TOE and PL. It is in this sense that 1.5.c is more complete than is 1.5.b. This fact proves quite important and needs to be borne in mind; however, diagrams like 1.5.b will often be used for convenience’s sake in cases where the combined (or composite) structure is as we should expect it to be, given the analyzed structure showing just the component parts and their integration.

Even 1.5.c is not a complete accounting, of course. For one thing, there will be different versions of TOE-PL corresponding to different versions of TOE. Another matter is that in a couple of prototypical versions of TOE-PL the integration between TOE and PL is even tighter than in the version shown. Usually when we speak of toe-s we have in mind a particular set of them, namely the ones attached to the same foot, or, even more commonly, the ones attached to the same foot and its mate. It was noted in 1.4 that one of the expected characteristics of a toe is that it will be a member of a group of toes. These construals then equate such a group with the mass Thing profiled in PL. This group does not function as an e-site, however, as it is more elaborate than is the corresponding structure in PL. The ten-toe version is represented diagrammatically in 1.5.d.

1.5.c, then will have sub-cases like 1.5.d which are more explicit (and may even be more salient) than it is, and also will have higher-order schemas uniting it with still other versions. The meaning of TOE-PL is no less complex and subtle than is the meaning of TOE.

An abbreviated notation for 1.5.c (or 1.5.d) is given in 1.5.e.

In this notation the relationship of constituency is represented by a line between the constituent and the complex structure, and dependency is represented by the arrow from the dependent to the autonomous structure. The square brackets represent unit status (like the rectangles); parentheses will be used for non-units. Profile determinance is represented by underlining the profile determinant element, PL in this case. What the e-sites are, whether they are profiled or in the base, what are the natures of the constituency relations, and what the correspondences are, are not represented. This makes the exact nature of the integrations over-vague and limits the utility of such diagrams, but their brevity makes them useful in many situations.

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54 The fact that schematicity and (therefore) profile determinance are matters of degree is discussed at the end of Section 4.2. For ease of comparison’s sake, I will continue to boldface the rectangle enclosing the profile determinant even though I am not claiming that it represents anything beyond what is already symbolized by the schematicity arrow.
Correspondence, Dependency, and Profile Determinance

We have seen three important factors which are involved in the integration of the two predicates TOE and PL. (1) There is a sort of overlapping—there is a substructure (not necessarily a proper substructure) of each predicate which corresponds to a substructure in the other. This was indicated diagrammatically by a line of integration between the corresponding substructures. (2) The relationship between them was not symmetrical: PL is dependent on TOE. Dependency has to do with the relationship of schematicity from the e-site in one predicate to the other as a whole; in this case, from the discrete object which is replicated in PL to TOE as a whole. (3) One predicate is profile determinant. This was indicated in 1.5.b by boldfacing the rectangle representing PL and in 1.5.c. by the relation of schematicity between PL and the composite TOE-PL structure (and, redundantly, by boldfacing). These three factors are perhaps the most important elements in valence relations between structures. Let us consider them in order.

All three of these elements are present in prototypical valence relations such as the one we have seen, or the valence of a verb to its primary arguments or of a modifier to its head, but only one, it is claimed, is present in all cases of syntagmatic combination, namely the correspondence of some substructure within one element to some substructure in the other (Langacker 1981a). When two structures combine there will be such an overlap; syntagmatic combination always implies that the structures involved have something in common. Correspondences are the linkages that hold linguistic constructions together.

Of course, it is not uncommon to have overlapping at several points, as we saw in 1.5.d, where there is correspondence between the single TOE and the discrete object replicated in PL, and also a correspondence between the group of ten toes in the base of TOE and the mass Thing profiled by PL. Such multiple correspondences are probably more common than not. The type of asymmetry in the relationship of component structures which we are calling dependency is intuitively simple, yet on examination it turns out to be somewhat complex. One element is said to be dependent on another to the extent that it presupposes the other in its own internal specifications. “More precisely, one structure, D, is said to be dependent on another structure, A, to the extent that a substructure of type A figures saliently in the internal composition of D and is put in correspondence with A” (Langacker 1982a). In the version of TOE-PL represented in 1.5.b-c the predicate PL is clearly dependent on TOE, because PL presupposes a Thing which is replicated indefinitely, whereas an indefinitely replicated mass of toes is not a salient specification of TOE. Thus PL is dependent and TOE is (relatively) autonomous. In 1.5.d there is also a fairly strong degree of dependency of TOE on PL in that a fairly salient specification of TOE (the ten-toe group) is put in correspondence with the profile of PL. However, that specification is clearly not as salient or central to the meaning of TOE as the discrete object is to the meaning of PL. Thus, although there is dependency in both directions, the overall dependency is clearly of PL on TOE rather than vice versa. This asymmetry is reflected in 1.5.e by having the arrow go from PL to TOE.

Another matter that enters into the question of dependency is that of schematicity. At least in the prototypical cases where there is clear dependency, the relevant substructure within the dependent structure is more schematic than is the profiled entity within the autonomous structure, with which it is in

55 This, given encyclopedic meaning, is, of course, an almost vacuous claim. Some sort of overlap can always be found, if the threshold of salience is lowered sufficiently. And sometimes it must be lowered quite drastically: consider the cases of peanut diplomacy or Ferrari woman, mentioned in 1.4, or try birth-stone or yellow fever. In the “Interconnected Network” model these overlapping substructures consist in commonly accessible nodes; there will always be such nodes. In prototypical cases they will be easily and directly accessible; in other cases it may take some looking to find them.

56 Again, this is a foregone conclusion, given encyclopedic meaning: if you lower the threshold of salience sufficiently, you are sure to find more correspondences.

57 Note in particular that schematicity implies such multiple correspondences. A stick figure can be schematic for a human body because there are multiple, systematic correspondences between them.
correspondence. Thus in 1.5.d the dependency of PL on TOE is prototypical (and therefore stronger) because the relevant substructure of PL is specified only as a discrete Thing, a clearly less elaborate concept than TOE. The dependency of TOE on PL is, in contrast, non-prototypical in that the relevant substructure in TOE is more highly specified than is the profiled element in PL. It is for this reason that the ten-toe group in TOE was not represented as an e-site in 1.5.d. Note that such a difference holds between the verb-object valences in *he ate hamburgers* and *he ate food*. The landmark of EAT is (naturally) specified as being edible, as being, in fact, food. The valence from that landmark to hamburgers is prototypical in that the landmark is clearly schematic to the Thing; with food, however there is no such clear elaboration.

Where a prototypical valence holds, with a schematicity relation between the substructure of one element and the profile of the other, we call the substructure an e-site, as we have said, and cross-hatch it in diagrams for ease of identification. The more salient or central an e-site is within a structure, the greater the degree of dependency of that structure on the structure elaborating the e-site. Profiling is the highest degree of salience: thus the strongest dependency is when the e-site is actually profiled. (Dependency is discussed somewhat further in 2.2.)

The third major factor in valence relations is profile determinance. Typically this is asymmetrical, with one component structure clearly profile determinant and the other not. Thus, in TOE-PL, TOE is clearly not the profile determinant: the composite structure does not designate a toe which is part of a group, but rather a group consisting of replications of TOE. However, there is not always such an asymmetry. Sometimes both component elements are profile determinant—at least both are schematic for the composite version—, e.g. *seal pup*, or *neighbor lady* or perhaps, *down under*. And in many other cases neither element will be profile determinant; *cotton-mouth* and *copper-head* designate neither cotton, a mouth, copper, nor a head, but different kinds of snakes, and a *silver-fish*, as the old saying goes, is neither.

Commonly, where there is an asymmetry of profile determinance between two elements in a construction, the profile determinant will be the dependent element. This is, as Langacker (e.g. 1982a) has pointed out, natural, inasmuch as the dependent element typically provides a structured scene into which the dependent elements fit as participants. In the case of TOE-PL, this alignment holds, and the dependent predicate PL is the profile determinant. However, the opposite alignment is not uncommon, as we will see in the discussion of head-modifier constructions.

**Semantic Weight**

The discussion of valence so far parallels Langacker’s position as set forth in Langacker (1981a) and elsewhere. However, I would like to expand a bit more on what is involved in the notion of profile determinance.

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58 This, of course, is true only prototypically. In some cases (e.g. *he ate rocks*) a more schematic version of eat, specifying only an “eat-able” landmark, must be invoked.

59 This particular pattern (of naming Things, esp. species of Things, by a description of some salient characteristic of them) is interesting in several respects. There is a strong tendency for productive patterns to instantiate the prototypical pattern of having clear dependency and a clear profile determinant; this of course makes it much easier to construct the novel composite version from the established component pieces. In this construction, however, there is no profile determinant, yet the pattern is productive. *Leather-neck*, *flat-top*, *meat-head*, *big-britches*, the language is full of recent coinages of this sort, even though the meaning of the whole cannot be explained as the product of the meanings of the parts. One way to look at it is to say that prototypically the entity designated by the composite structure is the entity computable from the parts (one of which is profile determinant), whereas in these cases it is construed rather as having (associated with) the computable entity. Note that this analysis would leave room for us to still say that *mouth* and *head* are in some sense profile determinants for *cotton-mouth* and *copper-head*, since the possessed characteristic does have the profile they contribute.
I think that it can be viewed as the most salient and perhaps the most important aspect of a broader concept which I will call semantic weight.\(^6^0\) The semantic weight of a component of a construction is the extent to which its semantic specifications are important or central to the composite structure, the proportion of the semantic material which it contributes. Profile determinance can be contrasted to this notion, with weight having to do with semantic content, and profile determinance with its organization. I think this is ultimately an over-simplification, in that it is not possible to draw a line between contributing semantic content and organizing it. The organizing specifications are themselves a type of semantic content. I would rather include profile determinance as a very important part of the notion of semantic weight: the profile of a structure comprises its most salient semantic specifications, and if they are preserved in the construction as a whole, I would claim that that component is bearing a great deal of the weight of the composite structure.

Commonly where there is an asymmetry of profile determinance the profile determinant element is also the overall semantic heavyweight, contributing the bulk of the semantic material (counting more central or salient contributions as involving more weight than less central specifications). However, it is not at all uncommon for the profile determinant element to be very schematic, and to have its contribution limited to little more than establishing the profile, while the other element bears all the rest of the semantic burden. Such is the case of TOE-PL; PL is profile determinant, but aside from defining the type of profile, TOE bears all the semantic weight. The base of TOE-PL, with its myriad specifications and expectations, is that of TOE; we feel for this reason (among, I expect, others) that TOE is the “main” component of TOE-PL.

Where such a disparity exists, where the non-profile-determinant element contributes the overwhelming bulk of the non-profiled semantic material, the valence relation is somewhat different; this is one of the factors involved in the feeling that a certain element, while not the profile determinant, is nevertheless the “main” element in the construction. Where the profile determinant element contributes an appreciable amount of such material, even if perhaps not as much as the non-profile-determinant element, my judgement is that, since profile determinance is itself a very important facet of semantic weight, the profile determinant element is still overall heavier semantically, the “main” component of the structure.\(^6^1\)

**Head-Modifier Constructions**

Let us consider how to characterize an Adjective-Noun construction such as BIG-TOE.\(^6^2\) The predicate BIG is adjectival: it profiles a stative Relation and its trajector is a Thing. The Landmark of this Relation is specified internally to BIG to be the area above the neighborhood of the norm on a scale of size (cf. Langacker’s analyses of FAST and TALL, 1981a). The scale is typically aligned with two or more dimensions (height, breadth, width, loudness, social formidability, etc.) at once. The trajector is construed as extending to or into the landmark area when projected onto the scale. The relevant version of BIG for our purposes will have the scale measuring size along the three dimensions of

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\(^6^0\) I believe that I owe this term to Langacker, who used it in connection with an informal presentation by Susan Norwood on how “main” verbs shift diachronically to become auxiliaries. Although it constitutes a deplorable mixing of metaphors, I will speak of bearing weight and being weighty interchangeably.

\(^6^1\) Yet another component of valence is the extent to which usage exploiting the valence potential has become habitual (achieved unit status), that is, the extent to which the e-site is expected \emph{a priori} to function as such. This important factor will be discussed in Chapter 2 (2.1, 2.5).

\(^6^2\) Here and elsewhere in this section I will use a hyphen between semantic structures which are joined syntagmatically into an analyzable structure, whether or not that structure is a word. In other words, the integration represented by the hyphen may be part of the semantic pole of an affixal construction (e.g. TOE-PL), but it need not be (e.g. BIG-TOE).
physical space. It is diagrammed in 1.5.f, where \( N \) is the norm for bigness,\(^{63}\) the ellipse around \( N \) is the neighborhood of the norm, and the arrow points to the positive end of the scale. Note that the norm, its neighborhood, and the scale itself are all sub-landmarks within the base, but the region above the norm-neighborhood, the BIG region, is the most salient landmark.

In the construction BIG-TOE, TOE is put in correspondence with the trajector of BIG. Since the nature of that trajector is not specified within BIG (except that it exists along the relevant dimensions and is big along them) and TOE is more elaborate, we have a prototypical dependency situation. The e-site in the dependent structure (the Relation, which is again prototypical) is of the highest salience—it is in fact profiled as trajector—and it is highly schematic in comparison to its instantiation. However, the profile determinance is backwards from what we should expect: the autonomous rather than the dependent element is profile determinant (it also bears the overall brunt of semantic weight). BIG-TOE profiles a Thing (a toe) and not a Relation. Contrast this with a sentence like *Sam's toe is big*, where the Relation IS-BIG is profile determinant and the Thing is not: the composite structure does not profile a toe. This is, CG would claim, the crucial difference between attributive and predicative uses of adjectives: in attributive usage their profile is overridden by the Thing profile of the noun they modify, whereas in predicative usage it overrides the profile of the noun.

In fact, this provides us with a way to characterize the traditional notion *modifier*. A modifier is, in CG terms, a dependent element which is not profile determinant, and its head is the autonomous, profile-determinant element on which it depends. Prototypically the head will bear the heavier semantic weight as well; in non-prototypical cases it may not.

The construction BIG-TOE is diagrammed in 1.5.g, in both abbreviated and non-abbreviated notations.

![Diagram of BIG-TOE](image)

1.5.g, BIG-TOE (including Abbreviated Notation version)

BIG-TOE is represented in 1.5.g as a non-unit element; this reflects my judgment that it (in the construal presented) is non-grammatical, i.e. not an established unit of the grammar. In this construal the designatum is taken to be big in comparison to the norm for toes universally. I expect that this version of BIG-TOE is productively computed when it is used, following the sanctioning pattern of the well-entrenched and highly productive Attributive Adjective-Noun construction diagrammed in 1.5.h.

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\(^{63}\) This norm will be relativized to the norm for the category of the trajector: a big mouse is smaller than a small man. I will not represent this aspect of the meaning in the diagrams.
There is another, more elaborate version of BIG-TOE, however, which has clearly achieved unit status in English. In it the norm-neighborhood, relative to which the designatum is construed as big, is identified with the range of sizes of the other toes on the same foot, and the big toe is the one that surpasses that (sub-)landmark. Note that in this case the composite version will contain specifications beyond those independently calculable from the component parts: the position of the big toe relative to the others, its somewhat different shape and function, the fact that there are normally two of them, so that BIG-TOE-S is prototypically dual, and the big toe’s analogousness to the thumb are all conventionally associated with it and are thus part of its meaning. However, we would be ill-advised to say that therefore this version of BIG-TOE is something completely different from the version in 1.5.g, part of the lexicon and irrelevant to syntax. It is still clearly an instantiation of the Adjective-Noun construction 1.5.h, and also clearly a sub-case of BIG-TOE as in 1.5.g.

### Verb-Argument Constructions

The valence of a verb to its arguments, particularly the subject and the direct object, is the most prototypical sort of valence. Take as an example the sentence *The ball hit Sam’s toes*. The semantic structure of the sentence consists of three elements and their integrations. Two of those elements (THE-BALL and SAM’S-TOES) profile Things, and one (HIT) profiles a process as occurring in past time. Since our interest is in the Verb-Subject and Verb-Object valences, let us diagram THE-BALL only in composite form as a round-shaped Thing (let us assume a soccer ball, which is fairly prototypical for me) whose many specifications (function, composition, color, feel, etc.) are abbreviated into a mnemonic shape specification. This Thing is definite (i.e. known to/identified by both Speaker and Hearer, cf. 1.5.q); we will ignore this specification in our diagram 1.5.i.

SAM’S-TOES differs from its component TOE-PL (1.5.d) in that the person to whose body the toes are attached is specified as being (named) “Sam”. This specification we will represent diagrammatically by writing S on the body of the toed person. The profile of SAM’S-TOES is still that of a Thing consisting of replicate toes—let us assume the five-toe version, where the toes of a single foot are profiled. This structure is represented in 1.5.i as well. It is enclosed in a circle rather than a rectangle, representing the judgment that SAM’S-TOES (in contrast with THE-BALL) is not an established unit of English.

The predicate HIT profiles a process in which the trajector (a physical object Thing, in the version we are interested in) comes into contact, usually forcefully, with the landmark (also a physical object).64 (This of course is far from an exhaustive account.) The past time specification we will ignore. HIT, then, can be diagrammed as in 1.5.i.

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64 Specifications such as these of the trajector and landmark being objects in physical space are the mechanism in CG for administering “selectional restrictions”. If an entity in a construction does not fit with the specifications of the corresponding entity, the structure cannot be used without a good deal of strain, and various adjustments are likely to be made in the construal in order to relieve that strain.
In the sentence *The ball hit Sam’s toes*, THE-BALL is identified with the trajector of HIT and SAM’S-TOES with the landmark. In each case there is a clear asymmetry of dependency, with the process dependent on the Things, and, since the expression as a whole designates a process rather than a Thing, the process is profile determinant (and semantic heavyweight) at each stage. Assuming that HIT combines first with SAM’S-TOES (following the traditional, and insightful, analysis $S \rightarrow NP \ VP$, $VP \rightarrow V \ NP$), the structure of *The ball hit Sam’s toes* can be diagrammed as in 1.5.j.

1.5.j. THE-BALL-HIT-SAM’S-TOES

1.5.k is the equivalent, in the abbreviated notation, of 1.5.j.

Note, with respect to the valence relations between HIT and SAM’S-TOES and between THE-BALL and HIT-SAM’S-TOES that (1) the dependency is very strongly from the process to the Thing in each case. The e-sites are profiled, which is the highest degree of salience they can attain. They are specified only as Things existing in space (physical objects) and are thus highly schematic. The constructions THE-BALL and SAM’S-TOES, which instantiate those e-sites, are highly elaborate, relatively speaking, and they have no very salient substructures which correspond to the profile of HIT. Thus the dependency is quite lopsidedly from the verb to the nouns. (2) HIT is clearly the profile determinant in both cases, with the result that the composite structure profiles a process of hitting, but with the natures of the trajector and the landmark specified.

1.5.k. THE-BALL-HIT-SAM’S-TOES (Abbreviated Notation)
In CG, the traditional notion of **subject** can be reconstructed to mean “a structure profiling a Thing which in a construction elaborates the Trajector of a Relation (prototypically a process).” By this definition **THE-BALL** is subject of **HIT-SAM’S-TOES**, since it profiles a Thing and in the construction elaborates the Trajector (the overall trajector) of the process.65 Similarly the notion **direct object** can be reconstructed as “a structure profiling a Thing which in a construction elaborates the Landmark of a Relation (prototypically a process).” Thus **SAM’S-TOES** is the direct object of **HIT**: it is a Thing and in construction with **HIT** it elaborates the Landmark (the most salient overall landmark).

Other verb-complement valences differ from these prototypical ones in several ways. One of the most important is the degree of salience of the e-site within the verb—the Trajector and the Landmark are by definition the most salient entities, and any other e-sites will consequently be less salient ones. This means that the dependence of the verb on them is likely to be weaker. Prototypically, verbal complements are Things (because Relations prototypically relate Things): Thing-complements of verbs I will call arguments. Verbs do have arguments other than the Trajector and Landmark: sub-landmarks of various sorts may be salient within their structure and may be elaborated by secondary objects.

Verbs also have non-Thing complements, path-type or locational or adverbal complements. Depending on the degree and direction of dependency, there is a gradation from adverbial elements (e.g. **HERE** in **HE DIED HERE**, where the location of the dying is not a salient part of **DIE** and thus **HERE** is adverbial, **V \( \leftarrow \) Loc**) to complements (e.g. **HERE** in **PUT IT HERE**, where the location of the placing is very salient within **PUT** and the structure is **V \( \rightarrow \) Loc**). There is no hard and fast line that can be drawn between the two types of cases.

Also the line between arguments and Relational complements is not easy and probably in principle impossible to define. Many complements can be construed either as Things or as Relations: **HERE** is a case in point; you can construe a place as a Thing, but you can also construe it as the location of an action. What are considered to be oblique arguments in many frameworks often can be construed as Relational, and many of them are overtly Relational, consisting for instance, of adpositional phrases (e.g. **Give it to me**.)

**Constituency**

In 1.5.j-k we assumed that **HIT** was first combined with **SAM’S-TOES** and then **HIT-SAM’S-TOES** was combined with **THE-BALL**. Such an “order of combination” is the equivalent in the CG framework of the classical notion of **constituency**. It was not a necessary assumption that this was the proper constituency, however. The subject could be joined to **HIT** first, or both the subject and object could be assimilated at once, without changing the composite version, thus giving an almost identical meaning. In other words, either of the structures in 1.5.1 is as possible an analysis of **THE-BALL-HIT-SAM’S-TOES** as is 1.5.k.

![ Constituency Diagram](image)

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65 **THE-BALL**, or even just **BALL**, can also be termed the subject of **HIT** in a somewhat less direct sense, in that the relevant valence is between the Thing designated by **BALL** and the trajector of the Relation profiled by **HIT**, even though, in this analysis (but see ahead) the valence is exploited only at higher levels of construction; i.e. between the nominal (NP) **THE-BALL** and the verbal (VP) **HIT-SAM’S-TOES** rather than between the noun **BALL** and the verb **HIT**. (Cf. Langacker 1981a, last page.)
In saying that all three constituencies are equally possible I do not necessarily mean that they are equally probable—I would suppose that, because of natural tendencies, 1.5.k is prototypical (cf. Langacker 1982a, fn. 85), though it would not be an easy thing to prove. But in fact any of the three constituencies will fit the facts; linguists have used all three before now, and I do not see any reason to deny that language speakers may have done the same. Variable phonological phrasings (phonological constituencies) often offer some sort of evidence as to which semantic constituency is intended by the speaker: phonological and semantic constituencies tend to co-vary iconically.

Note well that the notions of subject and direct object do not depend on constituency for their definitions: it is not necessary to claim that, for instance, what in What did the ball hit? was ever part of a sub-constituent with hit in order to claim that it is its direct object.

CG views constituency as relatively changeable and not as crucial to valence or most other grammatical questions as, for instance, dependency, or profile determinance (cf. Langacker 1981a, last page). In very many cases the structures can be put together in different orders and yet have the final result (the composite structure) be almost identical.

**Analyzed/Exploded and Composite/Compacted Representations**

We have claimed that an adequate understanding of constructions requires both an analyzed view, highlighting the contributions of the components and their interrelationships, and a composite view, representing the combined structure as a whole. Morphemes, by definition, are unanalyzable symbolic units: thus analyzed versions of a morpheme are not possible. But it does not follow that a predicate, the semantic pole of a morpheme, cannot be analyzed into component notions. The unanalyzability of a morpheme consists in the fact that the symbolic relationship is unanalyzable: there is no subpart of the semantic specification that is symbolically related to any sub-part of the phonological specification. But either the semantic or the phonological specifications may themselves be analyzable in the sense of being resolvable into more basic structures.66

In fact, it is often helpful in practice to represent the meanings of single morphemes in analyzed or exploded form (the opposite term, corresponding to “composite” as “exploded” corresponds to “analyzed”, is compacted).67 HAT, for instance, might be

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66 In some ways, of course, this notion of analyzing the meaning of a morpheme into component parts is reminiscent of the Generative Semantics practice of lexical decomposition. I think that this way of doing things captures the insights of that approach but does not suffer from its faults. In particular,

(1) CG is not looking for “atomic” particles of meaning from which to construct all meanings. It does not claim that there are necessarily any such thing, any more than there are necessarily any absolutely atomic phonetic particles or entities (not everyone pulls exactly the same muscles in making an /a/: in fact the same person never does so twice).

(2) CG is not claiming that the components into which a structure is analyzed are necessarily the same as the predicates (or even the components) of any other morphemes.

(3) CG is more explicit about the modes of integration of these components. It is not a matter of simply positing basic predicate-argument valences and deriving everything else from that. Relatedly,

(4) CG is not indulging in “pre-lexical syntax”. Generalizations can certainly be made about the ways symbolically motivated and non-symbolically motivated components must be integrated, but syntax is by definition symbolic and the analysis of a predicate by definition is not. Besides this, there is a quite different notion of what syntax is and does, that prohibits CG from positing many of the mechanisms that Generative Semantics used. Finally,

(5) there is no claim that any one analysis or explosion is “the right” one. Different analyses may be right for different purposes.

67 The distinction between the two types of notions is simply that “composite” and “analyzed” are used where there is morphological evidence that such an analysis is a salient one, whereas “compacted” and “exploded” are used when the difference may be only representational rather than salient to the speakers themselves. I will use “composite” and “analyzed”
exploded into the designation of a Thing, a shape specification, and a function specification (going on a person’s head). A diagram representing such an analysis might look like 1.5.m.

The special arrow \(<\) (an A turned on its side) will be used as a shorthand for the compacted/exploded or composite/analyzed relationships: \(A \triangleright B\) means A is an exploded or analyzed form of B, and thus that B is a compacted or composite form of A.

Proper representation of semantic structures, then, requires both holistic and analyzed views. Neither is complete without the other. There is an inveterate human tendency to understand by analysis: like the doctors with the rabbit, we are not content to take concepts as wholes; we pull ideas apart in order to understand them, even when they, so to speak, die somewhere in the process. We analyze into parts, label the parts, and then try to put them back together, even when the whole we are trying to represent is clearly more than the sum of its parts. This deficiency is inherent in analysis; any explicit analysis gives greater prominence to internal structuring, and it does so selectively, presenting, as a result, a somewhat distorted view of the whole.

It will be noticed that our definitions of words and morphemes involve analyzing the concepts into components. When the dictionary defines *toe* as “the terminal member of a vertebrate’s foot,” it is emphasizing the relationship of a toe to a foot, to the exclusion of other facets of the meaning. If we define *wolf* as “a large non-domestic dog-like animal”, we emphasize size, lack of tameness, and relatedness to dogs, to the exclusion of other characteristics such as fierceness, habits of hunting in packs and howling at the moon, etc. Yet fierceness (for instance) may actually be more important in many people’s semantic systems than the features mentioned in the definition. Naturally, in analyzing, one of our tendencies is to emphasize those aspects or specifications of the meaning which are most salient to us, but we are sure to distort the picture somewhat. Perhaps the only way to avoid such distortion is to analyze the composite structure again, in a different way, emphasizing different aspects of the meaning.

It is thus to be expected that many different analyses, all of them legitimate but all ultimately insufficient, will be possible of the same structure.

This holds on all levels. It is true of a person’s description of a situation; he analyzes that situation in order to code it linguistically, and the picture presented by the whole linguistic structure comes short of the reality; it may be true, but it is not exhaustively true. To the extent that the linguistic structure is analyzable (i.e. has a symbolically motivated analysis), the whole of it will be approximated but not exhausted by the combination of the component parts. The same of course is true of its analyzable sub-components, paragraphs, sentences, clauses, phrases, words. Similarly, to the extent that predicates and other unanalyzable structures are exploded, whether by an analyst or by a speaker, the explosion inevitably involves a certain amount of distortion and arbitrariness.\(^68\)

In fact, non-morphologically motivated explosions are possible of the semantic structures of constructions. *COMPUTER* is exploded (analyzed) by the dictionary into “programmable electronic device that can store, retrieve, and process data”, which is a rather different analysis than the morphologically motivated analysis *COMPUT-ER*. What makes the explosion of a semantic construction into predicates (what we are calling analyses as opposed to explosions) special is simply that, to the extent that the corresponding symbolic construction is analyzable, this particular explosion is strongly reinforced by perception of the

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\(^68\) Certain sub-lexical structures may, by occurring over and over again and perhaps by elsewhere functioning as predicates in their own right (e.g. *CAUSE*, *HUMAN*, etc.), come to be salient and achieve some sort of unit status, making the predicates in which they occur analyzable (i.e. having salient within them a unit component). Such units would correspond, in a number of ways, to the semantic “features” proposed in other theories. However, they would be much less important for CG: the meaning of the whole would exist independent of them, they would not all be equal in salience nor would the same “feature” be equally salient in all its occurrences.
components as already separate, in that they are symbolically linked to different pieces of the phonology. It does not follow that it is the only explosion or the explosion most relevant to a given purpose. See e.g. the diagram of koč-ลำ-čiya (sleep-unspec-see) ‘sleep and wake intermittently’, for an example where a non-morphologically motivated explosion is almost absolutely necessary to explicate the semantics of a construction.

The correspondences that we have represented by lines of integration, and which we have claimed are the only element of valence present in all semantic constructions, are the natural and necessary results of exploding a whole into component parts. Lines of integration are, if you like, the trails of blood left behind when the body is, under analysis, dismembered, and the pieces separated from each other so as to be more easily examined. Or they are the lines on a carpenter’s or a mechanic’s diagram, showing him where and how the component pieces integrate to make a functional cabinet or a four-speed transmission.

Transformations and Active Zones

In prototypical cases where two morphemes combine and one is profile determinant, both elements contribute a good deal of semantic material. However, in other cases one of them may be very schematic, as we have seen. When the profile determinant is very schematic, with the bulk of the semantic weight on the other element, the effect of the construction is easily viewed as a transforming operation performed on the profile of the “main” (i.e. the non-profile-determinant but otherwise semantically heavier) element.

Consider the nominalizer -er in in runner. In the version here at issue, profiles a Thing which is trajector of a process. The process itself is not profiled, and the predicate has no other salient semantic specifications. -ER and RUN are represented diagrammatically in 1.5.n; RUN is represented in a prototypical version as an imperfective process whose complex semantic specifications (involving cyclic movements of parts of the body relative to other parts and a concomitant—forward motion with respect to external surroundings) are abbreviated to a stick figure. RUN-ER is diagrammed in 1.5.o; -ER in the construction is represented in an exploded version to facilitate the designation of the e-site. 

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69 For instance, I would not want to say that the traditional analysis of a passive into an active plus an object-to-subject transformation is wrong, although I feel it is certainly wrong to set it up as the only analysis, or as superior in general to a morphologically motivated analysis such as that in Langacker (1982a).

70 It also sometimes profiles the trajector of a non-processual Relation: e.g. the up-and-outers, a real downer, a bummer.

71 The imperfectivity of RUN involves construing the cycling motion as continuous and thus unchanging, and (at least to some extent) fading the forward motion out of consideration. RUN is one of the Relations that have no single salient landmark (1.4) so none has been diagrammed.

72 Note that there is dependency going both ways in this construction. The dependency from RUN to -ER is strong in that the e-site in RUN is profiled (it is the trajector) whereas the e-site in -ER is part of the base. Thus, from this standpoint RUN is a modifier of -ER, since it is dependent on the profile determinant. There is something right about that analysis; the stem RUN (or whatever other kind of stem we put in its place) tells us what kind of an -ER we have to deal with, just as an adjective (say BEAUTIFUL) tells us what kind of a noun (say TREE) we have to deal with. RUN stands to -ER much as THAT RUNS stands to ONE in ONE THAT RUNS.
Comparing the composite version of \textsc{run-er} with \textsc{run}, the only difference is the shift of profile from being a Relation, in fact a process profiling the passage of time, to being a Thing, the trajector of the process. All the other semantic material is contributed by \textsc{run}. This type of situation will be referred to as a transformation, and morphemes like \texttt{-er}, whose function is to change the profile of some structure which bears all or most of the rest of the semantic weight, will be referred to as \textit{transformational} morphemes. This is, of course, a metaphor; it is the traditional metaphor implied in calling \texttt{-er} a nominalizer, or \texttt{-ize} a verbalizer. It should be remembered, however, that the difference between transformational morphemes and non-transformational morphemes is a matter of degree: they differ from other profile-determinant elements only in that they are more schematic, bearing less of the semantic weight in the construction. Note that \textsc{pl} in \textsc{toe-pl} (1.5.b etc.) fits these specifications and can be viewed as a transformational morpheme, a pluralizer as opposed to a plural.

Transformations can be effected in many cases without involving any particular transformational morpheme, simply by putting a form in a construction where it will have to function as if its profile were different. In these situations an appropriate structure is selected from the base and profiled. For instance, \textsc{pig} is not a process, or even a Relation, but when one is told \textit{Let’s go pig out at MacDonald’s} (Lindner, 1980:36) one understands that one is to select an appropriate process from the base of \textsc{pig} and profile it. Similarly a weatherman’s \textit{it’s starting to cirrus up} is understandable, though not (yet) standard.

This introduces a topic of tremendous importance for grammar, and to which we will not be able to begin to do justice here; namely that of how a structure will be changed when used in construction to accommodate itself to its companion(s). One aspect of that topic has to do with what are called \textit{active zones}. Whenever an entity enters into a relationship, some aspects of that entity will be more directly involved than others, and the natural result is that those aspects will tend to be more prominent in that situation than they would otherwise. Often it requires examining the situation with a rather low threshold of delicacy in order to see this, but sometimes it is more obviously true.

In the sentence \textit{The ball hit Sam’s toes}, the function of the toes (in walking, etc.) is not particularly relevant, but their being physical objects in space is relevant, and is thus enhanced in this usage. If a football coach were to say that Sam had a \textit{good toe}, however, the relevant aspect of \textsc{toe} would be a function, namely its involvement in kicking, and that, rather than other aspects, would tend to be prominent in the composite structure. In a phrase like \textit{red apple} the taste, feel, and size of an apple, its use in making cider and applesauce, its relationship to apple trees and its relatedness to rose hips, etc., are not involved: what is involved is the color sensation associated with the outer surface of the apple.\footnote{That it is the outer surface is to some extent a matter of convention: I wouldn’t think of calling an apple white, but I think of watermelons as red rather than as green.}

Such aspects of entities which are relevant and therefore emphasized in a construction are termed active zones in CG. They will be designated in diagrams, where relevant, by the abbreviation AZ.

I am not claiming that the discrepancy between an entity as a whole and its active zone is necessarily salient in usage. Most people would consider it quibbling to explain that “it isn’t the apple that’s red, it’s the color sensation associated with the outside surface of the apple”, or “it isn’t the trumpet that’s loud, it’s the noise that the trumpet makes that is loud.” They might consider it downright perverse to point out that “it wasn’t John that hit Bill, it was John’s fist, and it didn’t hit Bill, it hit his face”. Yet it is largely a matter of convention, influenced, to be sure, by natural and fairly universal considerations as to our level of prototypical interactions, when such discrepancies can be ignored and when they cannot. We talk of a pot

However, this is not a prototypical head-modifier situation in that (1) the “e-site” in \textsc{run} is actually less schematic than its “instantiation” in \texttt{-er}. Thus the dependency of \textsc{run} on \texttt{-er} is not the canonical type of dependency; the dependency of \texttt{-er} on \textsc{run} is more prototypical, and it is quite strong, since it comprises the whole base of \texttt{-er}, certainly a salient part of that morpheme. (2) \textsc{run} is the “main” (i.e. semantically heavier) element. To these considerations may be attributed at least some of our feeling that this isn’t what we would normally think of as a head-modifier construction.
boiling, but we are aware of the fact that it is really the liquid in the pot that is boiling, or of a person as getting hit (but not dented) in the fender, realizing that of course it is his car that got hit rather than he himself. We would not be surprised to see a foreigner quite confused by such usages.

And usages of the same sort from other languages may strike us as quite farfetched. In TN, for instance, it is quite conventional to speak of a person writing himself or another (e.g. on a list—his name is the active zone), but such a usage would be odd in English. Or again, in TN trees are not green; rather they are brown or grayish; the active zone for the color of a tree is the trunk and branches rather than the foliage.

**Epistemic Grounding**

Another topic of great complexity and great importance to language which we will gloss over rapidly is that of *epistemic grounding*. There is a special class of morphemes, many of them transformational, and constructions, which locate the designated entity with respect to the speaker and hearer’s spheres of knowledge. This locating function is referred to as epistemic grounding, or simply grounding. Typical epistemically grounding predicates are, for nouns, articles; and for verbs, tense and modality markers. Langacker claims (1982a, fn. 48) that epistemically grounding predicates have the same sort of profile as the entity they ground, and that they are profile determinant.

Crucial to epistemic groundings is what I will call the Speech Situation, namely the functional assembly in which the Speaker and Hearer are characterized against the base of the communicative situation, and the extent of their common knowledge or “epistemic reach” is judged, i.e. the set of entities identifiable to both is distinguished from those which are not.

The Speech Situation is diagrammed twice in 1.5.p; these diagrams will be used extensively in Chapter 5 and elsewhere. In them the Speaker is represented by the symbol S, and the Hearer by the symbol H; the communicative Relation between them is represented by an arrow. In the first diagram the Speaker’s and Hearer’s spheres of knowledge or epistemic reach are represented by circles with them as centers. The second diagram is simplified to include only the shared sphere of knowledge rather than representing their separate spheres. Other Things are represented by dashed O’s (for Other), with the dashing indicating optionality, since the functional assembly can be invoked without conceiving of any other participants beyond the Speaker and Hearer.

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74 “Knowledge” is a vague word; perhaps “cognitive identification” would be a better term. It is not easy to adequately characterize the relevant notion, however.

75 Note that this would exclude an analysis taking articles, demonstratives, etc., as adjectival modifiers; in D.2 I claim that such analyses are in fact possible. Regarding profile determinance, as I have characterized the notion, and given that the profiles correspond, both structures will be profile determinant.

76 This differs from Langacker’s Figure 15 in (1982a) in that he does not put the S and H in each other’s sphere of knowledge. However, his purpose in so doing (I judge) was to represent the irrelevancy (to the predicate THE) of the S and H’s knowledge of each other. I am choosing to represent the strongly prototypical if not universal case where the S and H are identifiable to each other. S and H are always, as far as I know, definite: even if unknown to each other the very act of postulating the Speech Situation with its basal process of communication serves to identify the Hearer to some extent (cf. the discussion in D.2 fn.15 CHECK, etc., on participation in a realis Relation accomplishing identification).
Epistemic specifications use the Speech Situation, or more complex matrices of which it forms a part, as the base against which they profile their designata. Things, for instance, are epistemically grounded by being given an IN or an OUT relation to the sphere of shared knowledge of Speaker and Hearer.\textsuperscript{77} E.g. the English definite article THE profiles a Thing which is located within the sphere, whereas the indefinite article A profiles a Thing which is outside that sphere.\textsuperscript{78} These two predicates are diagrammed in 1.5.q.

The construction A-HAT is diagrammed in 1.5.r. Both A and HAT are schematic for the composite structure, so both are profile determinant, and HAT is clearly the “heavier” of the two, accounting for our intuitions that it is the “main” element in the construction. The profiles of A and of HAT correspond, and each structure elaborates the profile of the other: thus each is dependent on the other. However the degree of elaboration is greater between the e-site in A and HAT, making that the stronger dependency.\textsuperscript{79}

Some Things are epistemically grounded by their very natures. Proper nouns are one instance: their semantic content is so great as to make them unique and thus epistemically grounded.\textsuperscript{80} Another group of intrinsically grounded Things is that of personal pronouns. By definition, of course, the Speaker and Hearer are definite. Third person pronouns such as HE, SHE, or IT are so as well. They are, in fact, semantically very like THE except for the gender specification (which of course introduces great complexities): in languages like Classical Nahuatl with no gender distinction the main difference will seem to be syntagmatic behavior.\textsuperscript{81}

Epistemic grounding of Things in TN is discussed at some length in Chapter 5 and grounding of verbs briefly in 7.1.

The epistemic grounding of verbs is very complex and important, but is less central to our concerns in this dissertation. It deals with the relationship of the profiled process to time and reality, and is an important ingredient in the meanings of tense, mood, and aspectual predicates. Modality deals with aspects of grounding similar to those involved in the definite/indefinite distinction: e.g. reals processes are known

\textsuperscript{77} Note that either the IN or the OUT Relation will do: assigning the status “unknown” (indefinite) counts as grounding as much as does assigning the status “known” (definite). Thus A-HAT and THE-HAT (see ahead) are both grounded, in contrast to HAT, which is ungrounded.

\textsuperscript{78} This analysis of THE follows closely that in Langacker 1982a.

\textsuperscript{79} HAT in 1.5.r. is given an exploded representation much as in 1.5.m to make it clear that it is not the complex notion HAT complete with shape and function specifications, etc., that serves as e-site in the construction, but only the specification of a profiled Thing.

\textsuperscript{80} This is, of course, a direct contradiction to the common view that proper nouns are meaningless variables like the mathematical symbol “x”, with reference but no sense. Such a view does not account for constructions clearly utilizing the meanings of such proper nouns. See e.g. Clark and Clark 1979:783-785 “... if proper names are assumed to have no sense, where does the sense of the denominal verbs come from? In My sister Houdini’d her way out of the closet ... Houdini has the sense ‘escape by trickery’. If the proper name Houdini has no sense it provides no source for ‘escape by trickery’ or any other sense. It is as if ‘escape by trickery’ had been Houdini’d out of thin air.”

\textsuperscript{81} It is argued in 2.1 that such syntagmatic behavior is a kind of meaning, and an important one. TN also makes no gender distinction, but it does make an honorificness distinction, and in any case it has no definite article.
much as definite Things are known; irreals are conjectured much as (many) indefinite Things are conjectured. Tense deals with the grounding of the time profile of the process relative to the time of the speech act; aspect is, as the reader is doubtless quite aware, typically tied in with tense in various complex and interesting ways (cf. Langacker, 1982b).

A structure which profiles a Thing and is epistemically grounded is a nominal (=, more or less, NP) and a grounded process is a verbal (more or less = VP, but it need not include the direct object if there is one). When the valences of a verbal are satisfied by nominals, the resultant structure is a kind (perhaps the basic kind) of clause.

Summary

Let us summarize what has been claimed in this section.

1. When two entities are put into construction there is always a correspondence between some subpart of one and some subpart of the other. Usually (if not always) more than one such correspondence can be found, if you look hard enough (lower the threshold of salience enough); often more than one will be salient.

2. Prototypically there is also an asymmetry of dependence between them. To the extent that there is a salient, relatively schematic subpart of one predicate which corresponds to the profile of the other, to that extent the first depends on the second. The salient schematic sub-part is called an elaboration-site or e-site. Each structure in a construction may be dependent on the other. Both may be highly dependent, or the level of dependency may be low on both accounts; prototypically there is an imbalance.

3. A third ingredient of valence is profile determinance, the extent to which the components are schematic for the composite structure (the structure viewed as a whole). Again both components may be profile determinant or neither may be: typically one is and the other is not.

4. A fourth element in valence is semantic “weight”, the extent to which an element contributes its specifications to the semantics of the composite structure. Profile determinance is an important part of semantic weight; often the profile determinant element is the heavier element as well. However, often the profile determinant element is otherwise schematic, and the other element bears the brunt of the weight.

5. In head-modifier constructions, the head is profile determinant but the modifier is dependent. Prototypically the head is heavier as well.

6. In canonical “predicate-argument” constructions (e.g. verb-argument, where the argument is a Thing) the “predicate” is both dependent and profile determinant (and prototypically the heavier element). This is the most prototypical kind of valence. Verbs also sometimes depend on non-Thing, Relational complements.

7. The notion “subject” reconstructs in CG as a structure profiling a Thing which in construction elaborates the trajector of a Relation (prototypically a process (i.e. verb)). A “direct object” is a structure profiling a Thing which in construction elaborates the main Landmark of a Relation (again prototypically a process).

8. Constituency in CG is the order in which the components are assembled in order to achieve the finished structure. It is relatively variable and not as important to valence as are correspondence, dependency, and profile determinance.

9. The semantic value of a construction involves both the analyzed view of it and the composite (holistic) view. Analyses along the lines motivated by symbolic considerations (i.e. separating
out those portions of the semantics which have symbolic association with separate portions of the phonology) are salient; other analyses (called “explosions”), both of constructions and of predicates, are legitimate and may be useful, but are less likely to be salient or crucial.

(10) When a predicate in a construction is profile determinant but is very schematic, so that the other element bears most of the semantic weight, the construction can be viewed as a transformation of the second element, and the first element may be called a transformational predicate or morpheme. E.g. nominalizers and verbalizers are transformational morphemes. Transformations can be effected without a transformational morpheme by simply placing a structure in a construction which calls for a different kind of profile.

(11) The subportion of an entity which is directly involved in a Relation or a correspondence is called its active zone.

(12) An entity is epistemically grounded when its position relative to the knowledge of the speaker and hearer is specified. Articles, demonstratives, and pronouns are Thing-type grounded (or grounding) entities; tense and mood markings are involved in epistemically grounding processes (verbs).

(13) Epistemically grounded Things are called nominals, epistemically grounded processes are called verbals. When a process and its arguments are grounded, the resultant structure is a basic clause.
1.6. Phonology and Morphology

Semantic structures such as we have been considering in Sections 1.4 and 1.5 are related symbolically to phonological structures of varying degrees of complexity. Phonology deals with the nature of those structures, and symbolics (to coin a new term) deals with the associations between the semantic structures and the phonological structures. Lexicon, morphology, and syntax all deal with symbolic structures.

Phonology

The theory of phonology in the CG framework has not been developed to nearly the extent that the theory of semantics has, though it has (I feel) great potential. Many facets of phonological structure lend themselves to description in the same sorts of terms as do semantic structures, and the differences are, it seems to me, susceptible to explanation in terms of the intrinsic differences between phonology and the rest of language.

Corresponding to predicates, the semantic poles of morphemes, are their phonological poles, “phonological morphemes”, we might call them for want of a better term. Larger constructions as well will have phonological poles, and those complex phonological structures will often achieve unit status (e.g. words such as /kæmplɪˈmentəri/ [“complimentary”], phrases such as /fluˈɔːkæp/ [“flew the coop”], even tongue-twisters such as /ðəˈsɪksɪʃikˈʃiːkˈʃiːkˈʃiːkˈʃiːpˈʃiːp/ [“the sixth sick sheik’s sixth sheep’s sick”], if we work at them long enough.) Schematic constructions also have schematic phonological poles; for instance, the specification that the noun precede the suffix in the N-挫 construction (1.3.f) is a phonological specification. Most of what is involved in constructions of this level of complexity has traditionally been considered the province of morphology, and it is largely such considerations that we will be dealing with in this dissertation. Phonology traditionally has dealt largely with structures below this level. The following discussion is a very brief and tentative characterization (really a caricature) of how I at least would attack such problems under CG. Larger structures, morphology and syntax, are considered a little later.

Typical “phonological morphemes” differ from their counterparts, predicates, in that they are highly analyzable, with a natural, well-motivated analysis into the units we call phonemes. This strong analyzability I take to be a direct result of the limited nature of phonological conceptualization, of the fact that it is closely tied to the motor skills of articulation, the aural skills of listening, and the passage of time. The number of auditorily differentiable kinds of sounds which are capable of being produced uniformly by the articulatory tracts of speakers of all ages and sexes is severely limited in comparison with the essentially infinite number of distinguishable concepts, and those sounds that are quite distinct are used over and over again in different sequences as components of phonological morphemes. This gives them a salience surpassing that of most concepts which are components of predicates.

82 It would be surprising if they did not, if CG is right in claiming that phonological structures and semantic structures are both sub-sets of semantic structures in the broader sense of the term “semantic”.

83 I would suggest that interjections, grunts, and other “non-lexical” sounds which nevertheless vary from language to language and are pretty clearly conventionalized units, may be profitably viewed as unanalyzable or only partially analyzable “phonological morphemes”.
Whatever the explanation, it is clear that phonemes are established units, and that analyses of phonological morphemes into sequences of phonemes are well motivated. Of course, under CG other analyses or explosions (e.g. into syllables, feet or other rhythmical structures, or into temporally overlapping specifications of duration of certain types of articulatory gestures such as the analyses implied in sequence diagrams or in autosegmental phonology) are by no means excluded from consideration. In some ways the relationships among phonemes (and other types of units) can be seen as paralleling semantic relationships: e.g. Langacker speaks of consonants as dependent on the relatively autonomous vowels, of weak feet as dependent on strong, etc. Features such as [hi], [cns], etc., may be thought of as well-established (though again unconscious in most cases) schemas under which the phonemes are cross-classified, as components of the different sounds which unite those sounds involving them into classes. Such features may be articulatory or auditory or both: routines of both sorts can (and will) achieve unit status and will be strongly linked to each other. There is no pressing need for such features to be binary: they often are not, I believe. Phonemes are not, however, merely “bundles of features”: they exist in their own right as integrated articulatory/perceptual units.

It is important to emphasize that a unit like /i/ or /k/ is a concept rather than either an actual articulatory routine or auditory pattern. The articulatory routine and the associated auditory pattern are part of its content, but the concept can be activated without either perceiving the pattern or going through the routine; you can imagine /i/ without either pronouncing or hearing it. In other words, phonological concepts, like (other) semantic concepts, are to a large extent free from stimulus or expression control.

Rules expressing patterns of alternation are perhaps the chief item of interest to many phonological theories. In CG we would expect there to often be more than one pattern at work in a given instance and thus more than one accounting true for the alternation. Although the theory is not yet worked out well, I would suggest that these will include:

(i) Natural motivation, i.e. susceptibility to explanation in terms of the nature of the motor and acoustic routines involved and their sequencing. E.g. we say [ˈfærr] instead of [ˈfætər] (fatter) because it is easier. As a limiting case, a form is pronounced in a certain way because the speakers cannot pronounce it any differently.

(ii) Suppletion (i.e. learning of the separate forms involved). We say [ˈfærr] instead of [ˈfætər] (fatter) because we have learned to so pronounce the word as a whole, or so to pronounce the phonological pole of FAT before a non-stressed syllabic.

(iii) Schematic patterns of the type familiar to linguists as rules. We say [ˈfærr] (fatter) because we have learned to so pronounce a basic postvocalic t before (relatively) non-stressed syllables. That is, we have a rule t → r / V ___ [+syl, -str].

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84 They are not consciously salient units to many if not most nonliterate speakers; in some ways they correspond more to motor units such as how to walk or chew; they are unconscious and not analyzed out. Note that though constantly utilized and definitely “there”, many semantic specifications both at the predicate level and below are similarly hard to deal with consciously. Ask a man on the street (or a linguist, for that matter) what the difference between each and every is, and he is likely to be as non-plussed as if you ask him the difference between p and b. He knows they are different, but is hard put to tell you how.

85 Richard Rhodes and others have pointed out that even clearly allophonic rules do not always apply equally across the lexicon. In Rich’s speech, for instance, T-Flapping (t → r / [+syl] ___ [+syl, -str]) holds generally except in certain words where the preceding consonant is a nasal. Thus [ˈenmənɪ] and [ˈsənɪtɪ] but [ˈrəʊmənɪ] and [ˈbəʊmənɪ]. Apparently even at that level not all forms are equal.

86 Notice that the rule as written would not account for cases like [ˈfɪtər] (flirtet), which call for a rule t → r / [+syl] ___ [+syl, -str]. This, of course, is an elaboration of another schema [t,d,n] → r / [+flap] / [+syl] ___ [+syl, -str]. Such multiple schemas are to be expected in CG; they will not, of course, all be of the same status, but will vary in degree of entrenchedness and salience.

87 These “rules” assume one variant is more basic than the other. They would, Langacker suggests, be handled by a mechanism parallel to that which handles metaphor, with the “basic” phone corresponding to the “literal” sense and the “derived” phone
Alternations would of course vary in the extent to which any of these analyses would be salient as an explanation. Prototypical allophonic rules would be high on (i) and often (iii) but low on (ii); prototypical morphosyntactic rules (e.g. minor rules, process morphemes, stem-formation rules) would be high on (ii) and occasionally (i), but not (iii).

And of course the degree to which an alternation is motivated by any one consideration could change through time, either by its own increase or decrease or through the increase or decrease of the other motivations, changing its relative salience. I argue in Tuggy (1981) that a large class of alternations in Classical and TN are to be accounted for in terms of a rule of Epenthesis \[\text{A.6}; \text{this is type (iii) motivation above}\] and many of them also by rules of Deletion (e.g. \[\text{A.8}\]). These rules relate to certain natural considerations as to the difficulty of pronouncing (and perhaps perceiving) tautosyllabic consonant clusters (motivation type (i)). Historical evidence also shows that at least some of the alternations have acquired suppletive motivation as well: when by historical changes the environment for Epenthesis was destroyed, removing both the type (i) and the type (iii) motivation, the alternations remained, giving evidence that type (ii) motivation was responsible.

To the extent that there is type (iii) (suppletive) motivation for an alternation, we will have different versions (usually schematically related) of the phonological morpheme. The phonological pole of the morpheme \(-s\) as in \textit{dog-s} and \textit{cat-s} may be represented (provisionally; its suffixal status is not represented: see ahead) as in 1.6.a.

To the extent that the alternation is phonologically motivated, the /z/ or the /s/ can be viewed as a deformation of the other in a certain context, and as an instantiation of such a pattern of deformation which is not directly tied to the morpheme. Similarly, where a process morpheme is invoked, the profile determinant element (i.e. what will actually be pronounced or heard) is viewed as a deformation of a more basic form. The only case of this type that we will be dealing with is the truncation of TN stems to form a perfective stem (Appendix C); the perfective stem \textit{mat} of the verb stem \textit{mati} ‘know’ is represented in 1.6.b, and in 1.6.c is given the schematic Perfective Stem construction (= the rule \[\text{A.5}\]) which it instantiates. In these diagrams (unlike all other diagrams of phonological constructions) the left-right order of the morphemes is not significant: I am not claiming that the process morpheme is (nor that it is not) suffixal.

\[\text{1.6.b. mat (perfective of mati)} \quad \text{1.6.c. Perfective Stem Construction}\]

**Stems and Affixes**

When two phonological morphemes are joined together to form a larger unit there is often a dependency between them, analogous to the dependency so important in semantic valence. “In the case of word structure,” says Langacker (1981a:23) the notions of autonomy and dependence “amount to the distinction between root or stem on the one hand and affix on the other. An affix is … dependent in that it is characterized in part by its position relative to a root or stem, and thus makes inherent reference to a schematically specified root or stem as part of its own internal structure. This schematic stem within each affix serves as an elaboration site in a valence relation and is elaborated by a specified stem. A root or
stem is autonomous in the sense that it makes no internal reference to another phonological entity relative to which it is positioned." Thus /to/ (the phonological pole of toe) is autonomous, not making salient internal reference to a suffix, whereas /-z/ is dependent, making salient internal reference to a preceding stem (one ending in a voiced element). This statement can be viewed as making explicit the relationship traditionally symbolized by putting a dash before suffixes or after prefixes. Diagrammatically we will represent /to-z/ as in 1.6.d.

This diagram is a more adequate characterization of the phonological pole of 1.3.a. In 1.6.d the arrows labeled t represent the passage of time (not necessarily real time, but conceived time as used in sequencing); in future diagrams these arrows will be omitted, leaving the left-right alignment of the elements to signify the same thing. Phonemes are represented by the orthographic symbols introduced in Appendix A. The integration of the phonemes is not specified (though of course in an exhaustive account it would have to be). The convention of three dots is used to represent schematic phonological material, as in the schematic stem specified in /-z/.

Recalling that profile determinance involves being schematic for the structure as a whole, it is clear that by our characterization affixes are profile determinant as well as dependent. Langacker points out that this aids in explicating affixation as a special (prototypical) case in a paradigm including zero morphemes and process morphemes such as the truncation in 1.6.c or vowel shifts such as in the English “strong” past tenses. Profile determinance is represented in the diagram by the same boldfacing of the rectangle as is semantic profile determinance. Interestingly, in the cases we will be concerned with the profile determinant element is always the dependent element as well, and in fact I know of no clear cases anywhere where this does not hold.

The stem-affix distinction will be explored in greater depth in Section 2.2.

### Symbolic Structures

Symbolic structures pair a semantic structure with a phonological structure. The nature of the relationship between the two structures may be iconic to some degree (e.g. onomatopoemia, heightened voice = heightened excitement, reduplication = REPEETITIVE), but often it is (at least apparently) an arbitrary association. Unanalyzable symbolic structures are, according to our definition, morphemes. Toe is such a

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88 This last statement is perhaps something of an overstatement; I will claim in 2.2 that phonological dependency/autonomy is a relative matter just as is semantic dependency/autonomy. Many if not most stems have some degree of expectation of affixes. Roots can be characterized as one-morpheme stems. I will not be utilizing the distinction, but will rather be speaking of both roots and complex stems as stems.

89 Note that the time arrow (and thus the left-right alignment) of the morphemes is redundant: given that /to/ elaborates the “preceding stem” structure in /-z/ the proper sequencing is assured even without it. I will claim in 2.1, however, that this redundancy is an artifact of the Schematic Hierarchy model with its “meaning is content” metaphor: in the Interconnected Network model the duplication disappears.
morpeme, consisting of the (arbitrary) conventional symbolic association of TOE with /to/, as diagrammed in 1.6.e (equivalent to 1.3.c).

1.6.e is, of course, an oversimplification of toe: something more adequate would have to include the whole schematic hierarchy of TOE, along the lines of 1.6.f (cf. 1.4.b). Note in this respect that it is not correct to assume that /to/ is connected directly to the highest schema TOE and only indirectly to the others. Such an assumption would be equivalent to the claim that the schematic TOE is the “real” meaning of the word, with the others being derivative senses. Rather we should picture all the existent versions as symbolically related to /to/, as represented by the lines from the curly bracket to the different versions of TOE in 1.6.f, with the strength of that relationship proportional to their salience. Similarly, as diagrammed in 1.6.g (cf. 1.6.a), when a morpheme has a phonological pole which is complex in the same way, the symbolic association again holds for all the schematically related phonological units, with the connection being strongest to the most prototypical.

A pairing of a particular version of the predicate with a particular version of the phonological morpheme will be referred to as a version of the morpheme (and similarly with larger symbolic structures). For practicality’s sake (not to mention sanity’s) I will almost always use such simple versions of symbolic structures.

Symbolic constructions pair a semantic construction with a phonological construction. The semantic structure as a whole is placed in symbolic correspondence with the phonological structure, and specified components of the semantic structure with specified components of the phonological structure. Thus in the symbolic construction toe-s, TOE is symbolically related with /to/, PL is symbolically linked to /-z/, and the composite unit structure TOE-PL is related symbolically to the phonological unit /to-z/. The construction toe-s may be diagrammed as in 1.6.h (assuming the five toes version of TOE-S, which is a prototypical one). 1.6.h is a filled-out version of 1.3.e.

As indicated in 1.3.e, the integration between TOE and PL is related symbolically to the integration between /to/ and /-z/, and in general the semantic integration of a symbolic construction is symbolized by its phonological integration. Since this is so generally true I am going to take the step of uncluttering my diagrams by not representing it, as in 1.6.h. Note however that there is a strong tendency for it to be not just arbitrarily symbolic but iconic. By and large the more closely two structures are integrated semantically the more closely they are integrated phonologically. Elements juxtaposed phonologically are usually symbolic of elements juxtaposed semantically (so to speak); semantic and phonological constituencies tend strongly to be parallel. In 1.6.h all this is true, but there is even a further iconic
parallel in that the semantically dependent and profile determinant PL is symbolized by the phonologically
dependent and profile determinant /-z/. There is a tendency for such parallels to hold: as Langacker points
out (1981a) this, together with the tendency to parallel constituency, accounts for the tendency for
morphological layering to parallel semantic scope. However, this parallel is not always maintained. The
Subject and Object Pronouns of TN (Appendix F, Chapter 5) are prefixal and thus phonologically
dependent and profile determinant, but the verb stems to which they attach are semantically dependent
and profile determinant. For instance the construction *ni-koči* (I-sleep) ‘I sleep’ has the structure
diagrammed in 1.6.i.

\[ \begin{array}{c}
\text{[I-SLEEP ]} \\
\text{[I]} & \text{[SLEEP]} & \text{[nīkoči]} \\
\text{[nī-]} & \text{[koči]} \\
\end{array} \]

1.6.i. *ni-koči*

**Inflectional vs. Derivational Morphology**

Many linguistic theories draw a sharp line between derivational and inflectional morphology, taking
care of derivational morphology, for instance, in the lexicon and inflectional morphology in the syntax. The
reason for this is the notion that the lexicon is the proper repository for idiosyncrasies and the
syntactic component the place for what is predictable.

In CG there is no reason to assume such a dichotomy, and the inflectional/derivational distinction is
best seen as an oversimplification of a scale based on a number of parameters that often run parallel.
Prototypically derivational morphological constructions make drastic shifts in the profile of the stem (i.e.
derivational affixes are typically transformational morphemes). They also involve many specifications of
the composite structure which cannot be predicted a priori from the component parts, and they are not
clearly or freely productive. By contrast typical inflectional constructions often do not involve drastic
shifting of the profile of the stem, have little in the composite structure which is not predictable from the
parts, and are freely productive.

However, there are very many cases in which a construction approaches either end-point of the
continuum only partially, or where it closely approaches it along some parameters but not others. For
instance, we saw that in prototypical versions of TOE-PL (1.5.d) and BIG-TOE the composite version
contains more material than what is independently calculable from the parts when combined according to
the productive pattern (a derivational trait). Yet most linguists would balk at calling N-ż or Adj-N
constructions derivational.

We will see many instances of such in-between cases in TN; the matter will be discussed particularly
in connection with reflexive and unspecified object pronouns (5.3-5.4).

**Complex Symbolic Constructions**

As symbolic constructions become more complex the phonological integration of their components
tends to weaken and their constituency tends to be freer. Also, as noted in 1.3, unit constructions tend to
be more schematic both at the phonological and semantic poles as they become more complex.
At the level of morphemes the prototypical units are highly elaborated at both poles, fully specified lexical items such as *dog* or *jump* or *big*.

At the level of words the same is true, though not as clearly;90 *dogs* or *jumping* or *explosive* are perhaps prototypical by comparison with schematic units like N-2, or N-PI or N-*er* or V-*ing*, but those schematic units are also clearly quite salient. Many of these constructions are also productive to a high degree, i.e. they are so constantly and consistently used in sanctioning novel formations that their use in sanctioning is habitual and has attained unit status. It is, I would claim, a central part of their meaning.

By the time the level of sentences is reached most actual utterances are not units: a prototypical unit at this level would be something like a Nominal-Verbal construction, very schematic and always used productively. Non-schematic sentence units like *Wherefore art thou Romeo?* or *The quick brown fox jumped over the lazy dog*, while they exist, are not prototypical. The same is true in an even higher degree of structures at the level of paragraphs, discourses, etc.

**Summary**

Let us summarize the claims of this section.

1. Phonological structures parallel semantic structures in many ways. They vary along parameters of analyzability, schematicity, etc.
2. The phonological poles of morphemes, unlike the semantic poles (predicates), typically have a salient analysis into a sequence of phonemes. Other analyses are also possible and may be salient, including rhythmic groupings.
3. Phonological alternations may be motivated by several different factors simultaneously. E.g. suppletive and rule-governed accounts of the same alternation may both be true.
4. The stem-affix distinction is a distinction of phonological autonomy vs. dependency. Affixes make inherent reference to the stem. They are dependent on it and profile determinant for the structure as a whole.
5. In a symbolic structure a semantic structure is put in correspondence with a phonological structure. In a morpheme there is no connection between any particular sub-part of the semantic structure and any particular sub-part of the phonological structure. To the extent that there are such connections, the structure is analyzable (i.e. is a symbolic construction rather than a morpheme).
6. There is a fairly strong tendency for the semantic and phonological integrations to parallel each other in terms of juxtaposition, constituency, and (less strongly), dependency.
7. Inflectional and derivational as characterizations of morphological constructions are endpoints of a continuum rather than separate categories. The continuum involves parameters such as degree of transformationality, degree of productivity, degree of schematicity, and degree of difference between the composite whole and the expected product of its parts.
8. More complex unit symbolic structures tend to be more schematic, more productive, and more predictable.

90 The notion “word” has not been adequately characterized, and I am not sure how to do so. A provisional and partial characterization, perhaps adequate for our purposes, would be “the construction comprising a stem and its affixes”. The difference between affixes and non-affixal dependents would have to do with the tightness of phonological integration, the extent to which switchings in order are permitted, etc. There are many complexities involved, of course. Some are dealt with in 2.2.
CHAPTER II
Preliminaries

In this chapter I will raise several issues which are quite important both for accounting for synchronic
semantic systems and for understanding semantic change, and which will come up over and over in the
discussion in later chapters. Section 2.1 deals with a phenomenon I have called “internalization”, in which
characteristics that do not seem to be part of the meaning of a linguistic unit come to be central to its
meaning, because of the generality of their occurrence with the designatum of that unit and because of
conventional usage drawing on that cooccurrence. One of the applications of “internalization” is to the
question of affixation: I claim that affixes have internalized to them the expectation of a stem with which
they will be construed. 2.2 deals with how stems differ from affixes, particularly in cases where the stems
also will internalize the expectation of an affix. 2.3 treats the question of how to characterize causation, and
2.4 has to do with changes in scope, i.e. in the range of semantic territory profiled by a linguistic unit. 2.5
deals with how transitivity should be viewed.
2.1 Internalization

In this section I wish to examine what seems to me to be a clear implication of certain positions already taken by CG. Certain types of semantic change are so strongly predicted as to be almost automatic, and it seems to me that giving due consideration to these changes and the types of semantic structures that result from them will be very helpful in understanding many fundamental linguistic problems, including some that are central to our study here. The changes involve entities external to a linguistic unit coming to be a part of meaning of that unit, internal to its semantics. This process I will call internalization.

How Internalization Works

I begin with some of the propositions presented in Chapter 1, which are so fundamental as to be almost axiomatic in CG. They are:

(i) Meaning is encyclopedic rather than dictionary-like. While it is true that certain facets of meaning will be more central or salient within the total meaning of any morpheme, it is impossible to draw a consistent and motivated line between what is the meaning of the morpheme and what is not; ultimately it is a matter of degree. It will be remembered that this concept was illuminated by use of the “Interconnected Network” model, in which the conventional conceptual system of a language is viewed as an interconnected network in many dimensions, with particular morphemes or other units being designated points of entry into that network. The whole network can be accessed, ultimately, through any given point, but certain subportions are immediately and easily accessed, or perhaps even necessarily accessed, from a given point, and these are the central or salient portions of that point’s meaning.

(ii) Meaning is conventional(ized) conceptualization. A person’s semantic system is that subset of his conceptual system which he knows to be conventional, that is, shared by himself and the other speakers of his language. Any conceptualization that is shared and known to be shared by speakers of a language is to that extent semantic and eligible to be all or part of the meaning of some expression in that language. In particular, a conceptualization is semantic when it is conventionalized, firmly established as conventional by usage.

The significance of these two propositions for internalization is this: in one sense no piece of meaning in a person’s semantic system is really “external” to any linguistic unit. The system is all of a piece; if you enter through any one point of access into the network you can get to virtually any place within it. The only sense in which we can rightly speak of a meaning in the system being external to some particular morpheme is in the sense that it is not easily or saliently perceived as being accessible through that morpheme; the connection is obscure, circuitous, and tenuous rather than strong, direct and obvious. Thus the main part of internalization, that of the external becoming internal, is totally automatic; at the level of highest delicacy every concept is a part of every linguistic unit. The difference between a totally non-salient piece of semantics (from the viewpoint of a given morpheme) and the central meaning of that morpheme is a matter of degree. Let me expound further on this point.

Any time a person perceives (or remembers or imagines) an entity it becomes a part of his conceptual system. The differences between it and entities central to the meaning of linguistic units are matters of degree, degree of salience or accessibility within the interconnected network from the point of entry constituted by a morpheme or construction, and degree of conventionality.

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1 This notion is to be distinguished from “internalization” as the word is used by those who study language acquisition; “internalization” in their sense is equivalent to “achievement of unit status” in CG terms.
Let us suppose that someone perceives (or imagines) for the first time a dog chasing a cat. That Relation will become a part of his conceptual system. It will be connected (non-saliently) to the morphemes DOG and CAT and probably CHASE as well, and to the time and external circumstances of the seeing (and even less saliently to everything else in his conceptual system. In the schematic Hierarchy model we should have to enter the Relation DOG CHASE CAT into a sub-version (doubtless embedded at great depth in the hierarchy and almost certainly a non-unit version) of the predicate DOG, and similarly into sub-versions of CAT and of CHASE. This I believe must be taken as automatic, given the view of cognition assumed by CG.

From that point on, it is a matter of degree of salience and of conventionality how central that Relation will become to the different predicates involved. The ultimate possibility is that it could become so central as to be a virtually defining feature: DOG might mean “Thing that chases cats”, or CHASE might mean “what dogs do to cats”. To the extent that that goal is approached, the phenomenon I am calling internalization takes place. From the vantage point of the morpheme involved, let us say DOG, it appears as if an external Relation (chasing cats) has popped up as a noticeable internal part of the meaning, salient enough within the conceptual structure to be consciously accessible and apparently also salient to other speakers of the language and thus conventional and therefore (at least potentially) semantic.

However, it is a long way from a totally non-salient (i.e. totally “external”, as we shall be using the word) and non-conventional piece of meaning to a central piece of meaning, and there are many factors involved in determining how far along the scales of salience and conventionality a piece of meaning is likely to proceed.

Let us first consider some of the factors affecting salience. They include certain well-known and fairly obvious tendencies rooted in our psychological makeup. I would emphasize that they are tendencies: they can be overridden and often are. Among them are the following:

- Qualities that are intrinsic tend to be more salient than those that are extrinsic.\(^2\)
- Qualities that are general tend to be more salient than attributes that are specific or individualistic.
- Things that are at our level of prototypical interaction are more salient than things that are either too big or too small, too fast or too slow, too simple or too complicated, too light or too dark for us to easily perceive or handle.
- Things that contrast with other things are more salient than things that blend.
- Things that occur in an environment where there is nothing else competing for our attention are more salient than things which have such competition.
- Things that we perceive as having a direct bearing on ourselves and the achievement or frustration of our desires are more salient than things we perceive as irrelevant to us.
- Things crucially involved in conventional usage are more salient than things which are not.
- And so forth.

The Generality Principle and the Usage Principle

I would like to concentrate here on two of these factors, namely generality and usage. I will particularly be concerned to illustrate the fact that they can make extrinsic characteristics become central, in spite of the tendency for intrinsic characteristics to be more salient.

\(^2\) The term “intrinsic” I would define as meaning “pertaining to an entity quite apart from its relationships to other entities”. For instance, the shapes of cats or tables are intrinsic to them; they have those shapes quite apart from their relationships with mice or catnip or witches, or with people eating and writing at them. The Relations of cats chasing mice or fighting with dogs or of people pounding on tables or eating at them are extrinsic to them; they depend on the existence and characters of such other entities as mice, dogs, people, and food.
Ceteris paribus, the more general specifications tend to be the more salient ones: we may term this the Generality Principle. It may be restated as follows: the more often (both in absolute and relative terms) an entity $E_1$ is perceived in connection with another entity $E_2$, the more salient within or central to $E_2$ $E_1$ will be. This can be illustrated by any number of cases.

Consider the predicate hat, for instance. What is most central to its meaning? There is a shape specification that is quite salient (the fact that it is intrinsic contributes to this); that shape specification most saliently involves a rounded cavity. This is because that is about the only shape feature that all hats share. Prototypically they have some sort of brim as well (i.e. quite generally, but exceptions are not unusual); thus the specification of a brim is salient but not as salient. The color of a hat is also intrinsic, but no color specification is central, because no color is general. (This is a difference between English hat and TN šomplēlo, in that in Tetelcingo hats are prototypically white. Another difference is that in Tetelcingo they are worn by men only.) Another characteristic of hat that is very central, probably more central than the shape, is the extrinsic characteristic of being worn on the head. This Relation is salient because it is general; all hats are worn on someone’s head. A bowl may be called a hat if and only if someone wears it on his head.

Or consider the predicate cat. It has saliently within it the specification of an animal with a certain characteristic shape (both intrinsic and general). Less salient perhaps are certain extrinsic characteristics such as habits of chasing mice and fighting with dogs; these characteristics also are quite general, which accounts for their salience. They are not as general as the shape, however, since every time you see a cat it has the cat shape, but often it is neither chasing a mouse no fighting with a dog. Cats also have other intrinsic qualities, including certain types of body markings and colorings, which are not central to the meaning of cat since they are not general: the general feline shape does not vary very much, but the markings and colorings vary drastically. Contrast this with the case of tiger, where the stripes and yellow-orange coloring are quite central; they are also quite general, which accounts for the centrality.

Or consider the predicate butter; it designates a substance which has certain intrinsic properties (chemical composition, yellowish color, taste), which are general and (therefore) central to it, but it also has the extrinsic Relation of having been made from milk by a certain process. This Relation as well is general, and quite central to the meaning: one balks (especially at first) at having artificial substances of similar intrinsic properties called butter.

The Generality Principle holds with respect to Relations as well as Things; entities extrinsic to them can become part of their meaning if they are generally associated with them. Thus the process of going to see the principal does not intrinsically involve getting punished or scolded, but many a schoolchild considers the two ideas as virtually inseparable, because they usually in his experience go together. Jumping off the Golden Gate Bridge does not intrinsically involve falling to the water, but they so generally go together that the falling is viewed as part of the jumping. Surfing does not necessarily involve using a board, but in our culture the board is so generally used that I would feel almost misled if told someone liked surfing when what he liked was body-surfing.

I need not be concerned here to affirm that the Generality Principle is a tendency rather than an absolute law, though that is certainly true. I would rather emphasize that it is quite a strong tendency; that anything general will tend to be salient even if it is not intrinsic. Any extrinsic Relation that always holds with

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3 Other things being equal.

4 Several things may be seen to be involved in the common usage which applies the term butter to margarine; one is the fact that in our modern culture most people have no direct experience of the making of butter, which tends to make the process lose its salience. Some have no idea of how it is made; the process is for them not even general. Another factor is the many characteristics which butter and margarine do share: besides the similar appearance and somewhat comparable taste and similar packaging, the extrinsic characteristics of being used as a spread on bread and as an ingredient in recipes are general and identical for both. Perhaps the biggest factor is usage: the two substances were similar enough for people to call them both butter, and once that usage is established, it will make salient the common traits and de-emphasize the different traits.
respect to some entity will tend very strongly to become a salient part of the conceptualization of that entity.

In the Interconnected Network model we can visualize the generality as being equivalent to a strong entrenchment (through regular use) of a particular connection of the particular morpheme, making it easy to access, widening and deepening the channel so as to encourage the flow of conceptualization along it. Under the “meaning is expectation” metaphor, generality is seen as giving rise to strong expectation: what always occurs is expected to occur again. In the Schematic Hierarchy model generality would correspond at least in part to height on the schematic hierarchy tree, to the number and percentage of sub-cases that contain the characteristic in question, and in part to degree of prototypicality.

The Generality Principle is not, of course, the only factor involved in many of the above cases. For instance, the possibility of punishment is perceived as directly related to oneself and the fulfillment or frustration of one’s desires, and this is undoubtedly a strong factor in the salience of the idea of punishment in the concept of going to see the principal. Similarly the use of hats on heads is not only general, but it is also a Relation to ourselves, and is related to our desires to achieve comfort and to look acceptable (if not beautiful) to other humans, and so forth. I emphasize the Generality Principle not because it is the most likely to cause salience (and therefore full internalization) but because it is one of the main factors involved in the cases of grammatical internalization with which we will mostly be concerned.

A second factor affecting the salience of concepts is usage. We might state the Usage Principle: the more a concept is utilized conceptually (linguistic usage being the prototypical case), the more salient it will be.

Four kinds of usage of concepts might be distinguished; I believe that all of them increase the salience of the concepts involved. Two are internal usages; a person uses a concept himself in thought, either thinking about it directly, or utilizing it in thinking about other things.

- The first case (thinking about it directly) obviously increases its salience in the conceptual system; increasing the salience of something (in part by screening out everything else), is the essence of paying attention to it.
- The second case, thinking by means of the concept, also is likely to increase salience.

In both cases it is also clear that there is a certain amount of salience presupposed by the usage, as well as there being salience produced by it. We cannot (or do not) think about concepts or by means of concepts too non-salient for us to have noticed them; and thinking about or by means of them reinforces that salience.

The other two kinds of usage are parallel conventional usages; they (and especially the second) are involved in conventionalization, the establishment and entrenchment of meaning as conventional through usage. Conventional usage implies conventionality, that is a sharing of salience of concepts.

- In one type of conventional usage a concept is already salient to the speaker, and he shares it (typically talks about it) with another, to whom it may not yet be salient. This is in some respects parallel to the internal case of thinking about the concept. The idea is to establish conventional salience or to reinforce it if it is already there.
- In the other type the concept is known to be conventional already, and is utilized as a means to communication, i.e. to the first kind of conventional usage. Notice that, even more clearly than with internal usage, some degree of salience must be presupposed before conventional usage can occur; at least the speaker must have the concept salient in his conceptual system before he can so utilize it.

Again I would hope that it is obvious that conventional usage produces or enhances salience. This is most clearly true in the case of talking about a concept; but it is also true in the case of talking by means of a concept. When we hear someone say of a mouse-catching dog “That dog is a regular cat”, the Relation of catching mice immediately becomes more salient within the predicate cat. I might never have noticed that hens have no teeth, were it not for hearing the phrase scarce as hens’ teeth in conventional usage. In general,
conventional usage crucially involving a given conceptualization is strong a priori reason to suppose that conceptualization to be salient to the speaker and hearer, because if it were not salient to start with, the usage itself will make it so.

Thus we have seen that two very strong factors producing salience are generality and usage, particularly conventional usage. This leads us to the question of what factors affect conventionality.

Conventionality is essentially consciously shared salience; and whatever factors affect salience will tend to affect conventionality. In many cases what makes something salient to one person also makes it salient to the next person. Suppose the concept that dogs fight with cats is relatively salient to me, let us say because I see it happen every day (i.e. by the Generality Principle). The chances are that my neighbor also sees it happen often enough that it is salient to him as well. I can assess the situation and figure that my neighbor has noticed the same thing that I have; at that point the knowledge is conventional.

However, the factor that most clearly establishes conventionality is conventional usage. If I make a concept the subject of communication, and communication is successful, the communication makes it conventional. Or if I use a concept in a way that requires it to be conventional, and judge that communication has taken place, then it becomes quite clear that the concept is conventional. If I talk about children getting along like cats and dogs and my neighbor laughs, I know the concept was conventional. Similarly if I hear my neighbor use a concept that is salient to me, it is clearly salient to him as well, and thus conventional. And, as pointed out above, if it was not salient, my perceiving that he is utilizing it will make it salient to me.

We thus have a kind of vicious-circle effect in conventionalization: salience prompts usage and usage produces salience. The more a concept receives conventional usage, the more conventionally salient it becomes, and the more salient the more readily available for conventional usage. This results, from the point of view of analysis, in a sort of chicken-and-egg situation which is a hallmark of internalization. Usage determines meaning which determines usage (using the word “determine” in a less than absolute sense); thus it is impossible to decide (though people have spent much energy trying to decide) whether a given phenomenon is a matter of usage or a matter of meaning. The answer is that it is both; that the usage depends on the meaning and the meaning on the usage. The two cannot be ultimately separated.

Typically, then, we will find internalization involving two things: some combination of factors, with the Generality Principle often primary among them, conspiring to make an “external” concept become more salient from the point of view of a given linguistic unit (i.e. become “internal” to that unit), and conventional usage arising from that salience to further conventionalize it, hallowing it and enhancing it, and often thus starting a new cycle of salience giving rise to usage.

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5 This phenomenon fits into a paradigm of cases where a psychological state that we usually (and rightly) view as the cause of a class of actions can also be seen to result from such actions. Sticking your lower lip out and pouting will tend to make you feel sullen; smiling or singing cheers you up. My handwriting tends to drift downwards when I am depressed; making it slant upwards helps lift me out of the doldrums. We rightly judge where a man’s values are by where he puts his money; Jesus advised his hearers (Matt. 6.20-21) to put their money where their values ought to be because “where your treasure is, there will your heart be also”. Praise induces as well as expresses appreciation; criticism exacerbates displeasure while it vents it. Teaching reinforces and expands the teacher’s knowledge even as it conveys and exhibits it; we don’t rightly know our thoughts until we express them. The Whorfians were right to claim that how we talk strongly influences how we think, but that is only half the truth: how we think is influenced by other factors as well and itself influences strongly how we talk. The usage-causes-meaning-causes-usage cycle is a special case of this last generalization.

In other words, acting as if a psychological state were true, whether or not it already is true, helps make it become true. Acting as if you felt angry will help you feel angry which will help you act angry; using dog as if it meant ‘cat-chaser’ will help it mean that which will help you use it in that way.
Internalization in Word Histories

Internalization can be seen clearly at work in diachronic change; works of philology are full of cases of it. For instance Lewis (1967:117-124) details the different histories of the English words frank and villain, which were at one time antonyms.

Originally frank is of course a national name—‘a Frank’. Its legal, social, and ethical meanings are ultimately derived from the state of affairs in Gaul after the Frankish conquest. Any man you met would probably be either a Frank, hence a conqueror, a warrior, and a landowner, or else a mere ‘native’, one of a subject race. If the latter, he was (typically) a serf, an un-free peasant attached to an estate which had once been a Roman villa; he was in fact a villanus or vilains …

English villain … dwindled into a term of abuse, and finally into a term of mere (i.e. unspecified) abuse … The process was of course gradual, and it is not easy to be sure what stage of it is represented by each occurrence of the word in the old texts.

Briefly, villain came to mean (i.e. have as a salient internalized aspect of its meaning) not ‘serf’ but rather ‘behaving like a serf, having the character of a serf’; the actions and manners that were considered typical of serfs (which are external rather than internal to the serf as a serf) became the central component of the meaning.

Churl, itself originally a status word, would be the nearest English equivalent … if it had not come to lay more emphasis on niggardliness in particular than on the generally sullen and uncooperative character of the peasant. Boor is perhaps now our best translation … the word cad, with its contemporary semantic wobble between social and moral condemnation, is a good enough parallel …

Similarly, the freedom of the Franks, a Relational external to them, at least in their characterization as Frankish, came to be the central content of the word. Frankishness (franchise) ceased to be a matter of national or racial origin or even social class, but a matter of political freedom. From there other qualities which often are associated with political freedom but are essentially external to it, such as forthright honesty in speaking, came to be dominant; this last quality, emphasized until it almost amounts to bluntness, is about the only salient element of the word today.

From the point of view I am espousing it does not make sense to ask whether it was the change in usage that determined the change in meaning or vice versa. It is the chicken-or-the-egg situation: both are true. The typical peasant character (as perceived by the culture) is already a part of the meaning of villain. Utilizing the word villain so as to capitalize on that character (e.g. calling someone a villain as a reflection on his manners) entrenches that meaning; what was done once can be done again, and the entrenchment of the meaning facilitates further usage.

Cases like these of villain and frank could be multiplied ad infinitum, in which what was at one point in time a piece of meaning external to a word became a part of the meaning of the word, because it was always or usually associated with the designatum of that word and usage arose to capitalize on that association. In effect any piece of meaning in any word can be seen as an internalization, as a result of a natural association which is enshrined by usage as conventional.

But I would like to consider some somewhat different cases of such internalization, which are at the heart of syntactic and morphological structure.
Affixality Involves Internalization

One application of this notion of internalization is to the problem of affixation. In 1.6 it was claimed that affixes contain within them a phonological reference to the stem to which they attach. For prefixes there is the expectation that there will be a phonological string following them; for suffixes the expectation is of a preceding string. In 1.3 and 1.5 it was claimed that phonology is an aspect of semantics in the broader sense of that term. Phonological conceptualizations are conceptualizations just as much as are non-phonological conceptualizations, and if they are shared by speakers and known to be shared (i.e. if they are conventional), as the phonological system of a language obviously is, then they are semantic in this broader sense. Thus the phonological shape of a morpheme is part of its semantic specification and the symbolic specification that the phonological shape /ki/ is associated with the meaning KEY is itself a semantic specification; it is only in the narrow sense of the term that semantics excludes such specifications.

The phonological shape of a morpheme is an intrinsic characteristic: the morpheme has that shape quite apart from its Relations with other morphemes. But the question arises: could a morpheme have as part of its semantics extrinsic phonological characteristics as well? The answer we should expect is yes, particularly if they are general characteristics. If it should prove that every time we meet up with morpheme X it is in a phonological Relation Y to some other morpheme, we should expect, by the Generality Principle, that Relation Y will be a salient part of the (phonological) meaning of X.

Suppose that in English there is a morpheme non which always is used in constructions where there is a phonological string following it and forming part of the same word with it. That extrinsic Relation with a following phonological string we should expect to become a salient part of the meaning (wider sense) of that morpheme. And I would claim that that is exactly what we do find. It is a part of the conventionalized phonological specification of non that it precedes some other phonological string and is closely integrated with it into a word. This is essentially equivalent to what was claimed in 1.6: prefixes like non- contain a reference to a following phonological string with which they form a word. To use non in any other way violates these phonological specifications, and cannot be accomplished without a good deal of strain: sense-non and he is non going are ungrammatical for this reason (among others).

Notice that in this accounting there is no point in asking whether non occurs in prefixal constructions because of its phonological meaning or whether it has that meaning because of occurring in prefixal constructions. It is again the chicken-or-the-egg situation: both are true: it occurs prefixally because of its phonological specifications, and it has those specifications because it occurs in prefixal constructions. One can see that historically a sort of vicious circle will easily occur, in which a morpheme by being occasionally used prefixally will acquire a (non-salient, non-schematic) phonological specification of prefixality. If something increases the generality of that morpheme’s prefixal use (let us suppose ceasing to be used in

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6 As stated in 1.3, any meaning can be viewed as an expectation. One expects cats to have a certain shape and to chase mice and be chased by dogs, peasants to belch without saying “excuse me”, and prefixes to precede a stem.

7 Internally to the morpheme, of course, the symbolic Relations of the phonological string /ki/ and the concept KEY to each other are extrinsic Relations. Symbolic Relations are typically extrinsic; the cases where they are not entirely so are those of onomatopoeia and other types of iconicity.

In fact, I would claim that that the manner in which we usually learn the meanings of words or morphemes is a kind of internalization. We keep encountering a morpheme key in the environment of a certain kind of object with a typical shape and perhaps a typical function. The concept of that object is external to the phonological string [kiy], but we soon internalize them to each other, and the concept becomes the meaning of the sound. If at first the concept only saliently designates the physical object (as it does for many a child who has not tumbled to its function) further internalizations are necessary to make central the Relations the key bears to locks and to such functional assemblies as entering locked rooms or unlocking chained bikes, etc. The Generality and Usage Principles are clearly crucial in this process, no matter whether the meaning is learned by osmosis or whether there is ever any direct teaching involved.

8 Langacker admits the validity and relevance of this account, but claims that it is not exhaustive of what he has in mind in characterizing affixes as dependent and stems as autonomous.
some other constructions) the prefixal specification will become more salient, by the Generality Principle. This will make it harder to use the morpheme other than prefixally, since doing so would contradict this specification, producing a certain amount of strain. Thus using the morpheme prefixally makes it acquire a prefixal meaning, which makes it be used prefixally, which strengthens the prefixal meaning.

**Syntactic Function Internalizes as Meaning**

Another case is that of adjective/adverbs such as TN čikāwa-k ‘strong, quickly, hard, etc.’ (D.3) or English (colloquial fast, loud, and so forth. Adjectives and adverbs differ semantically, we claimed in 1.4, in that the trajector of adjectives is a Thing and that of adverbs is a Relation. I suppose that loud was originally an adjective. Its trajector was specified to be a Thing and not a Relation; one spoke of loud noises or voices or buzzers or trumpets, but not of talking loud or shouting or whistling or exploding loud. Because of the nature of the concept LOUD, there was internal to it the specification of a noise-producing process, which was not profiled but was the active zone of the profiled trajector Thing. To put it another way, every time something was loud it was somehow making some sort of noise.

By the Generality Principle that noise-making process had to be salient. And since that salience was a matter of common experience, it was conventional. Somebody somewhere capitalized on that piece of semantics (or pragmatics, if you will; it was a conventionally salient but not yet conventionalized concept) and used the form loud in a construction that made it have a Relation, in fact a noise-making process, elaborating its trajector, instead of a Thing. That usage further enhanced the salience of the process (concomitantly downgrading the salience of the Thing), and made it easier to use such a construction the next time. In time such usage became itself a matter of convention; the conventional usage became a conventional unit, giving us the kind of semantic structure we now have. The noise-making process has, by internalization, become the trajector of a well-established version of the predicate loud.

Did the usage determine the meaning, or did the meaning determine the usage? Neither or both, depending on how you want to answer it. The usage would not have arisen had not the meaning already had salient within it the noise-making process. If the usage had not arisen that noise-making process would not have attained the degree of salience we call profiling. If it had not, the usage would not have become established to the degree that it has. It is the chicken-egg situation once more. Loud is used as an adverb because it has the meaning appropriate to adverbs, and it has that meaning because it has been used as an adverb.

Consider also the morpheme -er as in runner. This morpheme is diagrammed (following 1.5.o) in 2.1.a.

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**2.1.a. -er**

Note that the relationship between the schematic process in -ER and the schematic stem in /-er/ is one of symbolization, that the schematic stem is specified as the phonological pole of the schematic process. In fact we have a bipolar schematic verb stem e-site. Further note that this schematic verb stem e-site is an
The internalization of the fact that -er is (in this version) always constructed with a verb of which it is trajector. This is perhaps most easily seen by comparing 2.1.a with the well-entrenched schematic Verb-er construction, diagrammed in 2.1.b—it is clear that the schematic verb stem within -er is an internalized copy of the external schematic verb stem in the construction.

The question naturally arises: are we justified in doing this? Is the duplication necessary or even desirable? There are, I think, two complementary answers to that question.

The first answer is that yes, it is desirable and necessary, because it is there. -er does not mean simply ‘Thing’ internally and happen to be used externally to elaborate the trajector of a process, any more than toe means ‘Thing’ and happens to be externally related to a foot. We know a priori, on internal grounds, that the Thing designated by -er is trajector of a process stem, with which the morpheme will be in construction, just as we know a priori, on internal grounds, that the Thing designated by toe is related in certain complex ways to a foot. To be expected to participate in a construction (the internalization) and to actually do so (the external Relation) are not the same thing any more than being expected to be attached to a foot is the same thing as being so attached.

The second answer is that no, the duplication is not desirable, but it is necessary in the circumstances, an artifact of our choice to use the Schematic Hierarchy model, with its “meaning is content” metaphor. The duplication of the internal and external verb stem is the same sort of phenomenon as the duplication of the foot internal to TOE and the one external to it in the morpheme foot. Both disappear in the Interconnected Network model. The internalized foot is the same as the external one: the essence of the internalization is a strong, even a necessary connection to the FOOT node from the TOE node. Similarly the internalized verb (process) and the Thing’s integration with it are the same as the verb stem in the construction and the Thing’s integration with it: the essence of the internalization is a strong, even a necessary connection from the -er node to the Verb-er Construction node. In the same way, the internalized phonological stem and the integration of the phonological structure /er/ with it are the same as the external stem in the construction and /er/’s integration with it; the essence of the internalization is a strong, even a necessary connection from the /er/ node to the Verb-er Construction node.

It is wrong to ask whether it is a matter of meaning or of usage that the Thing designated by -er is always construed as trajector of a process. It is clearly both, and each because of the other. -er is used as the trajector of a process because it means ‘trajector of a process’, and it means that because it is so used. It is used as a suffix because part of its (phonological) meaning is that it is a suffix, and it has that suffixal meaning because it has been used as one.

Or consider the meanings of case markings. Let us assume—for illustration’s sake: the claim is not totally off the wall, and English examples are often easier to follow than Latin or Greek, when they illustrate the same point—that the final m on him, them, and whom is an accusative or direct object marker. I would propose for it a meaning such as that diagrammed in 2.1.c. In -m (and other accusative suffixes) the Trajector is specified as the landmark of a Relation. (Since the processuality of the Relation is not specified, it is allowed to be the landmark of a preposition as well as of a verb.) The morpheme is a suffix, containing an internalized reference to a stem. That stem is symbolic for the Trajector of the morpheme. Internalized to the morpheme is the strong expectation that the Trajector will be elaborated in construction.

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9 To be more exact, it is an artifact of the Schematic Hierarchy model’s failure to be thoroughgoing with its “meaning is content” metaphor, representing as content only meanings other than schematic and syntagmatic relationships.

10 I am assuming -M to be a Relation. This assumption is neither unreasonable (consider how many case markings come from adpositionals, or how they may become adverbializers) nor necessary: perhaps only the Thing is profiled. If it is, then both HI and -M would be semantic profile determinants in 2.1.d.
At this point let me interrupt to introduce a new diagramming convention. Whenever one of the specifications of a structure is that a certain sub-portion is strongly expected to be elaborated in construction, i.e. to be used as an e-site, I will represent it as an e-site (by [blue] cross-hatching) even when it is considered in isolation.\textsuperscript{11} Such cross-hatching in a construction will indicate the presence of an e-site, but will not say anything about the extent to which the usage of that element as an e-site has internalized: however, when an e-site with cross-hatching is given in isolation from a construction using it, that will indicate that I am positing that the e-site is strongly internalized as such: that there is a strong expectation that the unit will be used in a construction in which that e-site is elaborated. Thus both the Trajector in the predicate and the schematic stem in the phonological morpheme are cross-hatched in 2.1.c. That is equivalent to the claim that \textit{-m} specifies that they will be elaborated. The Landmark Relation is cross-hatched as well, since there is a strong (though not as strong) expectation that it will be elaborated also.

In construction with the 3 pers sg. masculine pronoun \textit{hi}, \textit{-m} functions as a kind of modifier, dependent but not profile determinant, telling you what kind of \textit{hi} is meant (i.e. to be expected), namely one which is

\textsuperscript{11} This convention parallels Langacker's earlier practice, in which the e-sites of dependent elements were considered to exist as e-sites (and were therefore represented by cross-hatching) even when the elements were not in construction. For instance, see the diagrams in 1979:8 (Fig. 6), and the explanation “Dependent units are schematic in that they contain ‘holes’ that must be elaborated by additional content for an expression containing them to be well-formed.” Or “A verbal predicate ... makes reference in its profile to one or two partially specified objects that permit or require further elaboration by means of nominal elements ... the partial nominal specification defines an ‘elaboration-site’, the valence of the verbal predicate” (p. 16). In later work it was assumed that e-sites were essentially a function of the constructions in which they were elaborated (e.g. Langacker, 1981b, p. 16-18 and Figs. 15 and 16): “The actual existence of a valence relation ... is not something stated as part of the characterization of either predicate alone, but rather is something stated as part of the characterization of the construction, at the next hierarchical level, where the two are integrated into a higher-order system. ... the landmark of \textit{in} is specified \textit{in this construction} as an elaboration site” (italics mine). The two conceptualizations are not incompatible, as I have tried to show: yes, actual existence or utilization of a valence is a function of the construction, but consistent usage of a particular sub-structure as an e-site internalizes, making it salient as an e-site independently from the construction, and encouraging further usage in such constructions.
the landmark of a Relation which is expected to be elaborated in construction. \textit{hi-m} is diagrammed in both an analyzed and a partially compacted version in 2.1.d. In 2.1.e is represented a construction in which \textit{him} is the direct object of the verb \textit{HIT} (cf. 1.5.i-j), showing how the Relation within \textit{him} functions as an e-site.

I am claiming, then, that -\textit{m}, and accusative markings generally, are meaningful, with their meaning consisting in the identification of a Thing as a landmark of a Relation. These morphemes can be viewed as meaningless (as they are viewed by many theories) simply because every salient piece of the meaning is internalized from the syntactic context. Other kinds of meaning (e.g. the relationship of \textit{TOE}s to feet) are internalized from elsewhere, so we cannot explain them away as easily. But I would claim that these “syntactic function” meanings will be just as real, just as strongly expected, just as well entrenched, as the other sort. If we always see a toe attached to a foot, we expect the next one to be attached to a foot as well: if we always see -\textit{m} suffixed to a direct object nominal, we expect the next occurrence of it to be so as well; and in both cases we will use the morpheme in accordance with those expectations. “Syntactic function” meaning, like all other meaning, is both the result of usage and the cause of future usage.

Let me emphasize that in thus treating syntactic function as meaning I am not indulging in any illicit “mixing of levels”, at least in CG. Syntactic structures, i.e. constructions, are salient, conventionalized conceptual structures, and the conventionalized association of a morpheme with such a structure is by definition a part of its meaning. And that association is expected to hold even when the morpheme is considered out of the context of that construction: \textit{him} is an Object Pronoun even when it is not in construction with a verb.

Summary

In sum, I have claimed that

1. the essential differences between meanings central to a given linguistic unit and meanings which on the face of things are totally unrelated (“external”) to it are matters of degree of salience and of conventionality, and that there are many factors that can increase the salience and the conventionality, making what seems to be external become clearly internal. This process I have called internalization.

2. Outstanding among the factors that might increase the salience of a characteristic are generality, i.e. the degree to which that characteristic always occur with the designatum, and conventional usage which relies on that characteristic for its significance.

3. Internalization typically involves a “chicken-or-the-egg” situation in which conventional usage contributes to the centrality of a meaning, which in turn contributes to further conventional usage.

4. Internalization is one of the chief agents of semantic change in general. In fact all meanings can be viewed as internalized.

5. Internalization is an important factor of accounting for the phonological dependency of affixes upon stems.

6. Syntactic functions both result from and internalize as meanings. This was illustrated by the changing of usage of \textit{loud} from adjectival to adverbial, with a concomitant (and complicitous) change of meaning. Similarly the meanings and usage of “grammatical” morphemes like the English agentive nominalizer -\textit{er} and accusative marker -\textit{m} were claimed to be interdependent, each responsible for the other.
2.2 The Stem/Affix Distinction

In the previous section it was claimed that affixes have internalized to them as an e-site the specification of a phonological string in the same word with them, which is the stem. This, I claimed, is the source of the internal reference which results in the affix being phonologically dependent on the stem (1.6, Langacker 1981a:23). Is this enough to characterize the difference between stems and affixes? Can we claim that any morpheme with such an internalized e-site is phonologically dependent and thus an affix? I would like to claim that the determination of phonological dependency is more complex than that, and that even it is only one (though doubtless the most important) factor in the stem/affix distinction.

Phonological Dependency

Consider the case of a word like *imagine*-s. There are two morphemes, the first of which everyone would call the stem and the second of which is a suffix. In usage we find that the second element, -s, never occurs alone but always has some phonological string preceding it in the same word. Thus, by the Generality and Usage Principles, we should expect to find internalized to it a reference to a schematic stem, with the strong expectation that it will be elaborated. *Imagine*, on the other hand, often appears by itself as a word alone. It also often appears with a suffix, but the Principles of Generality and Usage cannot operate in unrestricted fashion. There will be a salient sub-version of the predicate with internalized reference to a following piece of phonological material, but there will be an equally salient sub-version in which there is no such following phonological string. Thus the most schematic version of *imagine* will be ambivalent or unspecified as to whether there will be anything else in the same word with it. There is, then, a salient or central specification within -s that there will be a preceding phonological string, and only an ambivalent, much less salient specification within *imagine* that there might be a following phonological string. We have, then, an asymmetrical relationship of the type we need to characterize the difference: -s is an affix because it has a (relatively) strongly specified internal reference to a preceding phonological string in the same word, whereas *imagine* is a stem because its internal reference to a following phonological string in the same word is relatively weak. The e-site within -s is much more salient than is the e-site within *imagine*.

However, the sailing is a little less smooth in other cases. Consider the case of Spanish verb stems and person/tense suffixes. The suffixes are clearly suffixes by the criterion presented above: they always follow a phonological string which is in the same word with them, and thus will have internalized a salient e-site corresponding to that string. However, the same thing is true of the verb stems: they never occur without some sort of suffix, and thus will have internalized to them a salient e-site corresponding to that suffix. For instance, in the verb *imagin-o* ‘I imagine’ the suffix -o, since it never occurs except following a phonological string, will have internalized to it the expectation of such a string; it will be part of the meaning of -o (in the broad sense of that term) that it goes on the end of such a string. But by the same reasoning the stem *imagin* (or perhaps we should list it as *imagin-*) since it never occurs alone, will have internalized to it the strong expectation that there will be a phonological string following it. We should expect then that *imagin-*, would be a prefix just as -o is a suffix. We can, of course, maintain that that is the case, if we wish, but we would be flying in the face of a lot of linguistic tradition and intuition which would equate *imagine* and *imagin-*, as stems, as opposed to -s and -o, which are suffixes.

We claimed in 1.6 that the relationship of affixes to stems is one of phonological dependency, the counterpart at the phonological pole of semantic valence at the other pole (cf. Langacker. 1981a), and it seems to me that this matter can be fruitfully considered in that light. Dependency, it will be recalled (1.5) is a complex notion, involving two chief factors which often but not always run parallel, namely the presence and degree of salience of an e-site in one predicate corresponding to the profile of the other predicate, and a relationship of schematicity between that e-site and the predicate with which it is in correspondence. The
more dependent predicate is the one whose e-site is the most salient (with profiling of the e-site being the strongest case) and whose e-site is most strongly schematic for the other predicate. Thus in *John runs* there is a clear, salient, and necessary specification within *run* of a trajector, the person who is running: that trajector is then, a highly salient e-site which corresponds to the profile of John. In contrast, there is no clear and necessary specification of John being the trajector of any process in the semantics of the predicate *John: John* does not have in it a salient e-site corresponding to the profile of *run*. We know, of course, that John does things, but that is not a particularly outstanding characteristic of his. According to the salience parameter, then, the dependency is from *run* to *John* and not vice versa. Also the e-site within *run* is clearly more schematic than the element with which it is in correspondence, namely *John*. So according to the schematicity parameter as well *run* is dependent on *John*.

The relationship of *run* and *John* is an example of the canonical predicate-argument valence, one of the most common and prototypical kinds of valence, though far from the only one. As we said in 1.5, either or both of the two factors involved in the dependence of *run on John* can be contradicted in the valence relations of grammatical constructions. The consideration of schematicity may yield indeterminate results, for instance. Sometimes this is because there is no clearly schematic relation between an e-site and the element corresponding to it. For instance, in *say something*, the direct object *something* is no less schematic than the elaboration site within *say*, or in *(a) thief stole (my shoes)*, learning that the person who did the stealing was a thief does not really tell us much more about him. Also in this case there is a salient internal reference within *thief* to a characteristic activity (namely stealing) which is in correspondence with the profile of *steal* but is not clearly schematic for it. Sometimes schematicity is indeterminate because there are schematic relations going in both directions; for instance in the phrase *soccer champions*, *soccer* has a schematic reference to players which is elaborated by *champions*, while *champions* has a schematic reference to some sort of competitive activity, which is elaborated by *soccer*. In this last example the parameter of salience of the e-site yields indeterminate results as well: the players in *soccer* are clearly salient but not profiled, and similarly the competitive activity in which *champions* excel is very salient but not profiled. (In this case it is a third parameter, that of profile determinance, to which I would attribute our intuitions that *soccer* is a satellite of *champions* rather than vice versa. In cases of true apposition, such as *neighbor lady*, even that parameter yields indeterminate results.) In this case the e-sites on both sides were salient; in other cases the e-sites are both quite non-salient: the expression *birth stone* is a case in point: the e-site within *birth* corresponding to *stone* has no great degree of salience, nor does the e-site within *stone* corresponding to *birth*.

The relationship of *run* to *John* is paralleled by that of *imagine* to *-s*. This relationship is a case of a canonical stem-suffix valence, a very common and prototypical kind, but not the only kind. There is a substructure within each predicate corresponding to the other predicate, which functions as an e-site. The e-site within *-s* is salient, while that within *imagine* is much less so.

It is also true in some sense that the e-site within *-s* is more schematic than is the e-site within *imagine*. Consider the difference in size of the classes of morphemes that may occur in the same word with and before *-s* or after *imagine*. There are hundreds and hundreds of strings such as *imagine* that can be used with *-s*, but only a few, perhaps a dozen or so, that can be used after *imagine* as *-is* is. There can be little or no strong expectation as to what the nature of the phonological string preceding *-s* will be, but there is a good deal of narrowing down of possibilities when it comes to the phonological string following *imagine*. Even though I know no way of making a schema which will separate *-s*, *-ed*, *-ing*, *-able*, *-ative*, *-ary*, and so forth from all the other phonological strings in the language, yet it is clear that from the point of view of the stem it is possible to tell what the phonological shape of the suffix will be to within a dozen possibilities or so, whereas from the point of view of the suffix it is virtually impossible to narrow down the range of possibilities at all. [This is, as just admitted, not the same thing as a schema, but its effect is the same: both a schema and a short list of alternatives narrow down the range of possibilities. It also is, of course, unlikely to be the only factor in our feeling that *imagine* or *imagine-* are stems. It is probable that such factors as those
mentioned in the next sub-section (“Other Factors”) might[1] be (and probably are) influencing our intuitions on this point.

I think that this distinction (that of ability vs. inability to narrow the range of possibilities) is closely related to the distinction of contentfulness vs. schematicity, if it is not the same thing; I will consider that this is the analogue for phonological valence of the schematicity component of semantic valence.

It is a common observation that stems are a basically unbounded class and that affixes are commonly closed classes, and I think that this may be at least part of the reason why this is true. One of the things that we are responding to in setting up the contrast of stem vs. affix is the same type of asymmetry that we respond to in setting up the distinction of predicate vs. argument, and one of the components of that distinction is that of schematicity. An e-site corresponding to a small, closed, class will be able to narrow down the range of possible elaborations to it; it will not be broadly schematic over a great range of possibilities. An e-site corresponding to an unbounded class must be almost totally schematic, making no specifications as to the expected nature of the string which will elaborate it.

The phonological dependency of affixes on stems, then, like the semantic dependency of predicates on arguments, has at least two components: the (relative) degree of salience of the e-site within each phonological unit, and the (relative) degree of schematicity of that e-site with respect to the phonological string which instantiates it. In cases like imagine-s the two factors are in harmony.

In the case of imagin-o the salience factor is indeterminate: both elements have clear internalized expectation of an adjacent phonological string. But the schematicity factor tells us that imagining is still the stem: it is the less dependent, more autonomous element, in that its e-site has a much less highly schematic relationship to the suffix than the e-site of the suffix has to it. It can narrow down the possibilities to a couple of dozen (and their combinations), whereas the suffix -o has hundreds or thousands of possibilities with which it must contend.2

In other cases of phonological construction the different factors may be skewed in different ways; often there will be no clear way to tell which is phonologically dependent on which. This is the sort of thing that is going on in compounding, for instance.3 In constructions such as black-bird or black-jack or billiard-ball it is not clear that either element depends phonologically on the other; neither one has a salient phonological e-site for an affix of the type the other one matches, and, lacking such, it is not particularly useful to talk about the extent to which it (the absent e-site) is schematic.

But notice that this is all a matter of degree. In the last example above, ball is often used as a stem alone, but usage as second element in a compound is common enough that there may be a fairly salient expectation of stem preceding and in the same word with it (cf. basket-ball, soccer-ball, bowling-ball, etc.) In cases where such a stem occurs only rarely except in such a construction, it is well on its way to becoming an affix. For instance, the noun maker occurs but rarely as a separate stem in my speech: I do occasionally refer to the intrepid “maker of Bonnets and Hoods” who hunted the Snark, but usually the word occurs in constructions such as book-maker or brick-maker or candlestick-maker.4 And I intuitively feel a lot better about calling maker a suffix in these words than about calling ball a suffix in basket-ball. Compare also the suffix -man (if such it

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1 [There is a hiatus —a short one, it is to be hoped, and the flow of the argument suggests it might be so— in the text at this point. The words between the brackets are conjectural: a rather unsatisfactory guess from over 25 years later of what may have been the gist of what was written in the text originally.]

2 It happens to be the case that imagining can make the specification that the following phonological string begins with a vowel, reducing the schematicity of that e-site even further. However, this is irrelevant for the point I am trying to make.

3 I am ignoring in this part of the discussion factors of phonological “weight”, in particular the tendency in English for compounded stems to retain separate stress foci whereas affix-stem constructions will have only one. For me this factor motivates a distinction between billiard-ball and basket-ball or soccer-ball.

4 [How I would overlook the usage that calls God our Maker is beyond me, but in writing this I did so.]

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be) in *post-man, fire-man, laundry-man, police-man*, etc. We could set up a scale of affixality along which agentives could be ranked, such as the following: *buyer* < *seller* < *-maker* < *-man* < *-er*.

To sum up what has been said so far:

- The presence or absence of an internalized phonological e-site representing the expectation of a phonological string adjacent to and in the same word with a morpheme is not enough to distinguish between stems and affixes. The stem/affix distinction is a matter, at least in part, of dependency quite similar to the semantic dependency involved in grammatical valence.
- The degree of salience of an internalized phonological e-site is parallel to the degree of salience of a semantic e-site, and is one important factor in that dependence.
- The degree to which it is impossible to limit the class of phonological strings elaborating that e-site is the parallel to the degree of schematicity of a semantic e-site, and is another important factor.
- In the canonical case the e-site within the affix is both more salient and more schematic. However, another very common case has equally salient e-sites in both the stem and the affix, with the fact that the e-site in the affix is more schematic clueing one in to which is the stem and which is the affix. In many cases it is rather indeterminate: neither element stands as stem with the other its affix.
- There is no sharp cut-off line between the two kinds of cases: the stem/affix distinction is, like so many other distinctions, a gradation rather than a true dichotomy.

In diagrams I will continue to represent phonological stem-affix valences by a cross-hatched box representing the internalized e-site structure within the phonological pole of the affix, and with an arrow of schematicity from that e-site to the phonological pole of the stem. Where a more complete representation would also specify an internalized e-site within the stem and a corresponding arrow of schematicity to the affix, I will usually omit it, as it is not the more salient of the two valence relations.

Thus, while a more adequate representation of a construction like *imagin-o* would look like 2.2.a, I will normally, for convenience’ and ease of interpretation’s sake, filter out the less salient valence and represent the construction as in 2.2.b; and stems in isolation like *imagin-*, will normally be represented without a phonological e-site specification.\(^5\)

\[\begin{array}{c}
\text{IMAGINE} \\
\text{I (PRES)} \\
\text{imahin} \rightarrow o
\end{array}\]

\[\begin{array}{c}
\text{IMAGINE} \\
\text{I (PRES)} \\
\text{imahin} \leftarrow o
\end{array}\]

\[\begin{array}{c}
2.2.a. \text{imagin-}o \\
2.2.b. \text{imagin-}o \text{ (less complete)}
\end{array}\]

**Other Factors in the Stem-Affix Distinction**

Prototypical stem-affix constructions show other asymmetries besides those of phonological dependency discussed above. The distinction is, in fact, a morphological rather than a purely phonological one, involving semantic as well as phonological factors, and the integration of factors of the one type with factors of the

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\(^5\) Notice that if the phonological morpheme *imagin-*, is viewed as having an e-site specification, it becomes profile-determinant; i.e. it is schematic for the compacted phonological structure. Thus in 2.2a both the stem and the suffix are represented as profile-determinant. In 2.2.b the e-site specification within *imagin-* has been filtered out, and at that level of salience the stems is no longer schematic for *imagin-o*. 

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other. Some of these factors may be as crucial as the phonological dependency we have been discussing; I would expect the importance of each to vary from language to language. Of them perhaps the most important is that prototypically stems are semantically “heavier” than their affixes. This is not clearly true in all cases (e.g. do-ing, be-en) though clear counter-examples are not common. One might be TN ki-čīh-tehko (it-do.perf-go.Verb.and.return.subject/fut) ‘go, do it and return (sbjnct or fut)’, where the stem means only ‘do s.t. (perfective)’. Often the stem is profile determinant as well as semantic heavyweight (e.g. imagin-o above) but it is also common for the affix to be a transformational morpheme (1.5), establishing the profile but leaving the rest of the semantic specifications to the stem. (Toe-s, it will be recalled from 1.5, is such an example.) The first pattern tends to line up with “inflectional” morphological constructions, and the second with “derivational” constructions (1.6).

Two prototypical stem-affix configurations, then, contrast in whether or not the stem is profile determinant, but agree in having the stem as the semantically heavier element. Schemas for these two configurations are given in 2.2 .c-d; the heavier element is ad hoc-ly marked H and the lighter L. The phonological specifications in these diagrams are arranged from top to bottom to symbolize the neutralization of the left-right distinction between prefixes and suffixes. Note that 2.2.a-b are instantiations of 2.2.c, and that toe-s in 1.6.h is an instantiation of 2.2.d.

There are other factors as well as phonological dependency and semantic weight. Probably in part as an iconic symbolization of its semantic weight, the stem is typically heavier phonologically as well (e.g. stems are longer, stems attract stress, stems are permitted more complex syllables, affixes may consist of inherently dependent phonological material such as single consonants or suprasegmentals whereas stems may not. The tendency of compounded stems in English to maintain separate stress foci has already been mentioned.) This tendency has clear exceptions, but again they are not the most common case: e.g. in TN ti-wāl-ō-tih-tiwe-tiwec̸Dtika (you-hither-refl-drink-cous.suddenly.Verb.perf-pres.dur) ‘you hon are suddenly drinking (here)’, the irreducible verb stem (root) is ū, and it is not stressed. Since TN does not systematically make use of phonological weight, we will not make much of it. Other languages may give it a central role in their characterization of stems: e.g. in many Otomanguean languages the presence of a VʔV syllable or a closed syllable is a sure sign of stem-hood. Another consideration is a “back-formational” kind of phenomenon: if a certain element is established as an affix then anything that it is constructed with (in the appropriate way) will tend to be seen as a stem. Ept must be a stem because everything else that occurs after in- is a stem. And so forth.

In sum, the notions “stem” and “affix”, like many grammatical notions (e.g. “subject”, or “causative” in 2.3), are very complex, and it is difficult to distinguish what is (merely) prototypical from what is schematic for the whole class. Different languages may latch on to certain of these distinctions and ride them for all they are worth, whereas other languages may almost ignore them. I should be sorry if this brief discussion were taken as intended to be a definitive treatment of the topic. What I have tried to do here is provide enough of a conceptual framework to deal with certain issues that will arise repeatedly in following chapters; it is my hope that this much of an understanding will allow us to proceed more expeditiously with considerations more central to our task.

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### Diagrams

**2.2.c. Stem + Affix**

- H
- L
- ...

**2.2.d. Stem + Transformational Affix**

- H
- L
- ...

2.3. Causation

In this section we will discuss the nature of causation, as that notion will enter crucially into much of the discussion of following sections. As was the case with the stem/affix issue, the question of causativity has been much mooted, and the issues involved are complicated. I have no illusions of decisively settling them, but I think it is helpful to look at things as follows.

Prototypical Causation

There are many concepts whose value clusters around a group of semantic elements which tend to run parallel in the most common or obvious instances.

For example, take the concept BIG. Prototypically, BIG implies surpassing the size norm in any or all dimensions at once. A BIG thing is at once high, broad, long, and massive/heavy. A BIG man is tall (for a man), hefty, heavy, and, perhaps to a lesser extent, noisy, socially formidable, and so on. Yet a man may be less than tall and still qualify to be called big, at least in English, or lightweight, or skinny, or quiet and shy, etc. What he cannot be, and still be BIG, is both short and thin and lightweight, and so on. Which of the semantic strands are most central for the characterization of the term used to symbolize prototypical BIG will tend to correlate with which ones are more salient perceptually, but will also depend to some extent on the language involved. One would thus expect different limits in different languages and idiolects as to what may be described by that term and what may not.

Similarly a concept such as RUN prototypically combines the notions of a certain cyclic motion of the limbs and forward progress at a relatively quick rate; different languages will differ as to the extent to which the rate may be slowed or stopped or dissociated from the limb motion without making the situation unsymbolizable by the term used for prototypical RUN.

Notions such as prototypical RUN and BIG I suppose to be universally available as a part of our common human experience: I think that prototypical CAUSE is also such, and that every language will have a way or ways to symbolize it. But CAUSE is also, like RUN and BIG, complex, having different semantic strands that run parallel in the prototypical cases, and languages will differ as to what areas of that complexity must be present for felicitous use of a predicate or construction meaning CAUSE.

It seems to me, then, that prototypical causation involves at least the following semantic strands running parallel:

(i) Two Relations (we will call them Relations A and B) are involved; it is the Relation between A and B that is crucial.  

(ii) The probability of A contributes to that of B; as the probability of A rises (and perhaps as it falls) so does that of B.

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1 Cf. Dowty’s (1972:62) statement that “cause invariably takes a sentential subject rather than an individual”. Shibatani (1976:1) and Talmy (1976:53) both assume that the causal relationship holds between two Events (more or less equivalent to Cognitive Grammar’s processes). This position is somewhat stronger than the one I am taking; it is equivalent to assuming element (vi) below to be necessary. Perhaps they were simply responding to the Relation/Thing dichotomy, however: Talmy states that “that which causes the simple event is itself also a simple event, rather than, for instance, a (physical) object”.

2 Again, Shibatani (1976:1) and Talmy (1976:51) take a stronger position, equivalent to that of (ix) below (Talmy) or (ix) and (x) (Shibatani). Shibatani phrases it as follows: “the occurrence of the caused event is wholly dependent on the occurrence of the causing event; … the caused event would not have taken place at that particular time if the causing event had not taken place, provided that all else had remained the same.” Talmy states “the essential event takes place, and, ceteris paribus, would not take place if it were not for another event.”
These two characteristics are probably to be taken as necessary for causativity; at least I will confine this
discussion to cases where they are present. I will represent these two characteristics diagrammatically by
having two instances of the usual schema for a Relation, with a dual-headed arrow marked “c” connecting
the two. This is represented in 2.3.a.

I would include with (i) and (ii) three other characteristics which are present
almost without exception in the cases we will be interested in, namely:

(iii) As an extension on the theme of (ii), to the extent that A happens, B
happens. If A is construed as factually having happened, B will be viewed
as factually having happened. This includes the proposition that the
causative construction as a whole presupposes B.

(iv) The trajector of A is the Trajector of the composite Relation, and

(v) The trajector of B is the Landmark of the composite Relation.3

Characteristics (iv) and (v) will affect the diagrammatic representation as
shown in 2.3.b: characteristic (iii) can also be assumed to be true in such
diagrams, unless otherwise specified.

Prototypically, causation also involves the following elements:

(vi) The two Relations are both processes, with positive temporal profiles.
The causative Relation as a whole is prototypically processual and
perfective (see next point) as well.

(vii) The Relations are perfective, profiling a change of state. (This
characteristic’s being true of B is a natural result of (viii).)4

(viii) A precedes B temporally. (As far as I know, it never follows B temporally.)5

(ix) As an elaboration on (ii) above, A is necessary for B. Similarly,

(x) A is sufficient for B. This stipulation seems to be a stronger one than is (ix); it is based on (iii) as well
as (ii).

(xi) The Landmark is either passive or resistant to the actualization of B.6

3 The fact that it is the trajectors of A and B that are chosen as Trajector and Landmark in Characteristics (iv) and (v) is to a certain
degree tautological: their being chosen guarantees that they are the most salient element in their respective Relations, and thus
that they are trajectors. Rather we should state in each case that it is the entity that would normally be expected to be trajector of
each Relation that is chosen. This is often violated in the case of (v) in applicative construals (Type III in the next section).

4 Often, though by no means always, the causative Relation itself is a process. When it is, it tends strongly to be a perfective process.
This will be true of the cases that will most concern us in this work.

5 Shibatani (1976:1) makes this the first of his two conditions necessary for a causative situation: “the ‘caused’ event has been
realized at t2, which is after t1, the time of the ‘causing event’.” Talmy (1976:66), on the other hand, considers simultaneity to be
basic, setting it up as a “characteristic of the basic causative situation: The caused event takes place exactly during the duration
of the causing event, whether this is a point or an extent of time”, but he has special mechanisms for circumventing this
specification. Thus he gives for The box slid across the ice from a gust of wind blowing on it an “underlying structure something in the
manner of” the box CAME TO the BEGINNING POINT of [the box slid across the ice] from a gust of wind blowing on it (1976:71-72).

6 The English causatives cause and make seem quite resistant to abandonment of (xi). Contrast
He made Johnny eat his okra/spinach/liver with
??He made Johnny eat his candy/ice-cream/popsicle,
or
He has caused me a lot of grief/trouble/pain/heartache/hassle with
*He has caused me a lot of pleasure/joy/happiness/exhilaration/delight.
(xii) The Trajector wills the existence or actualization of B.

(xiii) A involves physical action of some sort.

(xiv) The Landmark is not only trajector of Relation B but also the landmark of Relation A; i.e. the Trajector acts directly on the Landmark to cause the occurrence of Relation B.7

(xv) The Trajector and the Landmark are distinct entities.

Many situations meet all these criteria and are coded by causative constructions in TN and other languages. It is also true, however, that most of factors (vi) through (xv) can be downplayed or contradicted and the situation still be coded by the same structures. These situations will be discussed in some detail in section 6.3. and elsewhere. In the meantime, any cases in which characteristics (i) through (v) hold will be termed causative and diagrammed as in 2.3.b, whether or not any or all of characteristics (vi) to (xv) are true as well.

Complex Situations Involving Causation

Causation considered abstractly is complex enough, but the conceptual situations which people construe as causational introduce even greater complexities. One factor is the multiplicity of causal relationships. Depending on the point of view one takes any of a number of factors may be taken as the (most salient) cause of some event.

A car skids while cornering at a certain point, turns turtle, and bursts into flame. From the car-driver's point of view, the cause of the accident was cornering too fast, and the lesson is that one must drive more carefully. From the county surveyor's point of view, the cause was a defective road surface, and the lesson is that one must make skid-proof roads. From the motor-manufacturer's point of view, the cause was defective design, and the lesson is that one must place the center of gravity lower.

(Collingwood 1938:92-93, quoted in McCawley 1976:125)

McCawley comments that the different causes proposed here “do not reflect different judgements as to the facts of the accident, nor different beliefs with regard to how cars, drivers, and roads function … It is immaterial that three different persons are referred to in this passage. The driver, without in any way contradicting himself, could assert on one occasion that the crash occurred because he was driving too fast, on another occasion [sic] that it occurred because the road was poorly designed, and on the third occasion that it occurred because the car had too high a center of gravity.” Or that it was caused by drinking too much or by a fly buzzing around in the car, or by the sun being too bright, or by the road not being banked enough, or any number of other things. This sort of situation is typical: usually more than one thing can be viewed as the cause of a given result.

Not only are causal Relations multitudinous, but they typically occur in complex patterns, especially when mediated through the human cognitive and conceptual apparatus, with its ability to anticipate future occurrences and reconstruct past ones. In one group of such patterns a Relation can be viewed as not only causing another Relation but also resulting from it. I think that it is here that we can search for answers to an old conundrum: why do languages morphologically confuse causation with result, when they don’t do any comparable extent confuse other opposites, such as black and white, parent and child, before and after. Let me call attention to three commonly-occurring kinds of situations where this takes place; there are others.

(1) Consider the nature of purposes. A purpose may be viewed as an anticipated result of some event, the desire for or will towards which tends to cause (by motivating appropriate action) that event.8 The

7 Talmy (1976:58) makes this also a basic characteristic of causation. Once again, doing so leads to some complications in attempting to account for cases in which it does not hold true (e.g. p. 77 ff.).
purpose, then can be viewed simply as a result, or, in its anticipated form, as a cause, i.e. as a "final" as opposed to an "efficient" cause. Similarly, the desire may be viewed as the (indirect) cause of the final result (i.e. the purpose), or it may be viewed as prompted by and thus as resulting from it. The situation is mixed up, and it should be no surprise that languages mix up the expressions used to code it. The ambiguity of English *for* and *so* is well known; in *He called her names so she would get mad*, her anger is the “purpose”, not necessarily actually resulting from the name-calling but expected to do so. (Note that this violates Characteristic (iii) of prototypical causation.) In *He called her names so she got mad* the anger could be construed as either purpose or result or, more likely, both. Note that the same situation could be construed by using *because: He called her names because she would get mad.*

(I know that there are great complexities involved here, and I am not claiming that we cannot tell the difference between cause, purpose, and result; I am simply pointing out that “purpose” situations can be construed with the “purpose” as the cause or as the result of the other event.)

So, then, codes either result or purpose. *For* is prototypically used for coding purpose, but it is also sometimes used to code non-purposive causal situations: *jump for joy, do something for good reasons, feel sorry for what happened.* In King James English it clearly meant ‘because’; e.g. Lk. 23:34 “Forgive them, for (γὰρ) they know not what they do”, Mat. 15.23 “Send her away, for () she crieth after us”. A strong “because” construal also survives in *there-for(e) because of that (=there).*

“Reasons” constitute another category, much like purposes, denoting situations construable as either causes or as anticipated, action- or thought-motivating, results.

(2) Evidence. Evidence is a result, established as having occurred, which leads to the establishment of the causing situation as having occurred. This establishing function of evidence is easily viewed as a kind of causation: if the result were not established, the probability of the cause’s being established would be much less. Thus *Gene hasn’t gone home yet, because his office door’s still open* is perfectly good English, although the “truth” of the matter is that the door is still open because he hasn’t gone home yet. The almost tautologous statements of causation involved in definitional situations are probably a special case of this: I find *It’s noon because the sun is straight overhead and the sun is straight overhead because it’s noon* both to be acceptable English.

(3) “Vicious circle” situations. Johnny’s crying because Daddy’s mad, and Daddy’s mad because Johnny’s crying. Or, as we saw in 2.1, meaning causes usage which causes meaning. A special case of this class is reciprocal causation, where the Relation A and Relation B are the same kind of thing: Johnny smiles at Suzy because Suzy smiles at Johnny, and vice versa. In this case, even if the cycle is not completed, if Johnny smiles because he thinks Suzy looks funny rather than because she is

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8 Note that all causatives which are prototypical in exhibiting characteristic (xii) (“The Trajector wills Relation B”) can be construed as cases of purpose.

9 As another example, the Spanish preposition *por* ‘for’ is commonly used for both cause and purpose. As with English *so*, a subjunctive in a finite clausal object of the preposition clues you in to a purpose reading, and an indicative clues you in to a cause reading: *por que se enojó* (for that refl he.angered) means ‘because he got mad’, whereas *por que se enjara* (for that refl he.should.anger) means ‘so that he would get mad’. With infinitival or nominal objects, however, there is no such difference in form. In some of these cases the usage of English *for* is directly parallel, as in the following two: *Lo mataron por su estupidez* (him they.killed for his stupidity) ‘They killed him for his stupidity’, i.e. because of (certainly not for the purpose of) his stupidity; *Lo mataron por su dinero* ‘They killed him for his money’, i.e. for the purpose of having his money, or, if you will, because he had the money and they wanted it. *Calló por no tener más que decir* (he.shut.up for not to have more which to.say) means ‘he stopped talking because he didn’t have (more lit., because of not having) anything else to say’, whereas *Calló por no ofender a sus padres* means ‘he stopped talking in order not to offend (because of not offending) his parents’. Not offending his parents is viewed as the cause of the being quiet, it would seem; it is also clear to us that in most situations it could be construed as the result. *Por* contrasts with *para* (the other preposition translated ‘for’), which more strictly means purpose: *Calló para no ofender a sus padres* is fine, *Lo mataron para su dinero* is marginal (the expected object of *para* in such a sentence is a person for whom the killing was done); *Lo mataron para su estupidez* could only mean ‘they killed him in order to get his stupidity’, and *Calló para no tener más que decir* could only mean ‘he stopped talking so that he wouldn’t have anything else to say’.
smiling at him, the notion of smiling, as long as it is not stated who is smiling, can be taken either as causal, or as resultant, or both.

In at least these three extremely common kinds of situations a result may naturally be viewed as a cause; and there are others. Recognizing the existence of such situations will be helpful when it comes to accounting for (among other things) the extensive overlap of causative, applicative, and verbalizing the suffixes (Chapter 6, Appendix G).
2.4 Variations in Scope

In this section I will briefly mention and exemplify another type of phenomenon, which will be involved in much of the discussion in 2.5 and in succeeding chapters. It has to do with the amount of semantic material profiled by a predicate and with the desire of the speaker to increase or decrease that amount of material.

Transformations of Conceptual Focus or Viewpoint

Langacker often speaks (e.g. 1979:88) of the ability to change conceptual focus and viewpoint as one of the basic human cognitive abilities which are central to how we think and speak. This ability is itself complex. One aspect, which has already been given some attention, is the matter of schematicity, in which two structures are related in that they basically cover the same semantic territory, but one includes more detail, while the other contains less semantic material, presenting only the essential outlines of the structure. The schematic entity is the skeleton; the elaborated entity fleshes out that skeleton. Another ability that is involved in such changes of focus is the ability to enlarge or to contract the range of one’s attention. We can focus in on details which are only a small sub-portion of a larger configuration, or we can as it were back off and consider the larger configuration as a whole, or back off even further to examine the larger setting of which that larger configuration is but a sub-part. I will term this the parameter of scope; in many cases it runs parallel to schematicity, but the two do not necessarily coincide and often enough run counter to each other.

There is a strong tendency to conceptualize entities along all parameters at the level of our prototypical interaction with them. However, we are not tied to that level, and we often adjust our conceptualization along both the schematicity and the scope parameters. We can view them, as it were, on a coarse-grained grid, getting a schematic structure, or view them on a fine-grained grid, achieving a non-schematic, elaborate structure. We can also both “move in”, narrowing down our consideration to examine things at levels of lesser scope, or “back off”, achieving a broader scope on the conceptual scene. The conventional units that make up the grammar of a language typically center around one such level of examination. Many concepts (e.g. HAMMER, CHICKEN, PERSON, RUN, EAT) impose a prototypical level of scope and schematicity. Some (e.g. TOOL, ANIMAL, ANIMATE THING, LOCOMOTE, INGEST) are more schematic, and others (e.g. BALL PEE HAMMER, LEGHORN, JOHN L. SMITH JR., CANTER, DEVOUR) are more highly elaborated. Some (e.g. HAMMER CLAW, BEAK, NECK, STRIDE (during running), CHEW) single out entities at a level somewhat below the prototypical level of scope, and others (e.g. CARPENTER’S EQUIPMENT, LIVESTOCK, TEAM, RACE, HAVE A MEAL) designate entities somewhat above that level of scope.

The inventory of conventional units in a language is enormous, far beyond our capability to analyze and record in its entirety, but it is nevertheless finite, and is itself dwarfed by the immense total of concepts which humans conceptualize and wish to express. It is not at all unusual for us to have a thought and find it very hard to put it into words, to find the right words and constructions for expressing it. In many cases the best we can do is to find a linguistic expression that approximates what we want to say, and then put it in a context which will, we hope, warp it to something like the meaning we wish to convey.

Accomplishing such a warping often enough in a specified way will give rise to a conventional method of warping. Warpings of this sort are essentially what is involved in transformational morphemes and constructions, as discussed in 1.5.

We have a large number of such conventional ways of warping or transforming semantic structures in specified ways to increase their utility, enabling them to cover more conceptual ground than they could otherwise. For instance, nominalizations warp Relations into designating a Thing connected to the Relation in a certain way, aspect markers warp processes into aspectually different types of processes, participials of
certain types transform verbs (processes) into non-processual Relations such as adjectives, and so forth. Sometimes a specific overt morpheme will be associated with the transformation; often there is none, and only reference to larger structures (e.g. a word functioning in a clause as a noun rather than as a verb) will alert us to the fact and nature of the transformation.

Variations in Scope

One type of such warping is the transformation of a predicate to have it designate the same sort of entity, but at a different level of scope, focussing in on some smaller subportion or widening out to encompass a larger structure. I would like to consider some such cases in processes (verbs).

Consider the English predicate \textsc{JUMP}, for instance. What is its scope? What exactly does it include in its profile? How much of the prototypical act of jumping is designated by the predicate? The answer is that it depends. We use the word in several different senses. Sometimes it means only an “upward” motion away from a landmark such as the ground, usually it involves a downward motion also, returning to the point of origin (as measured on a vertical scale), often there is the specification that there is horizontal motion involved, often the downward motion continues on past the height of the point of origin, and so forth.\footnote{\textsc{JUMP} also varies along the parameter of schematicity. Prototypically it involves motions such as those described above, accomplished by a certain kind of volitional movement of the limbs of the trajector (which is an animate Thing). More schematic versions of this de-specify such movement, allowing a jumping bean to jump, or a table to jump during an earthquake, etc. More elaborated versions may specify things like the reason for the jumping (e.g. to win a meet), the place where the jumping occurs (the sand-pit), the manner in which the jumping takes place (rather different for high jumps than for long jumps) and so forth. In many cases varying the schematicity in a certain way involves co-variance of the scope.}

Sometimes there is in the conceptual structure an object which is in the path of the trajector of \textsc{JUMP}, and over which the trajector jumps, and sometimes there is not. Sometimes there is some external factor which makes the trajector jump; often there is not. The different constructions into which we force the predicate \textsc{JUMP} widen or contract its profile to give different overall structures such as these. When we say that someone jumped up onto something, we immediately know that a version of \textsc{JUMP} is being used in which the downward motion is negligible. When told they jumped off of something, we know the horizontal motion was considerable, and often that the downward motion was even more so. When told that they jumped something (e.g. a fence) we know there was an obstruction over which the jumping took place. When told that they jumped something over something else, we know that the jumping involved causation.

All of these usages are so well established, except perhaps the last mentioned, that it is difficult to claim that any of them is primary or prototypical and the others only extensions of it. But they are all clearly extensions of each other, involving widening the scope of the profile to new levels of comprehensiveness or narrowing it down to new levels of concentration.

I have diagrammed four of the above construals of \textsc{JUMP} in 2.4.a to 2.4.d. 2.4.a and 2.4.b are construals that (in English) require intransitive usages: they would correspond to the construals in such sentences as \textit{He jumped onto the table} (2.4.a) or \textit{He jumped into the air} (either 2.4.a or more likely 2.4.b). 2.4.c and 2.4.d require (and are prompted by) transitive usage; 2.4.c would correspond to sentences like \textit{He jumped the fence} and 2.4.d would correspond to \textit{He jumped the horse (over the fence)} or \textit{He jumped the checker (up and down the board)}.
Notice that which structure the predicate is used in determines which way it will be extended or warped. If the smallest part of the structure, the simple motion upwards from a surface, is to be designated, the verb cannot be used transitively. Construing it transitively, giving it a syntactic direct object, involves widening the profile to include either a causing agent (as in He jumped the horse) or an obstacle over which the jumping takes the trajector (as in He jumped the fence). Using the verb in a Verb-onto-Noun construction tends to warp it away from the downward motion being salient; using a Verb-down-Prepositional Phrase construction makes that downward motion salient. Using such constructions is how we can systematically warp the meaning of a predicate like JUMP, even when it has never been used in such ways before, to code a novel conceptualization that we wish to express.

It is important to realize that it is the conceptualization that is crucial, more than the situation which prompts that conceptualization. Let us suppose a situation in which most of the elements outlined above for JUMP are present. A horse is being jumped over a fence and down into a gully on the other side. All of the following statements (involving different meanings of JUMP in each case) are true of that situation: The horse is jumping. The man is jumping the horse. The horse is jumping (over) the fence. The man is jumping the horse over the fence. The horse is jumping down into the gully. The man is jumping the horse down into the gully. Or, as I described the situation in the first place, The horse is being jumped over the fence and down into the gully. And others. It all depends on what point of view the speaker wishes to take on the situation, which elements he wishes to give prominence to, and which he wishes to ignore for his purposes. He can expand the profile of JUMP to include the whole process, or narrow it down to only the motion of the horse relative to the ground, or have it encompass various intermediate amounts of material.

Phenomena of these sorts are of course by no means limited to the predicate JUMP (or to English, for that matter). There are many other such cases. For instance there is an intransitive version of walk, as in He's
walking (to town), parallel to 2.4.a-b, and a transitive version parallel to 2.4.d, as in He’s walking the dog. There is also a transitive version somewhat parallel to 2.4.c, which shows up in I’ve walked this route every summer for years. Or fly has parallels: The bird is flying (like 2.4.a-b), Chris is flying his model airplane (2.3.d) or My father flew the Hump in World War II (2.3.c).

Other cases do not allow of such changing along the scope parameter without the use of a more complex construction than just the verb alone. For instance, He is sleeping is perfectly acceptable, but not He is sleeping him (parallel to 2.4.d) nor He is sleeping a waterbed (somewhat parallel to 2.4.c). One must say He is putting him to sleep, or He is sleeping on a waterbed. It is a matter of convention which forms are acceptable and which are not. Some languages, like English, may sanction extensive transformations of these sorts with no necessary morpheme coding the fact that the transformation has occurred; other languages may require some such morpheme in those cases. We will be seeing many examples of such morphemes in TN in succeeding chapters.

Type I, Type II, and Type III Construals

I would in particular like to note the differences between two very common construals, of which we have seen instances above.

First consider the type of construals represented in 2.4.c. In this construal, the trajector is the Thing that is moving, and the landmark is the Thing against which the movement is measured. This is a canonical construal; we should expect that such predicates of movement would make their trajector-landmark (figure-ground) alignment in this way, since perceptually moving things tend to stand out against a stationary background. In general it is the case that things that change state are construed as trajectors, while things in the same conceptual structure that do not change state are construed as landmarks, in simple cases like 2.4.c. This kind of semantic structure I will term a Type I structure; it is essentially the same as Talmy’s (1976) Autonomous Event.

A contrasting canonical configuration appears in 2.4.d, namely a Type II structure. It involves extending the predicate to include a Relation which causes the occurrence of the process otherwise designated. In this construal, the trajector of the causing Relation is selected as Trajector of the overall structure, and the trajector of the resultant Relation is selected as Landmark of the overall structure. This is again an extremely common type of trajector-landmark (figure-ground) organization for such structures, as was noted in the preceding section (2.3, Characteristics (iv and (v)). In this structure the Trajector does not necessarily or saliently change state (e.g. in this example he does not jump); the important thing is that the Landmark does so, and that the Trajector (or some Relation in which he was involved) causes it to do so.

I give a (schematic) diagram for Type I and Type II structures each of them in 2.4.e. (I am abstracting away from differences of processuality in these diagrams.)

Type II structures are involved in “causative” constructions in TN (e.g. 6.1.a, etc.) and English and many other languages.

The Type II structure is an extension of Type I, i.e. it represents an increase along the scope parameter from the Type I structure. (This is indicated in 2.4.e by the identity line between the Type I structure and Relation B in the Type II structure.)
There is another such extension which is very common as well. It is involved in yet another version of the predicate \textit{JUMP}, that of sentences like \textit{Three men jumped him in the back alley}. Transformations along many parameters are involved in this usage (particularly there is extensive filling in of details such as purpose of jumping, decreasing the schematicity of the predicate), but I would like again to concentrate on the parameter of scope. The same sort of notion of jumping is present as in 2.4.b, but there is also a widening of the scope to include a Relation (or, more truly, a complex of Relations) which results from the jumping. Subsequent to and resultant from the jumping some person suffers harm or at least danger. That person is construed as the Landmark of the predicate; the Trajector is the person doing the jumping (and other actions). Other English predicates show similar extensions, though they often will require some further complement specifying what the resultant Relation is. Thus for \textit{run} we have expressions like \textit{run him off the road, run him down}; for \textit{fly} we have \textit{fly him (over) some oranges and similar sentences}. These cases are quite different on many specific points, but what they have in common is (at least) that in each case there is an extension to include a Relation resultant from the process originally designated. I have diagrammed these specifications in 2.4.f, terming such a structure a \textit{Type III structure}.

Note that the Type III structure is essentially the same as Type II; the only difference is that the non-extended process corresponds to Relation B in the Type II structure and to Relation A in the Type III structure. There will be many cases in following chapters where an extension of a process to become a Type III structure will be seen; it is an essential element in “applicative” constructions (6.5.a, etc.).

In Type III constructions the identification of the trajector of Relation B as the Landmark of the construction as a whole is often somewhat problematical. In \textit{they jumped me}, for instance, I, the Landmark, could easily have been viewed as the landmark rather than the trajector of Relation B: “they” are the ones moving, and it is relative to me that their movement is calculated, so by the

\[2\] I am claiming that in Verb-Nominal-Particle constructions such as \textit{run him down} the Particle expresses the nature of the resultant Relation which holds with respect to the noun, i.e. my running causes his being \textit{down} in some sense. Supporting this idea is certain evidence pointing to a difference between such constructions and corresponding Verb-Particle-Nominal constructions; V-P-N constructions mean ‘perform on N the action designated by V in such a way as to tend toward the achievement of the state coded by P’, whereas V-N-P constructions mean ‘perform the action designated by V with the result that N achieves the state coded by P.’ The distinction is subtle, but shows up in a pair of sentences tested by John Beatty on sailors (reported in Bolinger (1977:17)):

\textit{They hauled in the lines but didn’t get them in.}

*\textit{They hauled the lines in but didn’t get them in.}

\textit{In} in the first case modifies \textit{haul}, telling what kind of hauling was done; in the second case it modifies \textit{the lines}, telling what state they were in at the end of the hauling. There are other such contrasts:

\textit{She pulled out the clothes (from the washer) but 3 pair of jeans were stuck under the agitator and wouldn’t come out.}

\textit{? She pulled the clothes out (etc.)}

\textit{I made up my mind/I made my mind up.}

\textit{I’m making up my mind/?I’m making my mind up.} (Cf. Erades 1961.)

Note also that the V-P-N (as opposed to the V-N-P) construction is permitted in many cases only when the P represents “intrinsic consequence, a kind of semantic cognate object” (Bolinger 1971:76); in other words, there must be a salient e-site in the verb corresponding to the particle. E.g.

\textit{drain/pour the glass dry}

\textit{drain/*pour dry the glass}

(There are of course many other complex factors involved in the positioning of the P in these constructions; Wood 1955, Erades 1961, and Bolinger 1971 discuss some of them.)

\[3\] I fully expect that many will balk at having “dative movement” sentences put into such a paradigm. This analysis will be justified somewhat more fully in 6.7.
canonical Type I construal one would expect “them” to be construed as trajector. Similarly, in *fly him some oranges* “he” can easily be construed as the landmark with respect to which the oranges change position or ownership. This ambiguity is typical in Type III construals: it is not clear that Characteristic (v) from 2.3 (the trajector of Relation B is the Landmark) holds. Where there is good reason to have expected another element in B to have been chosen as trajector instead of the one which is Landmark, I will diagram the situation as in 2.4.g.4

It is by no means the case that all Type III structures exhibit this characteristic; e.g. in *run him off the road*, where Relation B is *him off the road*, the Landmark of the expression is, as expected, the Trajector of B.

I would make several comments in conclusion:

(1) It should not be thought that these three types of structures are presented as a complete typology of variations of processes along the parameter of scope. These are canonical configurations, but I do not claim that languages will restrict themselves to only these. Furthermore there are many cases where it is not easy to distinguish which one or ones should be invoked. For instance, is *I fly DC-3’s* a Type II construal of *fly* (equivalent to *I make DC-3’s fly*), or is it a Type I construal (equivalent to *I fly in/with DC-3’s*), or is it a mixture of both? I expect that any of the three answers might be correct for different instances, and that the third will be right more often than not. In *I flew the DC-3 to Miami* there is probably a Type III construal involved as well: I flew with the result that the DC-3 went (or “was”) to Miami. Similarly *I turn (around)* is intransitive, and *I turn the corner* is a Type I transitive construal, but *I turn the page* could be taken as either a Type II construal (I cause the page to turn) or Type III (I turn (my hand), causing something to happen to the page) or more likely both. These are examples of the sort of thing discussed in the end of the last section (2.3), where the patterns of causation in the conceptual situation are so complex that it is difficult to be certain which ones are being coded by the expression.

(2) It should be pointed out that extensions of the Type II and Type III varieties may be made on structures that are already Type II or Type III; the process which is extended need not be a Type I. Thus, for instance, I would analyze *He killed me a chicken*5 as involving a Type III extension of *kill*, even though *kill* is Type II or III rather than Type I (i.e. it saliently involves causation, and has the causer as Trajector, etc.).

(3) For convenience’ sake I have talked about these things as extensions to the complex from the simple, but is by no means necessary that historically (or synchronically) things develop in that direction. For instance *The car drove slowly on down the road* involves what is for me a synchronic and what I am sure is also a historical change of scope from the more extensive Type II *drive* (as in *drive the car*) to a version of lesser scope. Sometimes things do get simpler.

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4 In so doing I do not wish to claim that Characteristic (v) is really violated: elevating the LM to its profiled status makes it the most prominent Thing in Relation B and therefore by definition its trajector. But I think that in effect you have something like a mini-passive: speakers are aware to some degree of the expected trajector/landmark alignment and to that extent will sense the new alignment as a switch from that. In other words, Relation B in 2.4.g is felt as a compacting of the analysis diagrammed above.

This will be especially true where Relation B corresponds to a stem with the opposite alignment, as in some cases we will see later (e.g. 6.3.a-c).

5 Mary Ellen Shankland pointed out to me, thereby earning my undying gratitude, that the passive of this sentence is *(lived a lion but) I was killed a chicken.*
Summary

I have claimed in this section that languages commonly permit variation of meanings along a parameter that I have called the parameter of scope, which has to do with the extensiveness or comprehensiveness of the semantic material profiled in a predicate, and that such variation is one of the factors involved in the differences of semantics between different versions of predicates such as JUMP in English. I have distinguished three types of construals that are quite common.

• One has no causation salient in its structure, and construes as trajector a Thing that changes state and a landmark a Thing relative to which the trajector’s state may be seen to be changing. This is the Type I structure.

• The Type II structure involves increasing the scope of a Type I structure to include a Relation which causes or results in the Type I structure. The trajector of this causing Relation is chosen as the overall Trajector, and the trajector of the resultant Type I structure is designated as Landmark.

• In the Type III structure a Type I structure is extended to include a resultant Relation, whose trajector is chosen as Landmark; the trajector of the causing Type I structure is retained as Trajector of the overall structure. These types of structures will appear repeatedly in later sections.
2.5 Transitivity

Transitivity is, by definition, a central ingredient in the questions to be raised in this work, and it is a very important notion in its own right. Most linguists would agree that it is relevant to many of the most central concerns and problems of grammar. It is crucial to the understanding of grammatical relations, particularly of the relationships between nominal and verbal elements, which since the times of the Greeks have been considered perhaps the most central syntactic relationships. People speak of transitivity as relevant at virtually all levels of complexity of linguistic expressions; it is used to classify verbal stems, verbal words, verbal phrases, and whole clauses, and is claimed to be closely related to discourse structure.

But what is transitivity? Notions of transitivity show quite a range of variation, depending, to a large degree, on the theoretical perspective and practical purpose of the author. Some people consider it a property of verbs, others of clauses. Some consider it a semantic, others a syntactic notion. Some perceive it as a strict dichotomy: either something is transitive or else it is intransitive. Others think it is a scale: a thing may be high, low, or middling in transitivity. Some think it involves only relationships with direct objects, others include in the concept relationships with indirect and other objects. Some speak only of transitivity or intransitivity, others make reference to ditransitivity or even tritransitivity. All of this is perhaps unobjectionable and probably unavoidable; within the framework of CG (or of common sense) it is obvious that words do not have fixed meanings, but multiple meanings which fluctuate according to the exigencies of usage. There is no reason to expect that the words we use to talk about language should behave any differently. For certain purposes, any of the above notions may quite properly be incorporated into the concept of transitivity. Yet it is desirable to reach an understanding of the concept which will let us explicate what the differences are among these notions and what they have in common, and under what circumstances which will be appropriate.

Historical Background

To this end, some historical background would perhaps be helpful. Robins (1967) traces the beginnings of the concept of transitivity to the Greeks.\(^1\) Plato distinguished between a nominal component (όνομα or “name”) and a verbal component (ῥῆμα or “word, sentence, proposition”) of the Greek sentence. Aristotle added a notion of πτῶσις (lit. “fall”, calqued into Latin as cāsus, whence English “case”), which covered differences in the formal shapes of words, including “oblique cases of nouns, comparative and superlative forms of adjectives, deadjectival adverbs…verbal tenses other than the present, and perhaps some other verbal inflections” (p. 26 ff.). Grammarians of the Stoic school restricted πτῶσις to nominal words. This move both required separate terminology for the verbal categories and provided criteria for its use. Active transitive verbs [ῥήματα ὀρθά or “straight, upright verbs”, akin to their πτῶσις ὀρθή or “nominative case”], passives [ὑπτία, “upside-down, inverted” verbs], and ‘neutral’ (intransitive) verbs [οὐδέτερα, “neither-one, neuter” verbs] were each defined by their constructing, respectively, with an oblique case (usually the accusative), with … ὑπό and the genitive, and with neither.

\(^{(p. 29)}\)

(\(\text{The ὑπό–cum-genitive construction is the Greek equivalent of our by-Agent phrase.}\)) Apparently transitivity was viewed, then, as a formally or syntactically defined property.

\(^1\) The next few paragraphs are largely based on Robins 1967; quotes identified only by a page number are from that work.
The Alexandrian Dionysius Thrax (c. 100 B.C.) in his 15-page τέχνη γραμματική (the earliest extant explicit description of the Greek language) called the accusative case the αἰτιατική πτώσις, “referring to the recipient of some action caused to happen”; one of the meanings of αἰτία is “cause”. Another meaning is “charge, accusation”; the Roman linguist Varro (116-27 B.C) apparently misconstrued Thrax’ term in this second sense and translated κασus accusātīvus (p. 30, 35). Slightly later, Thrax’ very influential successor Apollonius Dyscolus again referred to the Stoics’ three classes of verbs: active (transitive), passive, and neutral (intransitive). Of the active verbs he stated that “they designate an action ‘passing over to something or someone else’, whence the Latin verbum transitīvum and English transitive verb may be said to originate” (p. 37). Transitivity and the accusative case were thus, from very early times, characterized in semantic rather than formal (or as well as formal) terms.

Most of the Latin grammarians tried consciously to apply the Thraxian-Apollonian model to the description of Latin. Perhaps the greatest of them was Priscian (fl. 500). He, once again,

classified verbs…into active (transitive), passive, and neutral (intransitive), with due notice of the deponent verbs, passive in morphological form but active or intransitive in meaning and syntax and without corresponding passive tenses…Transitive verbs are those colligating with an oblique case (laudō tē, I praise you, nocēo tībī I injure you, egeō miserantis, I need someone to pity me)…”

(pp. 56, 60)

(The oblique cases in these examples are accusative, dative and genitive.) Apparently, then, there are posited both transitive/intransitive forms and transitive/intransitive meanings, since deponent verbs have the one out of step with the other. Priscian was aware of this conflict, of course: he

…was clearly informed on the theory of the establishment of categories and of the use of semantic labels to identify them. Verbs were defined by reference to action or being acted on, but he pointed out that on a deeper consideration (‘sī quis altius consideret’) such a definition would require considerable qualification; and case names were taken, for the most part, from just one relatively frequent use among a number of usages applicable to the particular case named.

(p. 59)

Here it seems to me that the issue is not so much that of semantic labels (as if they were only mnemonic) for syntactically defined categories, but that of the prototypical case (after which the category is prototypically named) versus the schema which actually subsumes all the cases, both prototypical and non-prototypical.

The Modistic grammarians of the middle ages were apparently the first to use “transitive” and “intransitive” as categories of syntactic constructions rather than of verbs. These were not the same as what would normally be thought “transitive” or “intransitive” constructions today.

In a noun-verb-noun sentence like Sōcratēs legit librum, Socrates reads a book, the relation between the first noun (suppositum) and the verb (apposītum) is a constructiō intransītīva, as is the relation between the noun and the verb in a sentence like Sōcratēs currit, Socrates runs; and the relation between legit and librum is a constructiō transitīva, the verb legit, reads, acting as the pivot of the whole structure, with dependence upon each noun….The same distinction is made between adjective and noun in concord, Sōcratēs albus, white Socrates, a constructiō intransītīva, and noun (including adjective) and an oblique case, fīlius Sōcratēs, son of Socrates, similis Sōcratī, like Socrates, constructiōnēs transitīvae. The basis of the distinction is that intransitive constructions need involve only one term in the category of person, whereas transitive constructions necessarily involve more than one.

(p. 84)
Here transitivity is apparently viewed not in terms of such semantic notions as a “carrying over” of the action but more as a matter of completeness: transitive constructions are incomplete, requiring another “term in the category of person” on which the verb, adjective, etc., can depend. It is not clear whether the incompleteness was felt to be semantic or syntactic, or both.

The grammarians of the French Port Royal schools (1637-1661), trying to write a general or universal grammar underlying the grammars of Latin, Greek, Hebrew, and modern European languages, followed an analysis suggested by Aristotle of all verbs other than the copula, to be, as logically and grammatically equivalent to this verb plus a participle, making *Peter lives (Peter is living)* structurally analogous with *Peter is a man*; the categories of intransitive and transitive (and active and passive) are said properly to belong not to the words commonly called verbs but just to the “adjectival” element in them.

(pp. 124-125)

If I understand this, the parallel insight in CG would be that verbs (processes) consist of a Relation (the “adjectival” element) construed through time (corresponding to the copula: the verb *to be* is prototypically used) to give non-processual Relations an imperfective temporal profile. And it is certainly correct, as we shall see, that transitivity, etc., has more to do with the Relationality of verbs than with their temporality. Note e.g. that adjectivally used gerunds maintain transitivity: *a man eating fish*.

The standard notions of transitivity at the beginning of the 20th century were probably quite close to those provided in *Webster’s Dictionary* (1966): “*a of a verb form: expressing an action that carries over from an agent or subject to an object: taking a direct object. b of a grammatical construction: containing a transitive verb form.*”

**Modern Notions of Transitivity**

Modern linguists’ conceptions of transitivity are, as would be expected, based on these historical ideas. For some the difference between transitive and intransitive verbs is purely a formal one: usually it is restricted to whether the verb (potentially) has a direct object. This was the criterion used by the structuralists. Bloomfield (1933:165) notes that *drink milk* names an action, in contrast to *fresh milk*, which names an object; *drink* is a transitive verb, to be distinguished from intransitive verbs by the fact that nouns such as *milk* (potentially) occur after it. Pike and Pike (1977:47, 491) similarly take as transitive (at least for English) any clause with an “Undergoer”, and as transitive any verb which (ever) appears in such a clause. Thus also Bolinger (1975:148) says that the term “usually refers to whether or not a verb takes a direct object.” For Transformational Grammar, transitivity is purely a function of PS-Rules and formal lexical specifications: a transitive verb is one that has the proper specifications to be lexically inserted in a clause whose VP was expanded into V NP. If a verb sometimes is transitive and sometimes is intransitive, then there are two lexical entries for that verb; in fact they are homophonous verbs rather than a single verb (e.g. Baker 1978:56-57, cf. Bolinger 1975: 537-538). (Of course, many apparently intransitive usages are actually considered to be products of movement or deletion of the direct object; “surface” transitivity or intransitivity is not particularly important in this theory.) Similarly Relational Grammar considers transitivity to hold at a given level of derivation (stratum) if and only if there is a 2-arc (a direct object relation) in that stratum (Perlmutter 1978:160). Thus, for instance, passivized clauses are finally intransitive, since in the final

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2 Structuralists were of course aware of the semantic features which tend to correlate with the formal characteristics of transitivity. Elson and Pickett (1969:108) having defined transitive clauses as those having either a direct object or morphology showing that such an object is implied, state that one finds that “the functional meaning of the predicates are [sic] different: transitive predicates indicate goal-directed action, intransitive predicates indicate action that is not goal-directed.” This semantic difference is simply noted: nothing is made of it.
stratum the direct object has become subject and there is no direct object. Transitivity is determined not
from the meaning of the verb but from the formal nature of the clause structure in which it participates.

For others, transitivity is basically a semantic property, which then determines the syntactic behavior.
Transitivity is not an either-or property defined according to syntactic form, it is a parameter of meaning
along which verbs (and perhaps other kinds of words) can vary. Hopper and Thompson (1980:251) identify
that parameter with the quality described by Apollonius Dyscolus two thousand years ago, the extent to
which “an activity is ‘carried over’ or ‘transferred’ from an agent to a patient”. They develop this notion in a
great deal of detail; their proposals will be referred to in the next section. Bolinger (1975:148) suggests
identifying that parameter with “completeness. Does a verb in a given sense require a complement—no
matter whether direct, indirect, or prepositional?” By this criterion it is not only direct objects which are
involved in transitivity but also indirect objects and adverbial and other complements. “…to tell me
would be just as transitive as in They told the story.” And not only verbs but quite a few adjectives (e.g.
fond, sure) and even an occasional noun (e.g. inhabitant, denizen, as opposed to native) can be seen to possess
this semantic quality.

Another issue dividing linguists’ views on transitivity is whether it is basically a property of verbs (or
other words) or whether it is a property of clauses or some larger construction. Most linguists talk about
transitive verbs; some make explicit the fact they mean that there is something different about the verbs that
are transitive. The traditional Transformational Grammar model has it as a formal marking in the lexicon,
differentiating transitive verbs from intransitive. Bolinger’s notion of completeness (1975:148) is also a
property of verbs (or adjectives, etc.). Hopper and Thompson, on the other hand insist quite strongly that
transitivity is “a relationship THROUGHOUT A CLAUSE” (1980:266), and Relational Grammarians are
equally insistent that transitivity is a property of strata rather than of verbs: the verb kill may be transitive in
one stratum and intransitive in the next; its transitivity is derivative of the stratal transitivity. Tagmemicists
use the term both of clauses and of verbs which can appear in such clauses (Pike and Pike 1977:44-47, 491).

Linguists also differ on whether transitivity has to do with direct objects of verbs only or also with other
kinds of objects. Tagmemicists consider verbs like give to be di- (or bi-) transitive; even tri-transitive verbs
and Mason 1980 consider Nahuatl causatives and applicatives formed on bi-transitive stems to be
tritransitive; a form like to-mo-pī-li-li-liya (you-refl-have-applic-applic-applic) ‘you hon have (s.t., e.g. respect)
towards him’, with three applicatives on a transitive stem, ought to be quadri-transitive, I guess). Langendoen
(1970:34) speaks of obliquely transitive and doubly transitive sentences. He even considers the
sentence Princess Grace is the wife of Prince Ranier to be obliquely transitive, with Prince Ranier
being the oblique object of wife (p. 34-35). Hopper and Thompson (1980:259-260) claim that indirect objects (but not,
apparently, other oblique objects) are “transitive O’s”. Bolinger (1975:148) claims that adjectives like fond
and nouns like inhabitants are transitive.

Some linguists, then, hold transitivity to be a formal, syntactic thing; others claim it is a matter of
meaning. Some think it is a property of verbs; others think it is a property of clauses. Some think it is
constant, not changing from case to case of usage of a given verb or from point to point in a derivation;
others think it variable. Some think it has only to do with direct objects of verbs; others would claim that
verbs exhibit it with respect to other kinds of objects and even that non-verbs exhibit it.

Who is right? I believe that the answer is, as usual, that they are all right, as long as they don’t insist that
everyone else is wrong. All of the above views may well be valid to some extent in their particular spheres,
but it is desirable to achieve an understanding of transitivity which will let us see both the similarities and
the differences among these views and know in what ways and to what degree each will be appropriate. The
following pages are an attempt to build towards such an understanding.

First let us recall what the characterization of a direct object was, as given in 1.5. A direct object is a
Thing structure which elaborates the Landmark (the most salient landmark) of a Relation, prototypically a
process (i.e. a verb). Let us assume the prototypical case: unless otherwise specified only the direct objects of verbs will be under discussion, and transitivity will be concerned with whether a verb can or need have a direct object.

In the following pages we will discuss from the point of view of Cognitive Grammar some of the issues that have been raised. First we will discuss whether transitivity is a formal property or a matter of meaning; whether transitive verbs are transitive because of their meaning or because they occur in transitive constructions. Then we will address the issues of whether transitivity is a property of verbs or of larger constructions such as clauses and of whether transitivity is a continuum or a dichotomy, whether there are degrees of transitivity or whether things are either simply transitive or not transitive. Later we will discuss briefly the questions of what transitivity has to do with discourse structure, of whether or not non-verbal elements can be transitive, and of whether transitivity has to do with other kinds of objects than direct objects.

Transitivity is a Matter Both of Meaning and of Form

Many linguists have asked the question of whether transitivity is a formal property having to do with the presence or absence of a syntactic direct object, or whether it is a matter of meaning. The answer is (at least in part) that that is the wrong thing to ask: the question as given is based on a false dichotomy. The presence or absence of a syntactic direct object is itself a matter of meaning. Syntactic structures are symbolic, which means that they have a semantic pole, and altering the syntactic structure automatically alters its semantic structure, changing meaning. If the dichotomy between syntax and semantics is done away with, the question loses its point.

This dichotomy (and many others) is, I believe, based on a covert assumption that if a property or quality can be tied to something overt and easily determined (such as the presence or absence of a syntactic direct object in a clause), one need not consider any other contributing factors. If causativity can be tied to the presence or absence of an overt predicate of causation, we can cease to bother about it any more; if direct-objecthood can be tied to the presence or absence of accusative case marking we need no longer worry about what is or what is not a direct object and why. I think this kind of assumption is related to our reductionist habit of arguing from simplicity; if we can predict the facts, why need we say more? From the point of view of CG you do not expect to ever be done with the task of explaining; when you have explained something you have not explained it away.

Thus the answer is that yes, transitivity is a formal property, if you want to define it that way, but it is not merely a formal property. Yes, transitivity can be tied to the presence or absence of a direct object, but it ought to concern us to explore why the direct object is there. Doing so will certainly lead us into complex semantic questions. Or the answer is that, yes, transitivity is a semantic property, but it is not the sort of semantic property that can be investigated apart from syntactic forms; it is both semantic and formal.

Let us start, then, with the notion that the semantics of the verb involved determines its syntactic transitivity. To what extent is this true? What are the semantic features in which transitive verbs differ from intransitives? Transitive verbs are those whose Landmark is elaborated by a morpheme external to the verb: why would a speaker want to elaborate the Landmark of a verb? There are a number of factors involved: we will examine some of them in the next few paragraphs.

Differentiated, Salient Landmarks are More Likely to be Elaborated

One factor is the nature of the Landmark. If the speaker conceives of the Landmark as non-salient, undifferentiated or undifferentiable, he is unlikely to care to try to elaborate it, since the point of elaboration is to differentiate and make salient. Many processes are as we saw in 1.4, clearly Relational, but have no one differentiated, salient landmark. We considered the process of running and asked what its landmark is. Is it
the ground over which one runs? Is it any particular Thing that one’s progress can be measured by? Is it one’s former position? No one thing is naturally salient, differentiated from everything else as the most prominent landmark. Thus there is unlikely to be any direct object.\(^3\)

Even when there is a naturally salient Landmark within a predicate, spreading the predicate out to cover repeated occurrences through time or space also tends to lessen the differentiation of the Landmark. The concept of eating has a naturally salient Landmark, but when the verb is construed imperfectively (occurring repeatedly over time), or as performed by many people, or as performed on many Landmarks, the conceptual specificity of the Landmark is bound to drop; it would be infelicitous if not untrue to speak of eating hamburgers when the situation one is trying to designate actually includes equally salient cases of eating many other foods. Similarly, activities that are limited to the “real world” as conceived by the speaker, are both more salient and more differentiated than activities that occur in non-real worlds. If John ate beans, than John ate beans, but there is no limit on the number or kinds of things that John did not eat or that he might have eaten or that he may eat yet. For this reason, the Landmarks of negative or irrealis verbs will also tend to be undifferentiated.\(^4\)

Determined by these factors to some extent, but also independent of them, is the question of what the speaker wishes to convey for his particular purposes. Even though it is true that running in general has no one salient landmark, if it suits a speaker’s purpose, he can chose to focus on some one landmark, making it salient. One can run laps, or a track, or a four-minute mile. It is conceivable and statable that many people ate beans repetitively over a long period of time. One can specify that what John didn’t or couldn’t or might(n’t) have eaten was artichokes with peanut butter. And so forth. These factors influence transitivity, but they do not determine it.

**Underspecified (Schematic) Landmarks are More Likely to be Elaborated**

I have implied that the more differentiated and salient a Landmark is within the profile of a verb, the more likely the speaker is to elaborate that Landmark, making the verb (and the construction) transitive. However, there is a limiting factor that comes up from the other side, namely this, that the more the nature of the Landmark is uniquely specified internally to the verb, the less likely it is that the speaker will need or wish to specify it further by a separate elaborative structure.\(^5\)

Consider, if you will pardon some crude examples, a range of predicates designating an emission or excretion from the human body. The predicates *SWEAT* and *URINATE* designate Relations with naturally salient, differentiated Landmarks, namely the liquid substances emitted. However, those substances are virtually always the same, no matter who or how many people are urinating or sweating how often or under what circumstances. As a result, the characteristics of the Landmarks of these predicates are, as we should expect by the Generality Principle, internalized to the predicates. It is therefore not usual to speak of

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\(^3\) This is in accord with Hopper and Thompson’s (1980:252) criterion J for transitivity: high individuation of the O (= object) means high transitivity. Distinctions they subsume under this individuated/non-individuated distinction include proper/common, human-animate/inanimate, concrete/abstract, singular/plural, count/mass, referential-definite/non-referential.

\(^4\) Such considerations, are, I think, at least part of what is behind Hopper and Thompson’s (1980:252) specifications of telic aspect, punctuality, the singularity of the object, affirmativity, and realizness as contributing to high transitivity.

\(^5\) Bolinger (1975:216) noted this fact: he expressed it in terms of verbs lacking features: “it seems that a feature deprived verb is like an unattached atom, with an appetite for any object it can lay hold of; the fewer features it has, the more transitive it is.” Cf. the discussion below with respect to the relevance of schematicity. Others (e.g. Langendoen 1970:79-81) have noted that deletion of an object or other argument (resulting in “surface” intransitivity) often takes place unless there is something unusual about the object: contrast *John is eating* with *John is eating fried earthworms*. “Typically, the roles [arguments] that may be deleted are precisely those whose lexical content is the most probable, given the meaning of the predicate [verb]” (p. 79).
urinating urine or sweating sweat. The predicate SPIT, on the other hand, potentially has a larger number of different kinds of Landmarks. One might spit phlegm, or betel-nut or tobacco juice, or watermelon seeds, as well as saliva. To the extent that differentiation of what is spit is desirable, we should expect the verb to be intransitive; to the extent that one thing is prototypically spit in a given culture, we would expect the verb to be intransitive. In English spit can be used intransitively, but transitive usage is also well-established. Similarly vomiting can be construed intransitively, but also may be given a transitive usage (e.g. vomited blood, vomited his supper). On the other end of the scale would be activities like throwing, where anything from stones to crockery is likely to be thrown. Thus it is to be expected that the concept THROW will be given a transitive construal.

How fully the Landmark of a verb is specified internally is one of the components of the level of schematicity which the verb imposes. Where more schematic predicates such as EXUDE or EMIT or SPEW OUT are used of sweating, urinating, or spitting, elaboration of the Landmark becomes almost obligatory. Thus the level of schematicity of a predicate is important for its transitivity.

We see, then, that internal specification of the nature of the Landmark often makes it unnecessary to elaborate that Landmark by a separate morpheme, and that this can lead to intransitive usage; the verb has a sufficiently elaborated functional assembly built into it as base that one requires no further knowledge about the Landmark. Such functional assemblies can also be specified externally to the construction, when the context, whether linguistic or extra-linguistic, includes a functional assembly against which it is obvious what the Landmark is, making it redundant to specify. Thus, while watching a baseball game, or in a discourse about a baseball game, it is much more natural for the predicate THROW to receive intransitive usage. It is not a matter of the Landmark (the ball) being non-salient or non-differentiated; the ball is what the whole game is about, and everybody is concentrating on what happens to it. But since it is so specified by the context, it is unnecessary to mention it; in this situation expressions like the play-by-play He tugs his cap, he winds up, he throws, it’s a foul are perfectly acceptable, even though elsewhere intransitive usages of he throws are often rather deviant.

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6 It is to be expected that these concepts will be intransitive, but it does not necessarily follow. The TN word for ‘urinate’ is ā-šīša (water-urinate). It would be natural to suppose that šīša originally was more schematic than ‘urinate’, and that this construction is a hang-over from that time. However, the evidence is against it: šīša is the reflex of a very well established Uto-Aztecan stem with the specific meaning ‘urinate’ (Voegelin, Voegelin, and Hale 1962:140, Miller 1967:62), and the compound ā-šīša does not reconstruct. Note also the English verb stub (Langendoen 1970:81), which (almost) always has toe as its landmark, but still never occurs without a direct object: *I stubbed. Cf. also bark your shin, sprain your wrist/ankle. Similarly, Green (1972:93) points out that piss is more easily transitive than urinate: e.g. Sam pisses lemonade vs. *Sam urinates lemonade.

7 I do not think it is accidental that in this progression one is changing from involuntary to voluntary actions. Part of what is involved in achieving voluntary control over an action is (typically) gaining an awareness of the nature of the action, including the landmarks involved, and gaining the ability to vary those landmarks. This is part of why Volitionality and Agency line up with transitivity (cf. Hopper and Thompson 1980:252).

8 These verbs are more schematic than SWEAT, etc., not only in that they underspecify the Landmark but also in underspecifying the trajector, general circumstances, etc. In other words, whereas SWEAT, etc., have a highly specific functional assembly as the base, EXUDE and EMIT have a quite vague one. The level of specification the Landmark receives tends to co-vary with the level of specification of other aspects of the structure. Of course, this is again just a tendency and not an absolute; the functional assemblies of spitting or throwing are hardly more schematic than that of sweating, yet their Landmarks are less determinate.

9 If such a context becomes the only (or the main) context in which a verb is used, the verb will internalize that context and tend to become an intransitive verb. The predicate DRIVE has undergone this sort of thing to some extent. The prototypical case is now clearly that of driving an automobile; cultural changes have made it rather irrelevant to distinguish among car-driving and the rather different activities of driving horses and driving oxen. As a result, there is a strong expectation that whatever is driven will be an automobile of some sort; the external situation has, by the Generality Principle, become quite central, and it should be no surprise that people often talk of driving without specifying what was driven.
Changing Scope Affects the Likelihood of Elaborating a Landmark

Just as do changes in the level of schematicity, so changes in the level of scope that a verb imposes can have drastic effects on the probability that it will be used transitively. Expanding the scope introduces into the profile of the predicate new entities, including Things which may be very salient and which will make transitive usages expected where otherwise they were not; and contracting the scope may leave salient Things out, encouraging intransitive usage. Consider particularly the types of changes discussed in 2.4, where the scope of predicates like JUMP was expanded to include causally related Relations. If RUN, which has only one naturally salient Thing within it, has its scope expanded so as to include a salient Relation causing the running to occur, another naturally salient Thing has entered the structure, namely the trajector of the causing Relation, and as a result the verb can be expected to be used transitively.10 Similarly, if a predicate like DRIVE has its scope reduced to profile just the movement of a vehicle along a path, eliminating designation of the driver, the likelihood of the verb’s taking a direct object is greatly reduced.

Free Will (Conceptual Plasticity) Affects Transitivity

In all of this it must be remembered that the speaker is to a large extent free to view things in different ways. If he wants to de-emphasize the Landmark in a processual concept, he can. If he wants to emphasize that Landmark, he can do that as well. And if he does, it is going to affect the likelihood that that processual concept will be used transitively. All the factors discussed above will influence but not determine how he will construe things.

Usage Affects Transitivity: Transitivity is the Internalized Expectation of a Direct Object

In all these ways, then, the meaning of a verbal predicate, including both the natural tendencies relating to the natures of the Landmark, the process, and the situation in general, and the desires and intentions of the speaker, as informed and influenced by those natural tendencies, can be clearly seen to have a profound influence on whether or not a verb is used transitively.

But this is not the whole story. Whether or not a verb is used transitively can also be seen to affect its meaning. As was explained in 2.1, usage increases salience. The corollary is that non-usage will allow salience to dissipate. Thus transitive usage not only builds on the natural salience and differentiation of the landmark, but enhances them, and intransitive usage will tend to downgrade them. The children of runners will, through constant exposure to usage of run with a distance as direct object (run the 440, run a 4-minute mile), have the concept of distance more salient within RUN than will other children. A barber, who customarily shaves customers, will probably have more salient to him than to most a transitive shave. Or, as a case of downgrading salience, it was mentioned above that the verb drive is often now used intransitively; we often say He drove to Kalamazoo rather than He drove the car to Kalamazoo. A further development, made possible by ceasing to code the vehicle as direct object, is a shift of the meaning of drive in one version from being a verb of activity towards a vehicle, with concomitant motion in the vehicle, to being a verb of motion in the vehicle. We can say He drove to Kalamazoo of a passenger as well as of the driver, even though we would not say He drove the car to Kalamazoo. The car has been downgraded in salience from being the most prominent Thing after the trajector to being a part (albeit an important part) of the base.

10 It may be stated with but little distortion of the truth that all prototypically transitive verbs are causative. All the characteristics which made the trajector of Relation B (the caused Relation) a good choice for trajector combine to make it also a prime candidate for elaboration as a direct object when it is taken as Landmark in the causative construction. It is no accident that Thrax named the accusative case the αἰτιατική πτῶσις, the ‘causative case’.
This sort of interdependence of usage and salience is, as we have seen, typical of internalization situations. Let us consider in a little more detail how internalization would be related to this issue of transitivity. Let us take as examples the two English verbs remember and reminisce. Their meanings are very similar, centrally including the concept of thought about past entities. This concept I will diagram as in 2.5.a; the landmark is represented as within the trajector’s field of attention but removed from him to a previous point along the time dimension.

In usage, however, remember is transitive, and reminisce is intransitive. Assuming (for the sake of illustration) that the two verbs had the same meaning to start with, but that the difference in usage was established, we could expect the usage to have the following effects. Any time a speaker wishes to designate a remembrance situation, he has two structures to choose between: a transitive one with remember, and an intransitive one with reminisce. If he has a specific, differentiated Landmark in mind, he will tend strongly to choose the construction with remember rather than the construction with reminisce, since it permits him to use a direct object to code the Landmark he has in mind. When he has no such landmark in mind, he will choose the reminisce construction, since then he need not mention any landmark, even to say that he doesn’t know what it was.

Thus remember will almost always be used with a specific, salient, differentiated Landmark as its direct object, and the Generality Principle predicts that those specifications about the Landmark will be internalized to the verb. Reminisce, in contrast, will be used only when there is no such landmark, and it will thus have internalized to it specifications that its landmark is non-salient, non-specific, and/or undifferentiated. These precise specifications we do find in the meanings of remember and reminisce. Transitive usage of remember tends to give it the kinds of meanings which encourage transitive usage; intransitive usage of reminisce tends to give it the meanings which encourage intransitive usage. Does the meaning determine the usage, or the usage determine the meaning? It is the chicken-or-the-egg situation once more: neither determines the other absolutely; each encourages the other strongly.

Above and beyond internalizations of this sort is the brute fact that remember consistently has a direct object whereas reminisce does not. There is an entity within remember which is constantly doing service as a e-site, and is therefore specified to be so used, whereas there is no such e-site in reminisce. Put another way: constant finding of a direct object with remember internalizes to the expectation that there will always be one. Thus the Landmark in remember becomes strongly specified (by both the Generality and the Usage Principles) as an e-site.

This is analogous to what we claimed in 2.1 and 2.2 was going on at the phonological pole in the case of affixation. Constantly finding a phonological string in the same word with a form X, with a constant phonological Relation holding between them, e.g. that of the string following X, gives rise by internalization to the expectation of finding such a string. The extrinsic Relation of X to that string thus becomes by internalization, part of the meaning of X. And that is essentially what it is to be a prefix. Here I claim that constantly finding a symbolic element in the same clause (let us say) with remember, with a constant semantic Relation holding between their predicates, namely that of the other element being the direct object of remember, gives rise by internalization to the expectation of finding such an element. The extrinsic Relation of remember to that element becomes, by internalization, part of the meaning of remember. And this is, in its essence, what it is to be a transitive verb. The verb has the specification that the most prominent Thing landmark in it is to be elaborated: there is the expectation of a direct object.

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11 This is not absolutely true: remember can be used intransitively, and reminisce, according to Webster’s Dictionary of Synonyms (p. 696), “rarely occurs as a transitive verb”. How such facts are to be treated will be discussed below; for the sake of discussion we will ignore them here.
Even more directly this is analogous to what was claimed for -er (2.1.a) and the accusative marker -m (2.1.c): -er had the internalized expectation of a process of which it was the trajector and -m had the internalized expectation of a Thing corresponding to its trajector and to which it would be suffixed, and of a Relation of which its trajector is the landmark. An accusative pronoun like hi-m has internalized to it the expectation of occurring with a verb (or other Relation) of which it is the direct object; a transitive verb like remember, I am claiming, has internalized to it the expectation of occurring with a Thing which is its direct object.

Again, let me emphasize that this is directly analogous to other kinds of meaning—they too are internalized, but from beyond the syntactic environment. They too consist of expectations. Syntactic structures are conventional cognitive structures, and, as argued in 2.1, any time any such cognitive structure is associated with a given linguistic unit, we should expect it to become part of the meaning of that unit. If we always see toes with a foot attached we expect the next toe we see to do the same, and that expectation is part of the meaning of toe; if we always see remember with a direct object attached, we expect the next occurrence to have one as well, and that expectation is part of the meaning of remember.

Again, the only argument I can see against this is the old argument from simplicity: we can predict the meaning from the linguistic context; therefore we do not need to state both. Once again let me state that I believe this is wrong: we do need to state both, because neither absolutely determines the other, and each is clearly involved in understanding the other.

I should note that the same sorts of considerations will lead us to posit an internalization of the subject in both remember and reminisce. The trajector e-site is also constantly used in both verbs, and that fact is a part of the meaning of those verbs (and most others). To diagrammatically represent this kind of internalization, the internalization of the expectation of an elaboration, I proposed in 2.1 that we use the same cross-hatching that we have used for e-sites in constructions. Thus remember and reminisce will be diagrammed as in 2.5.b, and transitive vs. intransitive Relations generally as in 2.5.c-d.

Such internalizations will, I claim, take place in any language. It does not necessarily follow that every language will develop usages which crucially depend on them, however. Some languages will systematically ignore these pieces of meaning, other languages will systematically use them for classificatory purposes of various kinds (e.g.
they might have different person or tense markers for use on transitive verbs, or different morphological shapes for transitive as opposed to intransitive stems). Such usage will further enhance the salience of the internalized e-sites, upgrading them to become quite central to the semantic structure of the verbs that have them, and being conspicuous by their absence in the verbs which do not have them.

**Summary: Transitivity is a Matter of Both Meaning and Form**

The transitivity of verbs (and other relational units), then, can be viewed as most essentially involving the internalized expectation of syntactic construction with a direct object. This is a matter of meaning; transitive verbs are different in this respect from intransitive verbs. However, that meaning is a product of syntactic usage, and the internalized Relation is a syntactic Relation. And the meaning leads to further usage which further establishes the meaning. Influential in establishing the usage in the first place and in maintaining it are a variety of factors which affect the extent to which a speaker would desire to elaborate the most salient landmark Thing in a Relation, particularly the salience and differentiation of that Thing from other landmarks and from the trajector, and also the extent to which that Thing is underspecified, prompting one to specify it further. These factors affect, but do not absolutely determine, a speaker’s choice to use a linguistic unit transitively or intransitively: for all practical purposes we have to allow free will into the situation as the final arbiter of usage. The complex intertwining relationships of all these factors make it clear that transitivity should not be viewed as only a matter of meaning or only a matter of syntactic usage, but as both.

**Transitivity is a Property of Both Verbs and Clauses**

Linguists have disagreed over whether transitivity is a property of verbs, or of larger constructions such as clauses. Again I think we are facing a false either/or dichotomy. Why should it not be a property of both? Need we predict the transitivity of verbs from that of clauses, or vice versa? Certainly it is useful and legitimate to speak of transitive clauses without specifying what verbs are in them, and it is also legitimate to speak of transitive verbs without talking about the clauses.

We have seen that the transitivity of verbs is closely, almost inextricably, related to whether or not they are used in transitive clauses. However, we have also seen that one of the most important factors in determining whether the clause will be transitive is the nature of the verb. Surely it is no accident that clauses whose verbs have meanings like HIT or POUR are transitive in language after language, whereas those whose verbs have meanings like SLEEP or EXIST are intransitive; the natural semantic tendencies which make the landmark salient and differentiable and schematic or non-salient and non-differentiable, or sufficiently elaborate, are clearly at work. Even more surely it is no accident that English clauses with verbs like sleep or exist are intransitive: besides the natural semantic tendencies we have the conventional English expectations as to the verbs’ usages involved. Clearly there is truth in both positions: the transitivity of a clause depends, in a less than absolute sense, on the transitivity of its verb, and vice versa.

A couple of things should be pointed out, however. One is that the sense in which we talk about a clause being transitive and the sense in which we talk about a verb being transitive are different. The clause is internally transitive: it has a direct object within it. The direct object is not the direct object of the clause (as we have defined direct objecthood); a direct object is external to the process of which it is the direct object. Rather it is the direct object of the verb, which is the nucleus of the clause. It is the verb that expects an

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12 Many of the comments here made will apply in different languages to units smaller than clauses, such as verb phrases. In Tetelcingo Nahuatl the relevant distinction for most of these issues is between verb stems and verbs, as the complete verb has the direct object valence of transitive stems already satisfied by an Object Pronoun or incorporated nominal (4.2, 5.1-4). The issue of transitivity at the clause level is much less important or interesting (7.2).
external relationship (is externally transitive); something outside of the verb is needed to enter into that relationship and satisfy that expectation. To be a transitive verb means to have a valence that needs to be satisfied: to be a transitive clause means to have internally such a verb with its valence satisfied.\footnote{It is possible, of course, for a higher order construction to be transitive in the same way that a verb is, demanding that its landmark be further elaborated. Thus the transitivity of verb stems in TN is satisfied by Object Pronouns or incorporated nouns within the verb (5.1-4, 4.2), but the verb itself may exhibit transitivity (7.2). It would be analogous to, in English, a verb phrase taking a direct object. (Perhaps that is what happens in Object Topicalizations. Or we might want to consider that interrogatives like what or who establish an external transitivity: e.g. What did he kill? A rabbit. But I would not want to claim that these constitute clear examples.)}

A further matter is that many of the factors pointed out above as tending towards transitivity relate to a larger constructions than just verbs. The number of the trajector or the landmark, a repetitive or irrealis or atelic construal of the verb, and so forth, will often be contributed to the overall semantic structure not directly by the verb, but by other elements (adverbs, auxiliary elements, plural markings, and the like) in the clause. And, as we have seen, these may have a strong effect on the likelihood that the speaker will use a transitive versus an intransitive construction. This makes it clear that one cannot simply talk about the nature of the verb and consider the case finished.

We could sum things up as follows: transitivity is a characteristic of clauses; transitive clauses are those which have a direct object in them, i.e. whose verb’s most salient Thing landmark is elaborated by a nominal element. This is a formal, either/or kind of distinction.\footnote{I will fudge on the either/or-ness of even this distinction below.} However, there are many elements contributing to the probability that a given clause will have a direct object. The degree of differentiation and salience of the landmark Thing, and related variations along such parameters as realisness, perfectivity, and repetitiveness, the extent to which the nature of the landmark Thing is underspecified apart from the nominal which profiles it, the scope and schematicity of the process profiled by the clause (and originally contributed by the verb), are all involved. Most of these factors crucially involve the nature of the verb. Also there is the matter of the extent to which the expectation of a direct object is internalized into the verb. Thus the specifications of the verb are far and away the most important factor in determining whether a transitive or an intransitive clause will be used. Consistent usage of a verb in transitive or intransitive clauses will (by internalization) change its meaning to the type which will encourage continued usage in such clauses. Thus the transitivity of the verb is the chief element in the transitivity of the clause, and the transitivity of the clause crucially affects that of the verb.

Transitivity is a Continuum

The question of whether transitivity is an either/or, on/off type of property or a gradation is closely related to the question of whether it is formal property or not. When one views it as a formal property (a legitimate enough viewpoint, as long as it is not presented as the whole story) then it is likely to look like an on/off matter. A particular clause has a direct object in it: it is transitive; if it did not have a direct object, it would be intransitive. However, from a number of other viewpoints such a dichotomy is seen as an oversimplification, an imposing of a dichotomous structure on a more basic gradation.

In the first place, the degree to which one can view transitivity as a dichotomy is to some extent a function of the degree to which one wants to generalize. For any one clause transitivity can be viewed as an either/or characteristic (presence vs. absence of a direct object), and one can make the trivial generalization that all clauses having that characteristic are thereby transitive. But if one wants to achieve a more fruitful generalization, to say that all clauses showing some other characteristic or combination or characteristics are transitive, then one will have to speak in terms of tendencies. It is simply not true that all clauses whose verbs have salient differentiated landmarks are transitive, or all clauses with underspecified landmarks, or all realis clauses, or all clauses whose trajector is an agent volitionally accomplishing some physical action, etc.
These things tend to correlate with transitive usage, but they do not allow absolute predictability. Similarly, any particular verb in a particular usage can be viewed as transitive in an either/or sense. If it takes a direct object in that usage, it is transitive; if it does not it is not. But if you want to look at other usages of the same verb, it will appear that sometimes it is transitive and sometimes it is not; some verbs are almost always transitive and others rarely are, many are often transitive and often intransitive. Again, the picture you arrive at is of continuum; some verbs are more transitive than others. One way out (and it has been taken) is to claim that whenever this sort of situation arises you simply have two homophonous verbs. There are many reasons why this is wrong; the most obvious and basic is that what it amounts to is refusing to generalize where generalization is clearly warranted. But making that generalization (e.g. admitting that transitive and intransitive jump are in some important sense the same verb) leads to viewing transitivity as a continuum, to being concerned not only with whether or not a given verb has a direct object in a given case, but with the frequency with which that verb takes direct objects in many cases, and (thus) the extent to which it may be expected to do so in new cases.\footnote{Another tactic commonly used has been to make the verb transitive and have an “optional” rule or rules deleting the object (without changing the meaning, of course). But this assumes that it is arbitrary when such deletions take place, and makes it unclear why it happens almost always with some verbs (e.g. run, die, sleep) and almost never with others (e.g. wring, drop, slap).}

Earlier we spoke of a number of semantic strands which enter into this process of the determination of transitivity. Transitivity is related to the degree of salience and differentiation of a Thing landmark, to the degree of underspecification of that Thing, to the scope and schematicity of the predicate involved, to the desire of the speaker to use a transitive construction, and so forth. All of these factors are matters of degree; it is to be expected that their product, namely transitive usage, and its product, the internalized expectation of transitive usage, are also matters of degree. And so they are. As we pointed out just above, it is not the case that the verbs of human languages can be divided up neatly into two groups, the transitives and the intransitives. Some verbs may be always used syntactically with a direct object; some perhaps never are, but there are very many verbs which sometimes are used transitively and sometimes not.

Take for instance our old friend the English verb run. Grammars of English are prone to list it as an intransitive verb: however it does clearly receive transitive usage in such sentences as He ran the horse down the hill or He ran the 100-yc dash. The usage which is to be internalized, making the verb intransitive, is not completely general: the Generality Principle cannot operate in full force. In the Schematic Hierarchy model we would make several subschemas of the verb run in English, one which is intransitive, one which is a Type II transitive (2.4) involving causation and one which is a Type I transitive involving enhancing the salience of the course run by construing it as a direct object. The intransitive sub-\version is clearly prototypical for this verb in English, but it is not the most schematic; the highest schema must be neutral as to transitivity. Typically, then, the transitivity of a verb is a matter of the prototypically of transitive \textit{vis-à-vis} intransitive schemas. And prototypicality is notoriously a matter of degree. Thus transitivity is a matter of degree as well.

Another matter that should be mentioned is the question of the prototypicality of the direct object. Prototypical direct objects are singular definite highly salient differentiated Things existing in three-dimensional space which are affected in their totality by the action of the verb (Hopper and Thompson 1980). But not all direct objects fulfill all those criteria. By the definition we are using, \textit{three miles} in \textit{He ran three miles} or \textit{three degrees} in \textit{His temperature rose three degrees} are probably to be taken as direct objects, but they are not prototypical direct objects: they are landmark Things, but they are not highly salient, differentiable Things in space, affected by the action, and so on.\footnote{I am not claiming that the two cases are equal. I feel intuitively that \textit{three degrees} is a less prototypical direct object than \textit{three miles}; this feeling is perhaps corroborated by the fact that \textit{three miles} but not \textit{three degrees} can be (if uncomfortably) the subject of a passive corresponding to the sentence given. Perhaps \textit{three degrees} is less Thing-like, more like an adverb such as \textit{slightly} (cf. similar non-passivizable constructions like \textit{It cost $10}, or \textit{He weighed 150 pounds} \textit{vs. He weighed 10 pounds of flour}); another strong possibility is that the three miles are more easily construed as somehow affected by being run, whereas the degrees cannot well be so construed (cf. Bolinger 1977:9-10). I do not know all that is involved; my point is simply that it is all a matter of degree.} If transitivity is defined as having (or
taking) a prototypical direct object, then even the transitivity of particular single clauses is a matter of
degree, because the prototypicality of their direct objects is a matter of degree.

Related to this issue are the various syntactic “tests” for direct-objecthood, etc., which are popular under
some frameworks (e.g., Relational Grammar). Often a nominal that elaborates a Thing landmark is not
considered to be a direct object unless it can be the subject of a passive version of the same verb, or unless it
can “float” quantifiers, or trigger reflexivization in various places. I believe that such a way of looking at
things is legitimate to some extent, in that performance in such “tests” can (and therefore should) be related
to position along various parameters involved in the prototypicality of direct objecthood. However, agreeing
that they separate more prototypical from less prototypical direct objects along relevant parameters does not
commit one to claiming that a given nominal, by failing one or more tests, cannot be correctly viewed as a
direct object. In any event, this adds one more area in which transitivity can be seen to be a matter of degree.
If transitivity is fully present only when a verb is in construction with a prototypical direct object (i.e., in
practice, with a nominal which displays fully a number of syntactic characteristics), then the verb or
construction will approach intransitivity to the degree that the nominal exhibits only some of those
characteristics or exhibits them only partially.

All of which having been said, I would like to add that languages, as well as linguistic frameworks, are
products of human thought processes, and one salient tendency of human thought is a tendency to
dichotomize, to impose (whether for convenience’ sake or in the belief that truth is thus adequately
represented) a dichotomous structure on otherwise multi-valued gradations (cf. Leech 1974:39). Many
languages (e.g. English) do not seem to make a big deal of a transitive/intransitivity dichotomy. There is
little morphology that that is sensitive to the distinction, and verbs freely occur in transitive or intransitive
constructions, almost at the whim of the speaker; novel usages involving shifting the category of a verb are
regularly accepted. Other languages, e.g. Nahuatl, make much more of the distinction. The categories of
transitive versus intransitive verbs are much more fixed: very few verbs function in both categories. There is
an elaborate system of verbal morphology, much of it having to do with changes in transitivity. Some
languages (e.g. Seri, Marlett 1980) have extensive suppletion of affixes designating such categories as
person and number, according to whether the verb stem is transitive or not. The transitive/intransitive
distinction, like gender or aspect or time or plurality or any number of other distinctions, may be virtually
ignored in one language and set up as very important in another. Thus for one language the limits of the
class of transitive verbs may be very fluid, with changes in usage reflecting slight changes in the various
factors contributing to transitivity, whereas in another those limits, through usages of the relevant sort, may
become quite fixed, coming to ignore changes of salience or differentiation of the landmark instead of
responding to them. Transitivity, like most distinctions, is not dichotomous, but a language may use it as the
basis for setting up a conventional dichotomy.

In sum, then, transitivity is a continuum, because it is a matter of meaning, which is a matter of degree,
and because it is a matter of usage, which is a matter of degree. The dichotomous view is best seen as an
oversimplification, a superimposition of a dichotomous structure on the more basic gradation. Bolinger
(1975:216) puts it as follows: “Grammarians have been prone to treat transitivity like pregnancy — a verb
cannot be a little bit that way. The truth is that everything in language is a little bit of something other than it
is.” Such oversimplification may be legitimate as long as it is borne in mind that it is oversimplification; it is
not wrong to dichotomize, but it is wrong to act as if that settled the matter.

Transitivity and Discourse

There are various other issues that deserve at least some mention here. One is the relationship of
transitivity to high-level semantic structures such as discourses. Some, particularly Hopper and Thompson
1980, have made much of this: they claim that transitivity is essentially a result of discourse structure, that
foregrounded discourse material will be high in transitivity, and that backgrounded material will be low in
transitivity; “the likelihood that a clause will receive a foregrounded interpretation is proportional to the
height of that clause on the scale of Transitivity” (p. 25). This is, I feel, overstated: one can certainly foreground a highly intransitive clause or put a highly transitive clause in the background, but in the main it seems to me that their claims are quite right, and that most of their reasoning as to why these particular semantic properties should be characteristic of foregrounded rather than backgrounded material is quite correct. Although we are to some extent comparing apples with golf balls (their conception of transitivity is such that a clause may be low in transitivity even though it has a direct object), it seems that the generalization is that the kinds of semantic properties which correlate with transitivity are also the kinds which correlate with and can be utilized for foregrounding in discourse. However, we must resist the temptation to explain transitivity away by trying to predict it absolutely from foregrounding (or vice versa): each affects and neither determines the other.

Transitivity with Respect to Oblique Objects and Other Complements

We have talked about transitivity as if it had to do only with direct objects. That is an oversimplification. The same sorts of phenomena are clearly involved in other kinds of dependencies. For languages that have indirect objects certain verbs may be transitive with respect to those indirect objects: the Spanish verbs comunicar ‘communicate, tell’ and dar ‘give’ normally have a dative object as well as an accusative object (or clausal complement). There will thus be the strong expectation of such an object as one of the specifications of those verbs. It will be remembered that the Stoics (for Greek) and Priscian (for Latin) considered as transitive verbs taking dative or genitive objects as well as accusative. The verb tell in English has (in a prototypical version) two Things specified as e-sites: the person to whom something is told and the thing told, and give similarly often takes both the recipient and the thing given as objects. And verbs may have internalized to them the expectation of other kinds of complements besides Thing complements. The verb put specifies (very strongly) as e-sites both a Landmark Thing and a location; *He put on the table and *He put the book are alike ill-formed. Verbs such as want or expect have internalized an expectation of an infinitival complement; well-established versions of like have the expectation of an infinitival or gerundial complement. And verbs may have an analogous dependency on more clearly non-nominal elements, such as prepositional phrases or other adverbial complements. Bolinger (1975:148) suggests that the English verb depend “in its usual sense would be transitive because we have to add on something”, and other verbs would have similar prepositional or “path-type” complements which they expect to have constructed with them. All of this corresponds to the insight expressed in Transformational Grammar by using the same (lexical specification) mechanism to express all requirements of this sort. These cases should be dealt with in the same way as we have dealt with transitivity with respect to direct objects: there is a substructure internalized into the verb corresponding to the external complement, of whatever type it is, which is specified as an (expected) e-site. Again, the strength of that expectation is a matter of degree, ranging from so slight as to be negligible to a very strong one.

17 From such considerations it should be clear that, as long as transitivity is not restricted strictly to cases where direct objects (the (single) most salient Thing landmark) are internalized e-sites, it makes a lot of sense to talk of di-transitivity and tri-transitivity; there is no built-in limit on the number of substructures within a verb which may be expected to be elaborated.

18 It is not the case that there is a clear division between cases of nominal complements and cases of non-nominal complements. The cases of He ran three miles and His temperature rose three degrees were mentioned previously; three miles and even more clearly three degrees can be viewed as adverbial-type path-like specifications, but they can also be viewed as Things. Infinitives and gerunds are also non-prototypical Things which behave like Relations in many ways (e.g. in often being transitive in their own right). Infinitives in particular have been claimed in CG to be path-like. Nouns like home or downtown are often used in ways approaching a path-type construal. And so forth.
Transitivity of Non-Verbal Elements

Similarly, it is an oversimplification to restrict transitivity to verbs and other processual constructions, as we have done. As Bolinger again has pointed out, adjectives such as fond and sure have the semantic expectation of a complement; “even an occasional noun shows traces of transitivity … We cannot say merely *The Aztecs were inhabitants. It means they inhabited something, and it is necessary to say what: The Aztecs were inhabitants of Mexico” (1975:148). Bolinger contrasts inhabitant with native which has a rather similar meaning in many respects but has much more freedom to occur without a complement. Similarly one might contrast perpetrator with achiever. Clearly the same sort of thing is going on as with transitive verbs, and it is good to be able to account for them both in the same way. The adjectives fond and sure and the noun inhabitant would, I claim, have internalized to them the expectation that they will be put into construction with a complement of the required sort; there will be an e-site salient within them which will be elaborated by the complement.

Such transitivity of non-verbal elements is, as claimed in 1.4, the crucial semantic difference between the classes of adpositions and of adjectives and adverbs. Adjectives and adverbs are intransitive: their landmark is usually internally specified to such a high degree that one need not further elaborate it. Adpositions, on the other hand, are transitive, expecting separate morphemes to elaborate both their trajector (subject) and their landmark (object). Thus the difference between low and below parallels the difference between intransitive descend and transitive descend (e.g. the hill). In some languages adpositions are sometimes used intransitively (e.g. English jump up, fall through, under-clothes, after-thought; German über-mensch (over-man) ‘superman’, or kommen mit (mit-kommen) (come with) ‘come along’), and when they are they become semantically identical with adverbs or adjectives, except insofar as they are felt to be extensions from a more basic adpositional meaning.

Although all these conceptualizations of transitivity are legitimate and proper, they may not be useful for certain tasks, and one may for convenience limit the term to cover only certain subcases. In the rest of this work I will generally be using the term “transitive” and its derivatives to refer only to the transitivity of verbs with respect to their direct objects. Where I use them otherwise I will try to make it clear that I am doing so.

Summary

I have claimed that:

(1) Transitivity is not a matter of form as divorced from meaning or meaning as divorced from form. In particular,

(2) Many semantic factors influence, but do not absolutely determine, whether or not a verb will be used transitively. For instance, highly salient and highly differentiated but highly underspecified Landmarks are the most likely to be elaborated by a direct object.

(3) The product of transitive usage is the internalized expectation of further such usage. A verb is transitive to the extent that such internalization has taken place, i.e. to the degree that its Landmark is specified internally to be an e-site.

(4) The strength of such specification of course influences the probability that the verb will in fact be so used. Transitive usage produces transitive meaning which produces transitive usage.

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19 Comparative constructions convert them into transitives of a particular sort.

20 Cf. Bolinger’s term “adpreps” for the verb particles (1971, chapter 2). Many analysts (e.g. Wood 1955) simply classify those particles as adverbs.
(5) Transitivity is, in different senses, a property of both clauses and verbs. Clauses are internally, verbs externally, transitive. The semantic specifications relevant to whether a verb will be used transitively (i.e. its clause be transitive) are mostly associated directly with the verb itself but may also have to do with other elements of the clause and in fact with factors completely external to the clause.

(6) Transitivity is not an either/or dichotomy, but a continuum involving gradations along a number of parameters. Languages may impose a more or less strict conventional dichotomy on this continuum.

(7) Transitivity tends to correlate with foregrounding in discourse, but neither should be used to absolutely predict the other.

(8) The relationships of verbs to oblique objects and other complements, and of non-verbal elements to their complements, involve the same kinds of factors as does the relationship of a verb to its direct object; i.e. these too should be viewed as kinds of transitive relationships.
CHAPTER III

Transitive and Intransitive Verb Stems

In Section 2.5 I claimed that the essential meaning difference between transitive and intransitive verbs was whether or not there was the expectation of a direct object, internalized from usage in constructions with a direct object. Other semantic factors, I claimed, encourage transitive usage and provide a measure of the prototypicality of the transitive usage, and transitive usage enhances those factors. But the essential thing is the usage and the internalized expectation of further such usage which it produces. Transitivity in stems was represented diagrammatically as in 2.5.c, by a cross-hatching of the Landmark (as well as the Trajector) of a verb, to signify the expectation of its use as an e-site.

In TN transitivity is a very important factor in the characterization of verb stems, and a much less important factor in characterizing complete verbs (verbals; see 7.2). Verb stems which are transitive will virtually always have their Landmark elaborated by a nominal element within the verb, usually an Object Pronoun (Chapter 5) or less frequently an incorporated noun (4.2), while intransitive stems will not. 3.a represents the Transitive Verb Stem schema, with its internalized expectation of the Landmark’s functioning as an e-site, and 3.b represents the Intransitive Verb Stem schema.

Most simple TN verb stems, then, are either strongly transitive or strongly intransitive: only a few show both transitive and intransitive usage. Most transitives are transitive with respect to the same Landmark in virtually every case; others change their Landmark in different usages. In 3.1 we will discuss such patterns of transitivity. In 3.2 we discuss the suffixes -i ‘intransitive’ and -a ‘transitive’, which appear on some stems.

3.1 Transitivity Patterns of Simple Stems

Prototypically Transitive and Intransitive Stems

In TN there are many stems with semantic specifications strongly predisposing them to transitive usage which are, as we should expect, transitive. One such is the stem mōƛa ‘hurl, throw s.t.’. It profiles a perfective process in which (prototypically) a person goes through a rather violent body motion of a particular sort (crucially involving certain arm and hand movements), with the result that a relatively small physical object, which had been in the person’s hand, initiates a violent sub-trajectory through the air away from the person. Within the base, but not profiled, is a specification (expectation) of that object’s coming

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1 I will be using the abbreviations s.t. (something) or s.o. (someone) in glosses to designate a transitive e-site; such a designation in parentheses indicates a landmark conceptually present but not specified as expected to be elaborated within the verb.
into violent contact with some sub-landmark at the end of its trajectory. Less prototypical versions would involve non-humans, a different kind of initiating motion, less violence, etc.

This is, of course, a canonically causative situation, and as we should expect, the person is selected as Trajector, while the object he causes to move away from him is selected as Landmark. The Trajector and the Landmark are both underspecified to some extent: the Trajector is specified only as a person, and the Landmark as a physical object. The combination of the Landmark’s strong salience and great differentiation from the rest of the structure with the underspecification of its nature is precisely the sort of environment in which we should expect transitive usage to grow and flourish, and it has. *mőla* is virtually always used transitively, with its Landmark elaborated by a separate nominal element.\(^2\) This fact will be internalized, as claimed in 2.5, into the expectation that the Landmark will always be elaborated: the Landmark is specified to be an e-site. For the same reasons the Trajector is also specified as an e-site. The semantic structure of *mőla* is represented diagrammatically in 3.1.a.

![Diagram of mőla](image)

There are of course many other verb stems in TN whose semantic specifications strongly predispose them to transitive usage. But there are also many stems whose semantic specifications predispose them to intransitive usage.

Consider the stem *koči* ‘sleep’. The designated process is one of an animate entity being in a temporary state of consciousness characterized by lack of contact and interaction with the world and other people, coordinated with a bodily state of repose and inactivity. Prototypically the animate entity is (as I have implied) a human; he undergoes the process in a dark, quiet room habitually used for that purpose, and his body reclines on a wooden platform (or a modern-style bed), surrounded by blankets. Often a family group will sleep together. How should we expect this sort of situation to be construed? The person undergoing the sleeping state is clearly a salient, differentiable Thing; not surprisingly he is the Trajector. What is the Landmark against which his sleeping is most clearly calculated? It is hard to say. It might be his normal mental activity, or his normal bodily activity. These are important notions for the understanding of what sleeping is, but they are not salient, differentiable, clearly Thing-like landmarks, and it would not be easy to choose one of them as clearly primary over the other. And to the extent that they are clearly salient, differentiable, and so forth, they are also satisfactorily specified: specifying anything further about their nature would be going far beyond the prototypically useful level of schematicity. Thus they are not the sort of Landmarks that would be expected to be elaborated by direct objects. What else might be able to be construed as the Landmark? It might be the room, or the bed, or so forth. These are Things that are clearly associated with sleeping. But again, which of them is to be chosen? And, also, they are aspects of the semantic structure that are prone to change in non-prototypical instances; animals sleep without them, and

\(^2\) The only exceptions of which I know (which involve noun incorporations) are dealt with in 4.2 (e.g. b-c). I am also ignoring cases where it participates in more complex causative and applicative stems (Chapter 6); since it is not profile determinant in those cases we should not expect its transitivity specifications to have to be honored.
even people do so on occasion. And, once again, they are highly specified; there would be no need to further specify them except for quite unusual purposes.

There is, in effect, no one salient differentiable clearly underspecified Thing-like landmark within the profile of the verb. It should be no surprise that the verb is never used with a direct object and is therefore intransitive. The semantic structure of a prototypical version of koči is represented diagrammatically in 3.1.b.

![Diagram of state of mental and physical inactivity]  

TR

koči

3.1.b. koči

There are also some TN verb stems which approach a prototypically transitive situation only partially, but which are, nevertheless, transitive. One such is the verb čīwa ‘do s.t.’. This is a very schematic verb, which specifies only that the trajector is actively engaged as trajector in some process. The only landmark is that process, which is hardly a prototypical Thing. However, processes can be construed as Things (that is what nominalizations are all about; we do “things” in English as well), and the process is salient, differentiable from everything else in the structure (since there is virtually nothing else), and definitely underspecified. Thus it is not surprising (though hardly predictable) that čīwa does construe the process as a Thing and is transitive.

There is another TN verb which is usually best translated by ‘do’, namely ayi. This verb is like čīwa in being very schematic, specifying only that the trajector is engaged in some process. Again, the only landmark is that process, which is salient, differentiable, and underspecified, but not strongly Thing-like. ayi, however, is not transitive. There are various somewhat subtle differences in the meanings of čīwa and ayi, which can be viewed either as causes or as results of the difference in usage. The process landmark of čīwa is more differentiated than that of ayi; one does one specific process with čīwa, whereas one might be doing several things (or prototypically one does nothing in particular) with ayi. ayi might be translated ‘be busy (with s.t.)’ or ‘be occupied’. (Compare this with the cases of remember and reminisce, discussed in 2.5.) If asked ī ti-k-čih-tika (what you-it-do(čīwa).perf-dur) “What are you doing?”, one would normally respond with ni-tekiti (1-work) “I am working” or sā ni-kā no-λαξεχά-tlāl-lya (only prox-loc 1.refl-lazy.man-ground-vr) “I’m just sitting here like a lazy man” or some other appropriate specific answer. If asked the much more common ī t-aš-tika (what you-do(ayi).perf-dur) “What are you doing? What’s up?” the reply is almost always amo-iλa (neg-something) “Oh, nothing”, or occasionally something like nā ni-ka (prox 1-be) “Here I am, I’m just sitting here”. Another difference is that the trajector of čīwa is typically quite actively involved in the process, usually giving it his attention and doing it volitionally, whereas the trajector of ayi may or may not be actively involved. Sleeping is not something you ‘do’ with čīwa, though you might with ayi; threading a needle is the sort of thing one does with čīwa but not with ayi. These distinctions are not irrelevant to each other, obviously, nor to the usage facts about the two verbs. But the chicken-or-the-egg situation is showing up once more; it is not possible to say whether the usage results from these differences or whether the differences result from the usage. Ultimately it is probably of little consequence: the crucial thing is that the two go together.

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3 The stem ayi is not transitive: it never takes an OP of any kind. However, the verbs formed from ayi are transitive, requiring clausal direct objects. This phenomenon (virtually invariant clausal transitivity) is quite rare in TN; it will be discussed in 7.2.
Two verb stems which approach the prototypically transitive situation but take different tacks in their usages are the stems *(oh)owa* ‘shell s.t. (corn)’ and *tesi* ‘grind (corn)’. Both stems designate a situation in which a person (prototypically a woman) performs voluntarily a certain kind of action (very similar in the two cases) which causes a certain kind of change in the state of the corn. In *(oh)owa* the action is that of repetitively rubbing an ear of dried corn over a rough surface (usually the surface of an *ōlō-teçon-te-ƛ* (cob-raspy-stone-abs), a round flat object made of corn cobs tied together: the corn is rubbed over the ends of the cobs) in order to loosen the kernels of corn from the cob. The end product is *tla-ð-ƛ-i* (unspec-shell-nr-abs) ‘shelled corn’. In *tesi* the action is that of grinding prepared corn (*nixtamal* or *neš-tamal-i*) by placing it on a *meƛa-ƛ* (a three-legged concave platform made of volcanic rock) and pushing a *meƛa-pil-i* (metate-child/projection-abs, a spindle-shaped grinding stone made of the same volcanic material) repetitively over it, until it becomes *teš-ƛ* (grind.perf-abs), the dough used for making tortillas or tamales. In both cases a clearly causative situation is involved. The person doing the shelling or grinding (the trajector of the causing Relation A) is the obvious choice for Trajector and the corn (the trajector of the caused Relation B) is the obvious choice for Landmark. However, the nature of that Landmark is clearly specified. Particularly for *(oh)owa* one knows that the Landmark is dried corn still on the cob. For *tesi* it is almost always corn, though other things as well (e.g. tomatoes) can be ground. Thus these are not completely optimal situations for transitive usage. *(oh)owa* is transitive whereas *tesi* is not. The sentence *tesi* ‘she grinds corn’ is well-formed; *ki-tesi* (it grind) is not. *(oh)owa* (it-rdp-shell) ‘she shells it (some corn)’ is well-formed; *oh-owa* is not. Either transitive or intransitive usage might be expected with these verbs; neither is really predictable. Particularly I could not have predicted that the usage would be distributed as it is: I would have expected that the fact that other substances than corn can be ground would have given *tesi* a stronger predisposition to transitivity. However, the usage is as it is, and internalizes to the expectation of more such usage. The corn in *(oh)owa* is specified to be an e-site, while that of *tesi* is not. These two stems are diagrammed in 3.1.c.

3.1.c. *(oh)owa*  

![Diagram](image)

Stems with Both Transitive and Intransitive Usage

English permits a large amount of overlapping between the classes of transitive and intransitive verbs; some examples were examined in 2.4, including *jump, run, drive*. TN, in contrast, rarely permits such overlapping. Most verb stems are either transitive or intransitive, and their usage does not vary. There are two kinds of exceptions, however, which we will examine briefly. One type involves noun incorporations of the type classified in 4.1 as “secondary object” incorporations. An otherwise intransitive verb stem may

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4 *tesi* does occasionally occur with the unspecified OP * المشكلة*; this is not necessarily equivalent with transitive usage; see 5.4.

5 One consideration that might seem to favor Transitivity more in the case of *(oh)owa* is that its Landmark is more clearly Thing-like; an ear of corn is indisputably one Thing, whereas the nixtamal is mass-like. Yet the focus of *(oh)owa* is not on the individual ears; in *(oh)owa* (it-rdp-shell) ‘she shells it’ the “it” is almost always a quantity of ears rather than a single one, and the most common usage by far is with the Unspecified OP * المشكلة*, clearly avoiding designation of a single specified ear. And in grinding there is usually a countable-Thing-like limited amount (usually a bucketful) of nixtamal to be ground.
have incorporated to it a noun corresponding to a more or less salient landmark within it. For instance, the verb stem ḡehko ‘ascend’ is almost always used intransitively, but it has two relatively uncommon incorporational forms, ilwikak-ḡehko (heaven-ascend) ‘ascend into heaven/the sky’, and kʷah-ḡehko (tree-ascend) ‘climb a tree’ (4.1.c-d). It would be at least reasonable to claim that ilwikak and kʷaw in these two constructions are actually direct objects. They fit the criteria we have given reasonably well: they are Thing predicates elaborating the most salient landmark of a process. (The status of the landmark as “most salient” in each case is guaranteed by the elaboration itself. Cf. he told me vs. he told the story.) Thus the stems ilwikak-ḡehko and kʷah-ḡehko can be viewed as internally transitive, i.e. they are transitive in the sense that the clause john hit Bill is a transitive clause: they have within them a stem and its direct object. But they (the complex stems) are not transitive in the external sense in which the verb hit is transitive: there is within ilwikak-ḡehko and kʷah-ḡehko no expectation of a direct object external to them; they have no Thing within them which is specified to be an e-site.

What of the transitivity of the stem ḡehko? If these incorporated nouns are direct objects, then it follows that ḡehko is being used transitively. In what sense then can it be claimed that ḡehko is an intransitive verb? In the sense explicated in 2.5, that it does not have internalized to it a strong expectation of a direct object. These two constructions (ilwikak-ḡehko and kʷah-ḡehko) are of quite rare occurrence, and, ignoring clausal transitivity, they are the only cases I know of where ḡehko is used transitively. These usages, when counterbalanced against the tremendous mass of cases of intransitive usage of ḡehko, are not enough to internalize any strong expectation of an elaboration. I would certainly claim that ḡehko has a version in which the destination of the ascent is specified as an e-site and one in which the means of the ascent is specified as an e-site, but I would also claim that those sub-versions are relatively non-salient, non-prototypical ones.

By contrast, in what are more properly called transitive verb stems in TN, the weight is all on the other side; there is one designated Landmark which only very rarely fails to be elaborated by a direct object. The difference is ultimately one of degree, but the grammatical system of TN makes it as nearly a strict dichotomy as one could expect a language to do, using one class of verbs transitively in almost every case and the other intransitively, with only a very few in-between cases. And verbs like ḡehko, in spite of occasional transitive usages like ilwikak-ḡehko and kʷah-ḡehko, clearly fall on the intransitive side of that dichotomy.

Another consideration for these cases is that, even if there were the internalized expectation of the elaboration of these landmarks, there is the question of how prototypically Thing-like these landmarks are; to some extent they can be considered as path or location-type specifications, more adverbial than nominal in character. Incorporated elements can have virtually any relation to the verb: it is clearly not the case that only direct objects, or only landmarks, or only Things on which the verb is dependent (“arguments” as they are often called), can be incorporated (cf. 4.1, Appendix E). Thus these cases are not clear examples of stems being used both transitively and intransitively with respect to direct objects.

The other kind of case in which stems receive both intransitive and transitive usage is limited to a very few instances. In these cases the same stem does quite clearly receive both transitive and intransitive usage. For instance, the verb stem čihča means ‘spit’; normally it is intransitive, profiling the action of expelling something from the mouth (prototypically saliva) but not requiring (or permitting) that the Thing expelled be elaborated. Sometimes the stem is used transitively. This usage involves a change in scope from the simple construal to a more complex Type III construal (2.4), where the profile of the verb is expanded to include a

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6 Note that čihča and all the other stems discussed in the next few paragraphs, except asi, end in a; one could claim that in the transitive usages this is the transitivizing -a discussed in 3.2. By the same token, I suppose, the final i on intransitive asi could be taken as the transitivizing -i of 3.2. Neither move achieves any impressive degree of explanation, however.

7 Verbs built on the stem čihča may have this Thing elaborated at the clausal level; see 7.2.
Relation resulting from the process otherwise designated. The profile now includes the motion of the spittle and its striking on or near a Landmark (often a person). The stem means ‘spit at s.o.’ rather than simply ‘spit’. The two construals are diagrammed in 3.1.d.

The verb would have in its highest schema a neutralization of these two construals, with the landmark specified neither as elaborated nor as not elaborated, but as possibly elaborated.

Another case of a verb stem having a transitive version that is a Type III extension of the intransitive version is that of wah-wan-owa (rdp-bark-vr?), an apparently onomatopoeic stem meaning either ‘bark’ or transitively ‘bark at s.o.’.

Somewhat similarly, the verb stem pīnāwa ‘be ashamed, shame’ can be used either transitively or intransitively. Used intransitively it designates the process of experiencing the social and psychological state we call shame or being ashamed. Normally there is some sort of cause for this state (perhaps prototypically it is one’s own inappropriate actions or words), and some specification of this may be in the base of the stem, but it is not profiled. In its transitive usage pīnāwa is expanded to a Type II construal (2.4), in which some Relation causes the experiencing of shame. The trajector of that Relation is selected as overall Trajector, and the experiencer of the shame is the Landmark. Intransitive pīnāwa means ‘be ashamed’; transitive pīnāwa means ‘shame s. o.’. These two construals of pīnāwa are diagrammed in 3.1.e. Again, the highest schema for the verb would specify a profiling of the shamed person but would allow for extending the scope of the profiling to the causing Relation and for the shift of Trajector and Landmark that that involves.

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8 Transitive pīnāwa contrasts with two other transitive forms built on the same root in specifications about the nature of the causing Relation (Relation A): pīnāwa alone designates one person shaming another by inappropriate or unworthy actions or words for which the Landmark is likely to be held responsible: thus a child kt-pīnāwa his father. kt-pīnāw-tiya (him-shame-vr) specifies that the Trajector causes the Landmark to feel ashamed by mocking him, and kt-pīnāw-tiya (him-shame-caus) can refer to any mode of causing shame. The constructions involved in these latter two forms are dealt with in Appendix G and Chapter 6.
Another case of a verb stem with a Type II transitive version is *péwa*, which intransitively means ‘begin’, but transitively means ‘shove, goad s.t./s.o.’, i.e. make him start moving (in one of two specified manners).

A more complex example is that of *asi* ‘reach’. Used intransitively, *asi* designates the process (either imperfective or perfective) of the trajector’s arriving at some destination. Perfectively the predicate implies motion towards that destination, temporal occupation of all points between the source and the destination;\(^9\) imperfectively it implies simultaneous occupation of all points from the source to the destination. Thus a man may *asi* (‘reach, arrive at’) some town after travelling all day towards it, or he may reach up to two meters on the wall when he stretches his arm up. The predicate is quite vague as to who or what is arriving or reaching; a road may arrive at or reach to a town, a quantity of food may not reach for enough to satisfy a group of hungry people, time itself may not reach the necessary extent for the accomplishment of a task. *asi* may be translated ‘be enough’ for some of these cases. In all these construals *asi* is intransitive.\(^10\) When used transitively the base is much more highly specified: the trajector is (prototypically) a person, the reaching involves extending the arm towards an object and grasping it with the hand. The stem is best translated as ‘grasp, take s.t.’.\(^11\) This is a case of an intransitive verb becoming transitive without a clear change in scope, but with a change in schematicity; it is parallel to the different versions of *jump* in *he jumped (over the fence)* and *he jumped the fence* (2.4.b vs. 2.4.c). Two intransitive versions and the transitive version of *asi* are diagrammed in 3.1.f.

As with *čihča* and *pināwa* (and *wah-wanowa* and *péwa*), the most schematic version of *asi* will neutralize the distinctions among the sub-versions, permitting the Landmark (the destination of the reaching) to be elaborated, but not requiring it.

**Stems With More Than One Transitivity Pattern**

Another sort of pattern is one in which a transitive stem can take one of two kinds of objects. One example of this type is the stem *maka* ‘give’, which can take as its direct object either the thing given or (much more commonly) the person to whom it is given. The difference is like an expansion of the scope of the predicate in the Type III manner (2.4) to include a person who is affected by the action otherwise

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\(^9\) The whole journey from source to destination is specified in the base, but only the final portion, the arrival, is profiled.

\(^10\) This intransitivity is not predictable; the destination is a natural choice for a landmark, it is often a differentiable salient Thing-like entity, and it is clearly not specified to the prototypically desirable level. And at the clause level the verb *asi* may be used transitively, but the stem is not used transitively in this construal. Notice that in English we have both intransitive (*arrive* and *be enough*) and transitive (*reach*) verbs which we can use to code these situations; some situations (e.g. *arriving at* or *reaching a town*) can be coded by a verb from either category.

\(^11\) In the Spanish of the area the verb *alcanzar* ‘reach’ is used very similarly. Whether this was influenced by the Nahuatl usage or influenced it I do not know.
designated, namely the action of yielding up possession of a Thing which is the Landmark. When the person is included in the scope of the verb he is (naturally enough) selected, in preference to the Thing given, to be the Landmark. These two versions of *maka* are diagrammed below in 3.1.g.

![Diagram of *maka* versions](image)

### 3.1.g. Two versions of *maka*

In a couple of other cases such an extension in scope is marked by a reduplication: *ki-šikova* (it-bear) means ‘bear, endure it’, but *ki-ši-šikova* (him-rdp-bear) means ‘outlast him, beat him (in a contest)’, where the direct object is not the suffering borne but the opponent who is also bearing, and to a large extent causing, it. Similarly *ki-čakwa* means ‘he closes it (e.g. a door)’, but *ki-čah-čakwa* (him-rdp-close) means ‘he shuts it (a house) up, he shuts him up (e.g. in prison)’, where again the results of the shutting are viewed as extending beyond what happens to the door. It seems probable that the reduplication, which elsewhere means repetitiveness or intensity, is iconic for extending the scope of the predicate, or for making its effects more widespread.\(^{12,13}\)

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\(^{12}\) Note that the English verb particle *up* sometimes means completeness (*eat up your food*) or heightened intensity (*brighten up, heat up*) or extension to a wider field or scope (*shut the door up, shut the house up, shut s.o. up in jail*).

\(^{13}\) Another group of candidates for inclusion in the class of stems with more than one transitivity pattern are the cases of noun incorporations discussed in 4.2 (e.g. 4.2.e) where the incorporated noun causes a change in transitivity. Also the cases in 4.1 where the secondary landmark of a transitive verb is elaborated might be included as well; cf. the discussion earlier in this section of such cases with intransitive verbs.
3.2 -a ‘Transitive’ vs. -i ‘Intransitive’

There is a strong tendency in TN for verbs that end in \textit{a} to be transitive and for verbs ending in \textit{i} to be intransitive. And in fact there are a number of pairs which mean very much the same thing except that they differ in transitivity and in ending with an \textit{i} versus an \textit{a}. For these cases we should propose contrasting suffixes -\textit{i} and -\textit{a}. For instance, the stem \textit{ƛapān-}\textit{i} is intransitive, meaning ‘break, burst, split, shatter’, and its transitive counterpart, \textit{ƛapān-a} means ‘break, burst, split, shatter s.t.’. \textit{ƛapān-a} is clearly a causative version of \textit{ƛapān-}\textit{i}, standing in relation to it as a Type II construal to an intransitive Type I construal (2.4). \textit{ƛapān} alone, I would claim, is neutral between the two, permitting but not demanding that the causing action be included in the profile. The three construals are parallel to those of \textit{pīnāwa} (3.1.e) above, except that each has a different phonological manifestation and two of them are analyzable. Compacted diagrams of the forms are given below (3.2.a to 3.2.c).

One way to look at the morphemes -\textit{a} and -\textit{i}, then, is to consider them to mean simply ‘transitive’ and ‘intransitive’. They would be added on to the stem and would form a new stem which would fit their specifications, that is, they would be profile determinants in the constructions. Aside from the determining of the profile, however, all the semantic specifications are contributed by \textit{ƛapān}, making it the heavier component semantically. These constructions are diagrammed in 3.2.d and 3.2.e.

However, the transitive -\textit{a} may involve more than simply transitivizing. The particular mode of the transitivizing, the specification that the predicate is expanded to a Type II construction, may be a part of the meaning. In other words, -\textit{a} may be a causative rather than just a transitivizer, specifying not only that the stem be transitive but that it become transitive specifically by expanding the scope to include a causing Relation and picking the trajector of that Relation as its Trajector. This analysis would be diagrammed as in 3.2.f.
The -a in 3.2.f is clearly an elaboration of the -a in 3.2.e. Almost all cases of -a in TN are causatives, fitting the pattern of 3.2.f, of twenty-two clear cases of -a and -i in Brewer and Brewer 1962, twenty-one would fit that pattern, at least on some readings. However, there are a couple which do not fit that pattern. One is the case of čikāw-i (strong-intrns) ‘be(come) strong, get tough’ and čikāw-a (strong-trns) ‘make s.t. strong, tough, get tough with s.o., resist s.o.’. The reading ‘make s.t. strong, tough’ is of course a causative and would parallel 3.2.f, but ‘get tough with s.o., resist s.o. is different. Here instead of the Trajector causing someone or something else to be strong or tough, we have the Trajector himself being or becoming tough, with his toughness having an effect on someone else. It is a general fact about strength (or toughness) that it often causes the frustration of those who try to overcome it: this is perhaps the chief way we discern strength. Thus the stem čikāw will have a fairly salient internalized specification of the toughness causing someone or some force to be frustrated. In čikāw-a the scope of the profile is expanded to encompass that Relation of frustration, and its experiencer is taken as Landmark of the verb. In fact, what we have is a Type III construal; the Trajector’s accomplishing of the process designated by the root čikāw causes a Relation to obtain with respect to the Landmark. I have diagrammed this in 3.2.g. As will be made clear in 6.3 and 6.5, this is essentially an applicative construal. And it is clear that the -a in 3.2.g is, like the -a in 3.2.f, an elaboration of the -a in 3.2.e, specifying the way in which the transitive construal is accomplished, where 3.2.e leaves it unspecified.¹

¹ Another likely analysis of čikāw-i and čikāw-a would have -i and -a as verbalizers, with the stem čikāw being adjectival rather than verbal (cf. čikāw-a-k (strong-?-adj) ‘strong’, pl čikāh-ki (strong-pl, where -hc is the expected reflex of wč). Other such verbalizations of adjectives by causative/applicative suffixes will be seen in Chapter 6 (6.2.5, 6.6). However, it is hard to tell in cases like this if the stem is basically adjectival or verbal: there is a whole class of adjectives ending in -ńaw-a-k (with pl. -ńih-ki) which have similar verbs meaning “make s.t. Adj.”, and in most cases it looks like the adjective is derived from the verb rather than vice versa. (Historically the ending -k which I am glossing ‘adjective’ was probably a participial ending; čikāw-a-k presumably meant “strengthened” rather than “strong”).

In any case, notice that in CG the difference between such a process of verbalization of an adjective and transitivization of an intransitive verb is minimal; the only thing that need be changed for -a to work with adjectives is to remove the temporal specification in the e-site so as to specify only a Relation rather than a processual Relation, a minor enough change.
Thus -a has both a causative meaning and an applicative meaning. The causative meaning involves imposing a Type II construal on the root, and the applicative meaning involves imposing a Type III construal on the root. Of these two the causative meaning is clearly prototypical, occurring in the vast majority of the forms. Both meanings are sub-versions of the schematic transitive meaning, which specifies transitivity but does not specify by what type of construal that transitivity is achieved.²

² It should be said that it is very probable that -a and -i function historically if not synchronically in a number of places other than where they alone bear the contrast between transitive and intransitive stems. For instance, there is a contrast between two verbalizers, -owa and -owi, (which occur on virtually all borrowed Spanish verbs, for instance), where -owa is transitive (ki-posār-owa him-happen-vr ‘it happens to him’, or ki-kostār-owa him-cost-vr ‘it costs him’) and -owi is intransitive (posār-owi ‘it happens’, or kostār-owi ‘it costs (a lot)’). It is probable that the final -a and -i on these suffixes is the same -a and -i we have been discussing. Stems ending in a almost invariably change that a to i before the applicative -liya (6.5-6) and certain other suffixes: there is some evidence that there is something like an active-inactive or transitive-intransitive meaning shift going on. For instance, the change occurs somewhat sporadically before the nominalizer -li ‘-ness’. čikāw-a-li-s-li (strong-trns?-ness-abs) means ‘active strength, strength to do’, whereas čikāw-i-li-s-li (strong-trns?-ness-abs) means ‘passive strength, toughness, strength to endure’. More examples and discussion are given in Tuggy 1979b. Almost all Class III verbs (including almost all those ending in the verbalizer owa) are transitive and end in -a, and many other verbs in other classes which are transitive end in -a. The -a’s in Class III verbs, however, also seem to have a meaning ‘imperfective’ as well as ‘transitive’, and may actually be analyzed as “underlyingly” -aw (B.1, Tuggy 1979b). Though there are a good many transitive verbs which end in -i, they are far outnumbered by stems in -a, and it is quite unusual for an intransitive stem to end in -a. However, the intransitive stems čika ‘cry’, siewa ‘be cold’, and even a few Class III stems such as tepos-lāl-owa (iron-dirt-vr) ‘rust’, čolowa ‘flee’, and čiknowa ‘hiccup’ do break the pattern. I do not propose to delve deeply into these relationships, but I think many or all of them are
involved with each other, and it is probable that there are higher schemas for both -o and -i, of which the ‘transitive’ and ‘intransitive’ versions themselves should be taken as prototypical elaborations.
CHAPTER IV
Noun Incorporations

A common type of verb stem in TN and in Aztecan generally involves the incorporation of a non-verbal element. This element phonologically precedes the verb stem and is somehow connected to it semantically; typically it elaborates some facet of its semantic structure. Different kinds of stems are incorporated; adverbs, adjectives, postpositions, even verbs, but nouns are by far the most common, both in terms of the number of forms with incorporated nouns and in terms of the number of different noun (and verb) stems involved. They also are the cases that most directly concern us, as they often affect the transitivity of the verb, either by satisfying it or by otherwise changing it. The incorporation of verbs is also important in that it exhibits many parallels with verb-suffix constructions such as the causative and applicative constructions of Chapter 6.

The incorporation of adverbs, adjectives, postpositions, and verbs is discussed in Appendix E. Here in 4.1 we will discuss noun incorporations which do not affect the transitivity of the verb stem, and in 4.2 those which do. 4.3 contains a summary discussion of both classes.
4.1 Noun Incorporations Which Do Not Change Transitivity

Nouns profile Things, and verbs profile Relations, typically Relations of Things. When nouns are incorporated into verbs they bear a variety of different relationships to those verbs. The most common pattern, Object Incorporation as it has been called (Sadock 1980, etc.), identifies the noun with the most salient landmark of the verb stem. However, there are a number of other patterns in which the noun is identified with other Things which figure more or less saliently in the semantic structure of the verb stem. We will examine some of these cases, beginning with the ones most different from the prototypical Object Incorporation, and progressing towards the more prototypical ones. The discussion of actual Object Incorporations and other noun incorporations which affect the transitivity of the verb stem will be deferred until 4.2.

Manner Incorporations

Consider the stem *iknō-ihta* (orphan-see) ‘have pity on s.o.’, The noun stem designates a person, prototypically a non-adult person, whose parents and others who might have helped sustain him are dead. It has in its base rather strong specifications of what people’s attitudes towards the orphan are and/or should be, namely pity and compassion. The verb stem (*ihta*) designates primarily the process of seeing, perceiving visually. Internalized to it to some extent may be a specification of the emotion that may accompany seeing something. This is not a salient specification within the semantic structure, however. The verb stem does have sub-structures within it which could be easily identified with the profile of *iknō*, namely the landmark and trajector, but they are emphatically not so identified: the verb does not mean ‘see an orphan’ nor ‘an orphan sees’. Thus neither structure has a salient sub-structure corresponding to the profile of the other. The most salient connection seems to be that the non-salient specification of the seer’s emotion towards the seen Thing is schematic for the non-profiled (but rather salient) specification of the appropriate attitude towards the profiled Thing in *iknō*. The connection is tenuous, but seems to be all there is: the complex stems means, more or less, ‘see s.o. with the accompanying emotion which is appropriate when one sees an orphan’. Of course the usage itself will tend to greatly enhance the salience of the emotive element in both *iknō* and *ihta—ihta* comes near to meaning ‘feel’, and *iknō* to meaning ‘pitiable person’—but the connecting substructures are not initially salient in either stem. *ihta* is the profile determinant: the structure as a whole designates a process rather than a Thing; it means ‘see s.o. as you would an orphan’ rather than ‘an orphan as he would be seen’ or any such thing. Phonologically neither stem is affixal to the other; both can be and usually are used outside of such constructions, and thus neither will have strongly internalized the

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1 In the case of an *iknō-sowāƛ* (orphan—woman-abs) ‘widow’ it is the woman’s husband who is dead; the word can also designate an old maid, an adult woman whose parents and close kin are dead. There is also a form *iknō-kic̸āƛ* (orphan—male-abs) which means ‘old bachelor’ or ‘widower’.

2 The initial of *i* of *ihta* is a “supportive i” (Andrews 1975:8), which normally does not appear postvocically (by a Deletion and/or failure of Epenthesis, A.6), cf. *mo-hta* (refl-see) ‘see oneself’. This behavior is paralleled in other cases, where, as here, a stem-initial supportive i remains following a vowel-final incorporated element (e.g. *mo-łāk-a-ihta* (refl-man-see) ‘they accept, condone each other’), or where an incorporated element with an initial “supportive i” retains it following a vowel-final prefix, and the vowel final prefix fails to lose its vowel as expected (A.8) (e.g. *mo-liht-łapana* (refl-stomach-split.open) ‘undergo abdominal surgery’ vs. *no-lhe* (my-stomach) ‘my stomach’). These facts fit in well with the claim that incorporated elements are not tightly bound phonologically to the elements with which they occur; they are juxtaposed rather than affixed.

3 Cf. English *view with favor/compassion/distaste, look on s.o. with pitying eyes*. This meaning is further established by the parallel constructions *kahyel-ihta* (disgust-see) ‘despise, hate s.t./s.o.’ and *féčwí-ihtá* (miracle-see) ‘marvel at, be amazed at s.t.’ (see below), and thus probably exists as a fairly well established sub-version of *ihta*. To the extent that this sub-version is differentiated from others, it probably tends toward suffixality, as it has a stem preceding it in all these cases.
between the corresponding subportions of the two predicates indicates correspondence of the emotion but not (necessarily) correspondence of the trajector or landmark of that emotion. Rather than appearing as ɨhtə, the trajector is at least directly: the stem does not mean ‘dung comes out’. However, I do think there is a weak sort of a valence from the trajector of emotion associated with orphans did in (or mass Thing) and would be an appropriate elaboration for the Trajector of transitive. There is no reason why this should surprise us, given the kind of semantic integration between the two stems: ɨkno is not the profile determinant, and the specificat ions it adds to those of the verb stem are not of the types that tend to influence transitivity.

As another instance, ɠʷiɬa-kiša (dung-emerge) means ‘come gushing out’. ɠʷiɬa designates a Thing (a mass Thing) and would be an appropriate elaboration for the Trajector of kiša, but does not elaborate it, at least directly: the stem does not mean ‘dung comes out’. However, I do think there is a weak sort of a valence from the trajector of kiša to the profile of ɠʷiɬa, in the sense that ɠʷiɬa is seen as a potential trajector

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4 As with ɀeke- намақа (E.a) and many other incorporational constructions we discuss, it is actually the case that both stems have the internalized expectation of a phonological string in the appropriate place: ɨkno expects -ɬi ‘diminutive’, and ɨhtə expects an OP (Chapter 5), but neither fits the expectations of the other.

5 It is just possible that ɨkno also may have meant ‘pity’ and that ‘orphans’ is derivationally ‘pitiable person’. However, it does not clearly mean that independently in TN, so the analysis given above would presumably be necessary anyway. In any case, it is also probable that it is rather derived, as Campbell and Langacker (1978:274) suggest, from PUA *kwuna ‘husband’ (> ‘widow’ etc.). Similarly tēwawi may possibly be derived from something like ‘marvel’. However, another strong meaning of the stem is ‘omen, bad omen’, and I think the notion of portentousness or threatening significance was probably more central than that of amazement.
for kīsa. There is salient in the structure of kʷiƛa (though not profiled) a specification of its emergence from a body, and, since diarrhea is chronic and since observation of the defecation of farm animals is an everyday occurrence, an internalized specification of its sudden and somewhat forceful emergence. Thus there is a correspondence between the profile of kīsa and a fairly salient sub-structure within kʷiƛa. The process within kʷiƛa is actually more highly specified than within kīsa, however, both the landmark from which the emergence takes place and the suddenness and force of it are specified. Thus the canonical type of valence where the substructure is elaborated by the other stem does not hold here, and there is no clear dependency established. Once again, the verb stem is profile determinant: the complex stem designates a kind of emergence rather than a kind of dung. The composite structure will profile the process of emergence, superimposed on the emergence of dung, but with the specification that dung is only a potential, not (usually) the actual, trajector of the process. It also is specified (to some extent as an automatic consequence) that the landmark from which dung emerges is only a potential landmark. The phonological integration remains the same: juxtaposition within a word but not affixation of either element to the other. As with iknō-ihta, there is not change in the transitivity of the verb: kīsa is intransitive and kʷiƛa-kīsa remains so. There is no reason why we should expect anything different.

Time, Purpose, and Predicate Nominative Incorporations

The preceding noun incorporations may be thought of as “manner” incorporations; the composite structure differs from the structure of the verb stem mainly in that the manner of execution of the process is different. Most other incorporated nouns correspond more directly to some sub-structure within the verb stem. Those sub-structures are many and various and of differing degrees of salience. The noun lahko ‘half, noon’ fits into the time specification of the verb stem λa-kʷa (unspec-eat) ‘eat, take a meal’, giving the complex stem lahko-λa-kʷa which means ‘eat at noon’. The dependency is still not really clearly from the verb to the noun; the time of eating is not really central to λa-kʷa, and the range of typical activities in which one might engage at noon (and which would help define lahko) includes eating. However, there is still a fairly clear sub-structure within the verb which the noun elaborates. Another such case is that of yowa-l-nenh-nemi (dark(en?) → rdp-walk, i.e. night-walk) ‘walk around at night’. The semantic structure of this stem is diagrammed in 4.1.b.

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6 Potentially, schematicity, salience, scope, and other factors can all be thought of as different dimensions, often parallel but somewhat independent as well, along which the threshold of a predicate can be extended until a matchup is made with whatever other predicate is in the construction. The extensions in 2.4 were along the dimension of scope, we have seen many extensions along the dimensions of schematicity and salience. I have tried (and will try in the rest of this work) to avoid reference to the dimension of potentiality wherever I can, but it is certainly there, and is very important. I think that it is such a valence that would be emphasized in translating kʷiƛa-kīsa as ‘come out as if it were dung’ or ‘come out as dung would’. Notice that there is probably such a connection between iknō and ihta as well: iknō-ihta can be taken to mean ‘see s.o. as if he were an orphan’.

7 There are other such incorporations. One interesting type is exemplified by mih-kā-tēka (die-prtcp? → lay/throw) ‘throw s.o. down unconscious, make s.o go unconscious and throw him down’. The form mih-kā would be the expected word-medial form of mih-ki (die-prtCP) ‘dead man’; if it is taken as such the analysis is much like that of kʷiƛa-kīsa, but with the noun corresponding to the landmark of a transitive rather than with the trajector of an intransitive verb stem. Again there is the idea of potentiality involved; it is not ‘throw down a dead man’, but ‘throw s.o. down as if he were a dead man’. Another way to look at it is to view the noun as designating the final state achieved by the action of the verb, much like the adjectival constructions such as wehka-λa-kāliya (far-down-land-er) ‘sink s.t. deep down’ in E.C. The landmark, after being thrown down, is as if he were dead. Compare also kʷaθ-nigw-x (wood-harden-intrans) ‘harden, stiffen’, where the trajector becomes hard, as if it were wood. The kā in mih-kā-tēka is almost certainly cognate with the kā which appears on some forms I have analyzed as “adverbial” incorporations in Appendix E, fn. 2. It is not hard to see how one type could grade into the other. Another interesting type of noun incorporation has the noun stem B ‘eye’ incorporated in it, originally with the meaning (I would hypothesize; it is still construable) ‘to the eye of the beholder’. Thus B-tem-i (eye-be.full-intrans) means ‘be to all appearances full’. This usage is very well established, occurring with many stems. From there the meaning has developed to something like ‘more or less, pretty much’. B is also used that way with adjectives: B-kos-ti-k (eye-yellow-conn-adj) means ‘yellowish’. This version of B is so common that I have no hesitation in claiming that it is well established as a prefix with the meaning ‘more or less’, with a Relational e-site internalized to it semantically, symbolically related to an expected internalized following phonological stem.
4.1.b. yowal-nehnemi

In keč-tekoyāw-a (neck-pierce-trns) ‘make a neck-hole in s.t.’ the noun stem keč corresponds to a Thing which is intended to go with (into) one of the landmarks of the verb (namely the hole which is made in the Landmark). This we might call a “purpose” incorporation.

There is a fairly large group of forms with an incorporated noun and kīsa ‘emerge’, where kīsa means essentially ‘come out as, become’. These parallel the adjective incorporation māšo-kīsa (tame-emerge) ‘become tame’ discussed in Appendix E. Most of them involve in their base the functional assembly of the fiesta and of people masquerading, playing different parts in the pageantry. A person is said to kīsa the part that he plays. Among the forms are bakēroh-kīsa (cowboy-emerge) ‘be’ a cowboy, šantāko-kīsa (St.James-emerge) ‘be’ a Santiaguero, and horiyoh-kīsa (Jew-emerge) ‘be’ a Jew. To the extent that kīsa has the meaning ‘become’, the achieved state is a salient sub-part of its structure. In these cases the achieved state is that of being (for a time) a Thing, and that Thing structure in the verb stem can function as an e-site for the incorporated noun. This one might call a “predicate nominative” incorporation.

Secondary Object Incorporations

In other cases the incorporated noun directly elaborates a salient landmark within the base. (I am here excluding cases of elaboration of the most salient landmark of a transitive verb, which will be discussed in 4.2.) The intransitive stem lehko ‘ascend’ provides a couple of interesting examples. This stem profiles the movement of the trajector upwards from a landmark (usually some horizontal stretch of ground) to a new location (another landmark), often by means of climbing up something (a third landmark). None of these landmarks is ever elaborated by an Object Pronoun (Chapter 5), and although the second (the new location) may be elaborated at the clausal level by a nominal (e.g. o-lehko-k mēšihko (past-ascend-pret Mexico) ‘he went up to Mexico City’), the other two cannot; they require a prepositional or postpositional phrase to explicate them. I do not know of any case where a landmark of the first sort is elaborated by an incorporated noun, but the second landmark, the new location, is elaborated by the noun stem ilwikak ‘heaven, the sky’ in the stem ilwikak-lehko ‘ascend into heaven’. Similarly the third landmark, the Thing climbed in the ascent, is

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8 Intention is, at least in part, a heightened kind of potentiality. Thus an intended landmark is naturally more salient than a merely potential one. Another possible analysis for this form would have keč designate the location of the piercing: the piercing is done at the neck of the garment. (In the prototypical case it is simply the middle of the piece of cloth that will be a kotō ‘cotón, poncho’.)

9 This construction may have been influenced by the Spanish salir de N ‘emerge of N) ‘play the part of a N’. This particular usage in TN seems pretty clearly productive.

10 Actually it is possible that these nouns should be construed as Relations, as in 6.2.e, elaborating the achieved state as a whole rather than just its landmark. In effect, this analysis would claim that these are adjectives rather than nouns.
elaborated by the noun stem kʷaw ‘tree’ in kʷah-lehko ‘climb up a tree’. The structures of ilwikak-lehko and kʷah-lehko are diagrammed in 4.1.c and 4.1.d.\textsuperscript{11}

There are many other such cases, in which an incorporated noun elaborates a landmark in an otherwise intransitive verb. Some examples are listed below.

<table>
<thead>
<tr>
<th>temo</th>
<th>‘descend’</th>
<th>ėĭn-temo</th>
<th>‘go back down to the bottom’</th>
</tr>
</thead>
<tbody>
<tr>
<td>descend</td>
<td>‘descend’</td>
<td>bottom-temo</td>
<td>‘go back down to the bottom’</td>
</tr>
<tr>
<td>pano</td>
<td>‘pass’</td>
<td>ā-pano</td>
<td>‘pass through water’</td>
</tr>
<tr>
<td>pass</td>
<td>‘pass’</td>
<td>water-pass</td>
<td>‘pass through water’</td>
</tr>
<tr>
<td>tēm-i</td>
<td>‘be full’</td>
<td>ēĩka-tēm-i</td>
<td>‘be full of people’</td>
</tr>
<tr>
<td>brim-intrans</td>
<td>‘be full’</td>
<td>man-brim-intrans</td>
<td>‘be full of water’</td>
</tr>
<tr>
<td>ēõka</td>
<td>‘cry’</td>
<td>ēĩ-sā-yō-ēõka</td>
<td>‘cry tears’</td>
</tr>
<tr>
<td>cry</td>
<td>‘cry’</td>
<td>eye-water-abstr-cry</td>
<td>‘cry tears’</td>
</tr>
<tr>
<td>ēìkʷinĩ</td>
<td>‘jump’</td>
<td>tepān-ēìkʷinĩ</td>
<td>‘jump (onto) a/the wall’</td>
</tr>
<tr>
<td>jump</td>
<td>‘jump’</td>
<td>wall-jump</td>
<td>‘jump (onto) a/the wall’</td>
</tr>
</tbody>
</table>

Incorporated nouns not only elaborate secondary landmarks of intransitive verbs (i.e. landmarks that don’t quite make it to such a level that they make their verbs transitive) but also secondary landmarks of transitive verbs, where there is a clear “most salient” Landmark. The transitive stem tepešiwiya ‘dump s.t. off, spill s.t. out’ (etymologically tepeši-wiya (cliff-caus) ‘throw s.t. down headlong, cause s.t. to plummet’ cf. Andrews 1975:471) profiles a process in which the Trajector causes the Landmark to fall from a relatively great height. A prominent sub-landmark in the structure is the Thing off from which the Landmark is caused to fall. This landmark is elaborated by a number of noun stems in different incorporations. For instance: koč-λapec-tepešiwiya (sleep-bed-dump) ‘dump s.t. off the/a bed’, puro-tepešiwiya (donkey dump) ‘dump s.t. of the/a donkey’, kʷah-tepešiwiya (tree-dump) ‘knock s.t. down from a tree’, te-kolāl-tepešiwiya (stone-corral-dump) ‘knock s.t. off the tecorral (stone encircling wall)’, and so forth. In each case the incorporational stem is transitive, with the Thing being dumped off specified as its Landmark. The stem is also sometimes used without any incorporated noun, and with the same Landmark functioning as an e-site. The structure of puro-

\textsuperscript{11} The questions of whether and in what sense ilwikak and kʷaw are direct objects and lehko transitive in these constructions are discussed in 3.1.
tepešiwiya is diagrammed in 4.1.e. (The more basic perfective form, without the final a, of the stem is actually used in the diagram.)

4.1.e. puro-tepešiwiya

There are many other transitive stems in which an incorporated noun elaborates a secondary landmark of a transitive verb stem. Some examples are given below.

<table>
<thead>
<tr>
<th>Stem</th>
<th>Base Form</th>
<th>Example</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>aki-ya</td>
<td>fit-trns</td>
<td>soki-aki-ya</td>
<td>mud-fit-trns</td>
</tr>
<tr>
<td>nelowa</td>
<td>mix</td>
<td>soki-nelowa</td>
<td>mud-mix</td>
</tr>
<tr>
<td>pil-owa</td>
<td>hang-trns</td>
<td>korus-pil-owa</td>
<td>cross-hang-trns</td>
</tr>
<tr>
<td>tōka</td>
<td>bury</td>
<td>λāl-tōka</td>
<td>earth-bury</td>
</tr>
<tr>
<td>tēmī-tiya</td>
<td>be.full-caus</td>
<td>pōk-tēmī-tiya</td>
<td>smoke-be.full-caus</td>
</tr>
<tr>
<td>kōwi-ya</td>
<td>buy-applic</td>
<td>sapātos-kōwi-ya</td>
<td>shoe-buy-applic</td>
</tr>
<tr>
<td>lāli-ya</td>
<td>ground-vr</td>
<td>tōnal-lāli-ya</td>
<td>sun-ground-vr</td>
</tr>
<tr>
<td>pīki</td>
<td>insert</td>
<td>neš-pīki</td>
<td>embers-insert</td>
</tr>
<tr>
<td>šīlan-pīki</td>
<td>bosom-insert</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In the stem sapātos-kōwi-ya the incorporated noun elaborates what would have been the primary Landmark of the bare stem kōwa ‘buy s.t.’ but is a sub-landmark of the applicative stem kōwi-ya ‘buy s.o. (s.t.)’. It would be possible to consider this as a true Object Incorporation by construing the constituency as [sapātos-kōwi]-ya, but the stem sapātos-kōwa does not occur independently, to my knowledge, suggesting that constituency is more likely to be taken as sapātos-[kōwi-ya]. Notice also that in the last form, šīlan-pīki ‘put s.t. in your bosom’, the sub-landmark is a part of the trajector. There is within the semantic structure of šīlan

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12 A fairly salient feature of puro is the specification that the designatum is a beast of burden, i.e. the expectation of a load carried on the donkey’s back. The Landmark of tepešiwiya is put in correspondence with that load in at least the prototypical construals of puro-tepešiwiya This correspondence is indicated in 4.1.e.
‘bosom’ the specification of a person of whom the bosom is a part. In the construction the trajector is identified with that person; the trajector is construed as putting something in his own bosom rather than any other bosom. This construction parallels patterns we will see later where the incorporated noun elaborates the active zone of the trajector or landmark.

“Cause” Incorporations

Another pattern is one in which the incorporated noun is a cause of the occurrence of the verb. An example is āpis-miki (famine-die) ‘starve’. The noun stem āpis profiles a Thing which is a situation (not a prototypical Thing) in which a person or many people have nothing to eat and as a result suffer great hunger. Fairly salient within the structure is the specification that the death of the sufferer(s) is expected unless food can be gotten. The verb stem miki profiles the process of a person, the trajector, becoming dead or ceasing to become alive, however you want to look at it. Internalized as a part of the predicate miki, but not profiled, is a specification of some Relation or situation causing the death. That causing entity is elaborated by the noun stem āpis, and the person starving is equated with the trajector of miki, the person dying. Also in correspondence are the specification of resultant death in āpis and the profile of miki, though neither one is an elaboration of the other. As usual, the verb stem is the profile determinant; the combined structure profiles a process rather than a Thing. I have diagrammed āpis-miki in 4.1.f.*

*āpis-miki has another meaning, in which miki means not so much ‘die’ as ‘suffer’. I would expect that this meaning arose through hyperbolic usage, saying e.g. n-āpis-miki ‘I’m dying of starvation’ to express suffering from hunger even though death is scarcely imminent. It is doubtless relevant that without some such weakening of the meaning the verb miki will not be often used in first or second person in present or past realis tenses: dead men do not customarily talk, nor do people usually talk to dead men. In any case, the prototypical meaning of āpis-miki has come to be more or less ‘be very hungry’. This construal of miki as ‘suffer’ seems to be specialized to forms with incorporated nouns, and to be the primary meaning in those cases (see further examples below). The sub-version with this meaning, then, will have internalized to it the expectation of a preceding stem, and is on its way to becoming a verbalizing suffix. In this it parallels object incorporating stems like piya ‘have’ in the sense ‘take care of (a herd or crop)’ (see discussion in 4.3).

Some further “causing” noun incorporations, including a number of forms with miki, are given below.

<table>
<thead>
<tr>
<th>miki</th>
<th>‘die’</th>
<th>tōnal-miki</th>
<th>‘suffer from the heat’</th>
</tr>
</thead>
<tbody>
<tr>
<td>die</td>
<td></td>
<td>sun-die</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ľawēl-miki</td>
<td>‘be very angry’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>anger-die</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ľe-miki</td>
<td>‘be very hot’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fire-die</td>
<td></td>
</tr>
</tbody>
</table>
In each of the cases with miki the noun is elaborating either the causing Relation within the verb or a salient Thing in the causing Relation, the oversupply or lack of which causes suffering. ā-miki does not mean ‘drown’ as one might expect; rather than the oversupply of water it is its lack that tends toward death. It is as if instead of āpis-miki the form were *λa-kʷa-l-miki (unspec-eat-nr-die = food-die) for ‘starve to death’. That form is not part of the TN inventory, to my knowledge. This sort of thing is essentially unpredictable: it reiterates within the causing type incorporations the same point that should be coming clear from the fact of there being so many different kinds of incorporations, namely that essentially any Thing in a verb stem’s semantic structure, whether very salient or relatively insignificant, is eligible for elaboration by an incorporated noun, and it is a matter of usage whether or not it is so elaborated. Notice too that in the final form, kama-pīnāwa we have another case like that of šīlan-piki where the incorporated noun implies a person, and that person is identified with the trajector. It is the trajector’s own mouth that causes him to be ashamed, not someone else’s.

**Trajector’s Active Zone Incorporations**

There are other forms in which nouns are incorporated with miki where the semantic integration may be of a slightly different nature. An example īš-miki (eye-die) ‘be dazzled, have your eyes hurt by the sun or bright light’. One can look at this as another case of a causing noun, construed somewhat as in the English my eyes are killing me. But another way to look at it is that the eyes are the active zone of the trajector. The trajector is “dying” or suffering, and the specific part of him that is doing so is his eyes. Similarly in ihyō-miki (breath-die) ‘suffocate’ either the lack of breath is the cause of the death, or the breath is the part of the person that is dying or suffering. (ihyō-miki incorporates a second noun in the form ā-ihyō-miki (water-breathe-die) ‘drown, come near drowning’. This is a “causing”, or perhaps a locational secondary object, noun incorporation.)

If these cases are interpreted as “active zone of the trajector” incorporations, they are following a quite common pattern, some examples of which are given below.
As is no doubt obvious and certainly natural, the incorporated noun in these cases is almost always a body part. Taking as an example kōkō-posāwi, we can see that the portion of the trajector that is actively involved in swelling is his throat. The semantic structure is diagrammed in 4.1.g.

As is no doubt obvious and certainly natural, the incorporated noun in these cases is almost always a body part. Taking as an example kōkō-posāwi, we can see that the portion of the trajector that is actively involved in swelling is his throat. The semantic structure is diagrammed in 4.1.g.

<table>
<thead>
<tr>
<th>ēn-temo</th>
<th>‘back down’</th>
<th>yōl-kwēlāni</th>
<th>‘be very afraid, have your heart jump for fear’</th>
</tr>
</thead>
<tbody>
<tr>
<td>bottom-descend</td>
<td></td>
<td>heart-tremble</td>
<td></td>
</tr>
<tr>
<td>tē-lawēl-miki</td>
<td>‘have an angry face’</td>
<td>sāl-toh-topoka</td>
<td>‘(food) have sand in it, making cracking noises when you eat it’</td>
</tr>
<tr>
<td>face/eye-anger-die</td>
<td></td>
<td>sand-rōp-crack/snap</td>
<td></td>
</tr>
</tbody>
</table>

As is no doubt obvious and certainly natural, the incorporated noun in these cases is almost always a body part. Taking as an example kōkō-posāwi, we can see that the portion of the trajector that is actively involved in swelling is his throat. The semantic structure is diagrammed in 4.1.g.

<table>
<thead>
<tr>
<th>mā-kwē</th>
<th>‘grab s.t. with your hand (/take your hand)’</th>
<th>mā-pālē</th>
<th>‘stir s.t. by hand’</th>
</tr>
</thead>
<tbody>
<tr>
<td>hand-grasp/take</td>
<td></td>
<td>hand-beat/stir</td>
<td></td>
</tr>
<tr>
<td>mā-pēwā</td>
<td>‘push s.t. with your hand’</td>
<td>mā-kāwā</td>
<td>‘let s.t. drop from your hand’</td>
</tr>
<tr>
<td>hand-urge</td>
<td></td>
<td>hand-leave</td>
<td></td>
</tr>
<tr>
<td>kama-piyya</td>
<td>‘hold s.t. in your mouth’</td>
<td>kama-kāwā</td>
<td>‘let s.t. drop from your mouth’</td>
</tr>
<tr>
<td>mouth-have</td>
<td></td>
<td>mouth-leave</td>
<td></td>
</tr>
<tr>
<td>tē-pol-ōwa</td>
<td>‘lose s.t. from sight’</td>
<td>lāpis-kʷiłowā</td>
<td>‘write s.t. in pencil’</td>
</tr>
<tr>
<td>eye-lost-vr</td>
<td></td>
<td>pencil-write</td>
<td></td>
</tr>
<tr>
<td>ĕ-le-wāta</td>
<td>‘toast s.t.’</td>
<td>kalābōs-mīnī</td>
<td>‘nail s.t., pierce s.t. with nail(s)’</td>
</tr>
<tr>
<td>fire-dry</td>
<td></td>
<td>nail-puncture</td>
<td></td>
</tr>
</tbody>
</table>

The semantic structure of kama-piyya ‘hold s.t. in your mouth’ is diagrammed in 4.1.l.h.
It might be thought that the last three examples should be in a different category, that of “instrument”, and I do not mind if they are put there. But one way of construing instruments is as an extension of the wielder, and particularly as his active zone with respect to some process; and if instruments are construed in this way the forms become parallel. Or, to come at it from the other side, body parts can be conceived of as wielder, and particularly as his active zone with respect to some process; and if instruments are construed in this way the forms are to be related.\(^{13}\)

All of these forms could also be analyzed as actual subject incorporations, with a change in the verb stem to designate a new trajector. This possibility is discussed in the next section (4.2).

### Landmark’s Active Zone Incorporations

Finally, there is a large class of incorporations where the noun corresponds to the active zone of the landmark of a transitive verb. Some of these are given below.

<table>
<thead>
<tr>
<th>nakaš-tišăna</th>
<th>‘yank s.o. by the ear’</th>
<th>kwaš-peš-owa</th>
<th>‘shave s.o. bald’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ear-pull</td>
<td></td>
<td>head-slick-vr</td>
<td></td>
</tr>
<tr>
<td>kšo-pil-teš-teki</td>
<td>‘cut s.o.’s toe (off)’</td>
<td>kama-teriksa</td>
<td>‘kick s.o. in the mouth’</td>
</tr>
<tr>
<td>foot-child-rdp-cut</td>
<td></td>
<td>mouth-kick</td>
<td></td>
</tr>
<tr>
<td>ihte-šapš-ša</td>
<td>‘perform an abdominal operation on s.o.’</td>
<td>keš-paš-owa</td>
<td>‘strangle s.o.’</td>
</tr>
<tr>
<td>stomach-break.open-trns</td>
<td></td>
<td>neck-squeeze-vr</td>
<td></td>
</tr>
<tr>
<td>álmah-nōča</td>
<td>‘encourage s.o.’</td>
<td>mo-těm-pol-owa</td>
<td>‘stutter’</td>
</tr>
<tr>
<td>soul-talk.to</td>
<td></td>
<td>refl-lip-lose-vr</td>
<td></td>
</tr>
<tr>
<td>yeka-momoyoka</td>
<td>‘tick s.o.’s nose’</td>
<td>yōl-passolwa</td>
<td>‘pester s.o.’</td>
</tr>
<tr>
<td>nose-tickle</td>
<td></td>
<td>heart-bother</td>
<td></td>
</tr>
<tr>
<td>tōka-paša</td>
<td>‘change s.o.’s name’</td>
<td>nakaš-ihta</td>
<td>‘see s.o. from the side’</td>
</tr>
<tr>
<td>name-change</td>
<td></td>
<td>ear-see</td>
<td></td>
</tr>
<tr>
<td>mah-pil-paš-owa</td>
<td>‘smash s.o.’s finger’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>hand-child-stone?-squeeze-vr</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

\(^{13}\) This category fades into other categories besides “instrument” as well. For instance, consider aš-ihyō-kalaki (water-breath-enter) ‘plunge into water’. In one sense holding one’s breath is simply a concomitant of entering the water. Ihyō-kalaki would be, on this view, a sort of manner incorporation. On the other hand, the trajector’s breath may well be that aspect of him on which he must most actively concentrate when entering the water, and in this way similar to the active zone incorporations we have been seeing.
As a nice contrast between Trajector’s and Landmark’s Active Zone incorporations, consider the fact that the same situation can be coded by either of the following two forms:

<table>
<thead>
<tr>
<th>pantalō-ol-olowa</th>
<th>‘roll up s.o.’’s pantlegs’</th>
<th>kamiša-ol-olowa</th>
<th>‘roll up s.o.’’s shirtsleeves’</th>
</tr>
</thead>
<tbody>
<tr>
<td>trousers-rdp-roll</td>
<td></td>
<td>shirt-rdp-roll</td>
<td></td>
</tr>
</tbody>
</table>

The semantic structure of *kama-teriksa* is diagrammed in 4.1.i.

4.1.i. *kama-teriksa*

Note that all these stems are transitive, so to make them reflexive an explicit reflexive must be used. Even though e.g. *ki-mah-pil-te-pāč-owa* can be translated ‘he smashes his finger’, it must be taken to mean ‘he smashes someone else’s finger’. Where the person smashes his own finger one must use a reflexive: *mo-mah-pil-te-pāč-owa* (refl-hand-etc.) means ‘he smashes his own finger’. As before, the preponderance of the cases involve body parts as the active zones. And, again, it might be claimed that forms like *pantalō-ol-olowa* are not really examples of active zones but of something else. Yet again I think a parallel will be seen. An article of clothing can be seen as a part of the wearer—compare the Romance construction in which the owner of clothing or body part is usually considered “affected” by what happens to it and thus is coded by a dative pronoun, e.g. Spanish *le pisó el vestido* (*dat he.stepped.on the dress*), ‘he stepped on her dress’ (cf. Tuggy 1980). Or, again, to the extent that the clothing is considered as being something different from the person, so can the body parts. It is a matter of which construal is chosen; neither one is forced.

As with the trajector’s active zone incorporations, these can also be analyzed as involving direct object incorporation with a change of transitivity. This possibility will be discussed in the next section (e.g.4.2.d).

**Summary**

In sum, we have seen a number of cases in which a noun stem is juxtaposed to a verb stem and in the same word with it.

- In some cases, such as *iknō-ihta* (*orphan-see*) ‘have pity towards s.o.’ (4.1.a.) the semantic connection involves a correspondence between two relatively non-salient facets of the meanings of the stems. This and other examples have the noun or some substructure within it in correspondence with a manner specification in the verb stem.
- *yowa-l-neh-nemi* (*dark-nr-rdp-walk*) ‘walk around at night’ (4.1.b.) and *keč-tekoyāw-a* (*neck-pierce-trns*) ‘cut a neck-hole in s.t.’ were examples of the noun corresponding to a time or purpose specification in the verb.
• Examples such as bakēroh-kīsa (cowboy-emerge) ‘play the part of a cowboy’ illustrated a “predicate nominative” incorporation.

• Incorporations of secondary landmarks such as location and instrument were illustrated for intransitive verbs by stems such as ilwikak-ľehko (heaven-ascend) ‘ascend into heaven/the sky’ (4.1.c) and kʷah-ľehko (tree-ascend) ‘climb a tree’ (4.1.d) and for transitive verbs by puro-tepešiwyu (donkey-dump) ‘dump s.t. off a donkey’ (4.1.e) and other stems.

• Incorporations of a noun associated with the causing of the process designated by the verb stem were illustrated by āpis-miki (famine-die) ‘starve to death’ (4.1.f) and other forms. Some of these may be termed “instrument” incorporations.14

• In another group of incorporations the noun elaborates the active zone of the trajector; among these were kōkō-posāwi (throat-swell) ‘have one’s throat swell’ (4.1.g) and kama-piya (mouth-have) ‘hold s.t. in one’s mouth’ (4.1.h).

• Finally, there are cases where the noun elaborates the active zone of the Landmark of a transitive verb; examples were given including kama-teriksa (mouth-kick) ‘kick s.o. in the mouth’ (4.1.i).

What all these have in common is the following:

(1) The verb is the profile determinant; the final structure is a process rather than a Thing.

(2) There is a correspondence between some substructures of the two structures. This is, as we claimed in 1.5, the most basic ingredient in valences, and the only one that always exists (Langacker 1981a).

(3) Prototypically (i.e. in all the cases presented after ƛahk-ƛaDkʷa ‘eat at noon’ (4.1.b)) the profile of the noun as a whole is in correspondence with some Thing sub-structure in the verb stem, making the verb stem dependent on the noun stem, as in a canonical predicate-argument valence. The only thing unlike a predicate-argument valence is that the Thing in the verb stem is not clearly profiled.

(4) The specifications of transitivity in the verb stem are maintained in the composite structure. Transitive stems continue to expect a direct object elaborating the same landmark, and both transitive and intransitive stems continue to expect a subject marking the same trajector. These last two characteristics are, as we shall see in the next section, untrue of perhaps the majority of noun incorporation constructions.

Mardirussian 1975 attributes to Perlmutter and Postal (1974b) the statement that “instruments, Locatives, Temporals, Benefactives, etc., cannot incorporate.” It should be clear that such a statement can be maintained only by defining incorporation to exclude those cases where anything else is linked with the verb like direct objects and the subjects of intransitives are. Cf. Sapir’s genteel reaction (1911:255-257) to a similarly limited definition of Kroeber’s: “Without denying the abstract right to set up such a definition, it would seem that the combining of a morphologic requirement with an independent syntactic one [i.e. that the noun be a direct object] yields, on general principles, a definition of too narrow a scope for the discussion”: object incorporations are best considered “a particular class of the more general type of noun-verb compound verb.”
4.2 Transitivity-Changing Noun Incorporations

Object Incorporations

Probably the most common type of incorporation, rivaled only by incorporation of the active zone of the direct object of a transitive verb stem, is Object Incorporation, incorporation of the direct object itself, that is, incorporation of a noun which corresponds to the Landmark as a whole rather than just to its active zone.

As an example let us examine šītoma-namaka (tomato-sell) ‘sell tomatoes’. The structure of namaka ‘sell’ is described in connection with E.a; it is transitive, with the seller profiled as trajector and the goods he sells as the primary Landmark. The version of namaka we will be concerned with is notionally imperfective, denoting repeated or customary selling.1 šītoma designates, to paraphrase an old definition, “the well-known vegetable”; our English word tomato comes from the Nahuatl via Spanish. It is ungrounded; it is the bare stem ‘tomato’ rather than a full nominal ‘the tomato’ or ‘some tomatoes’ which is incorporated (cf. 7.1 for nominals), and it is vague as to singularity vs. plurality (cf. the discussion of “common number” in D.1). In the semantic integration of the two stems, šītoma elaborates the Landmark of namaka. As we might expect, the resultant composite verb stem is intransitive: as we saw in 2.5, when the nature of the landmark is clearly specified within the verb stem, transitivity is not expected. The nature of the substance exuded is specified within the English verb stem sweat, so we do not expect that landmark to be elaborated; the nature of the goods sold is specified within šītoma-namaka, so we do not expect any further elaboration of that landmark either. From a different perspective, we can say that the landmark valence of namaka is satisfied: šītoma is a direct object. šītoma-namaka is like the verb phrase sell-tomatoes: it is transitive in the internal sense of having a direct object within it, but intransitive in that it does not expect a direct object external to it: no landmark within it is (still) specified as an e-site.

The verb is, as always, profile determinant: the stem means ‘sell tomatoes’, not ‘tomatoes that are sold’. šītoma, we noted, does not specify plurality; nevertheless, since people rarely sell tomatoes one at a time, the expectation is internalized that the tomatoes are plural. (This matter is discussed further in 4.3.) Phonologically, as we have come to expect, the two stems are juxtaposed without either one being affixed to the other.2

The structure of šītoma-namaka is diagrammed in 4.2.a.

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1 This contrasts with the construal of namaka in ēteka-namaka (E.a), which is notionally perfective. The question of why this difference obtains is discussed in 4.3. It is also the case that the verb in this construal need not designate actual selling; the offering of goods for sale seems to be the crucial element. This nuance is not represented in 4.2.a.

2 Actually namaka is commonly (probably even productively) used with a wide variety of incorporated objects, and a quite salient version of it will have internalized within it the expectation of a preceding noun stem. -namaka is to that extent on the road to being a kind of verbalizing suffix. Cf. the difference between book-seller and book-buyer.
There are many other stems parallel to šítoma-namaka, in which the incorporated noun elaborates the landmark, satisfying its valence and producing an intransitive verb stem. Some examples are given below.

<table>
<thead>
<tr>
<th>Stem</th>
<th>English Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ā-saka water-carry</td>
<td>‘carry water’</td>
</tr>
<tr>
<td>kal-čīwa house-make</td>
<td>‘build a house/houses’</td>
</tr>
<tr>
<td>λaškal-to-tōn-iya</td>
<td>‘heat tortillas’</td>
</tr>
<tr>
<td>tortilla-rdp-hot-vr</td>
<td>λa-ō-l-kowa unspec-shell-ed-buy</td>
</tr>
<tr>
<td>šītoma-namaka</td>
<td>‘buy (shelled) corn’</td>
</tr>
<tr>
<td>λa-ō-l-če-ţelowa</td>
<td>‘winnow corn’</td>
</tr>
<tr>
<td>unspec-shell-ed-rdp-shake</td>
<td>ēlō-teki corn.ear-cut</td>
</tr>
<tr>
<td>šītoma</td>
<td>‘cut ears of corn off stalks’</td>
</tr>
<tr>
<td>lamb-tataka earth-scratch</td>
<td>‘dig, scrape dirt’</td>
</tr>
<tr>
<td>lamb-kakawa-kopîna</td>
<td>‘pull up peanuts’</td>
</tr>
<tr>
<td>soki-pāla mud-beat/mix</td>
<td>‘mix mud’</td>
</tr>
<tr>
<td>tepān-čīwa wall-make</td>
<td>‘build a wall/walls’</td>
</tr>
<tr>
<td>teh-te-kopîna rdp-stone-yank</td>
<td>‘pull up stones’</td>
</tr>
<tr>
<td>puroh-piya donkey-have</td>
<td>‘take care of donkeys’</td>
</tr>
<tr>
<td>čîboh-piya goat-have</td>
<td>šítoma-piya tomato-have</td>
</tr>
<tr>
<td>šítoma-ēwa</td>
<td>‘guard the tomato crop (e.g. from thieves)’</td>
</tr>
<tr>
<td>tomato-lift</td>
<td>kʷah-pehpena wood-gather/choose</td>
</tr>
<tr>
<td>neš-keça ash-stand</td>
<td>‘gather (fire)wood’</td>
</tr>
<tr>
<td>‘stand together (in a bucket), the lime (from ashes) and corn for making neš-tamal-i, i.e. tortilla dough’</td>
<td></td>
</tr>
</tbody>
</table>

The last example is interesting in that only one of two conceptually present and apparently equally salient landmarks is specified as a direct object, but that is enough to satisfy the valence.

The Object-piya examples are interesting in that in them piya has the specialized sense ‘take care of, guard’, which it does not have elsewhere: ki-piya (it-have) always means ‘he has it (them)’. The Object-piya, Object-namaka, and Object-kowa constructions, all exemplified above, appear to be productive. These matters are discussed in 4.3.

**Elaboration of a Secondary Landmark Causing Intransitivity**

In all the preceding examples the noun elaborates the main Landmark of a transitive verb stem and the composite stem is intransitive. This is the prototypical kind of transitivity change that is effected by noun
incorporations. But there are also other interesting changes of transitivity that occur in noun-incorporating stems.

In a couple of cases the incorporation of a secondary landmark causes intransitivity. This is a quite different thing from Object Incorporations like those above: they abolish transitivity by satisfying it; these cases abolish it without ever satisfying it. The clearest example is tōč-mōƛa (rabbit-hurl) ‘shoot rabbits’. The stem mōƛa was discussed in 3.1 (3.1.a); it will be remembered that it is transitive, expecting the elaboration of the Thing hurled by the trajector. The stem is also used of shooting, with the bullet being its Landmark. In the base, but not profiled, is specification of that Landmark flying through the air towards a sub-landmark and often, particularly if the Trajector is a good shot, actually hitting it. In this construction that sub-landmark is elaborated by the noun stem tōč ‘rabbit’. The structure is diagrammed in 4.2.b.3

4.2.b. tōč-mōƛa

This elaboration of a secondary landmark is quite parallel to, for instance, the elaboration of the secondary landmark in puro-tepešiwiya ‘dump s.t. off a donkey’ (4.1.e), but that stem remained transitive: one still expected specification of what was dumped off the donkey. If this case were parallel it would mean ‘hurl (or shoot) s.t. (to be specified) at a rabbit’ rather than simply ‘shoot rabbits’. But it means the latter. Why is this?

At one level, of course, it needs no justification. It is because it is. It has been used in this way, and usage, by the Usage Principle, engenders the kinds of meanings which will cause further such usage. But why was it used in that way? At least a couple of reasons are probably behind it.

(i) Once the rabbit is explicitly in the structure, it is easily taken to be the most salient Landmark: the projectile hurled towards it pales into relative insignificance. Causing this salience are at least the animacy of the rabbit and the strong likelihood that the trajector (and usually, therefore, the speaker and hearer) will care more about hitting the rabbit than about what he hits it with. Contrast this with puro-tepešiwiya, where knowing that something was dumped off a donkey does not particularly lessen our interest in what it was, and where the trajector will usually be pursuing purposes with regard to the cargo rather than with regard to the donkey. Introducing the rabbit explicitly, then, heightens the salience of its connection with the hurling, and thus accomplishes something very much like, if not identical to, a Type III extension of scope (2.4). It is not surprising that when the nominal me is brought explicitly and (therefore) saliently into the picture in a Type III construction with jump, any obstacle over which the jumping took place (a Type I

---

3 Although I am still boldfacing the verb as profile determinant, notice that it is only partially schematic (as indicated by the dashed schematicity arrow) for the composite structure. This matter is discussed at the end of this section.
Landmark) is no longer very salient as a landmark. This helps make *They jumped me the garbage cans they’d been hiding behind unacceptable; similarly ??They ran him down three miles is deviant. In just the same way it is not surprising that when the rabbit is explicitly and saliently introduced in tōč-mōła the Thing hurled becomes less salient as a landmark, helping make *ki-tōč-mōła ‘he hurls it at a rabbit’ unacceptable.

(ii) Perhaps even more importantly, once it is known that the Thing at which some Thing else is hurled is a rabbit, it becomes pretty clear what it is that is hurled. People do not normally throw crockery or basketballs or even stones at rabbits, but only bullets. Thus the meaning of mōła becomes narrowed to a specific kind of hurling, namely shooting, and in this specific version the nature of the erstwhile main Landmark is highly specified and therefore unlikely to be elaborated. Compare the questionable status of English *he threw with the much greater acceptability of he threw to first base.

(iii) This narrowing of the meaning of mōła to ‘shoot’ has other relevant aspects beyond specifying what kind of Landmark (i.e. hurled Thing) is used. Shooting is different from other types of hurling in several important ways. Perceptually a bullet is a very non-salient landmark: it is not touched or felt directly by the hurler as a rock or a ball would be, and its small size and terrific velocity mean that it is rarely if ever seen during an episode of shooting. Also the devastation wrought by its impact, and the knowledge that humans might suffer that devastation, help make the target a more salient landmark than the projectile, reinforcing the reasons for salience given in (i) above. Compare the fact that in English the prototypical object for shoot is the target, not the bullets or arrows.

Thus it is not terribly surprising that tōč-mōła is intransitive even though mōła is transitive and tōč does not fill its Landmark valence. This is by no means a predictive explanation, however; a language that makes as strong a distinction as TN does between transitive and intransitive stems will often override quite strong motivations of these sorts and preserve the transitivity of a stem. All I hope to have done is to diminish the unexpectedness of this pattern, which is, to be sure, a quite minor one in the language.

The only other examples that have come to my notice are tōtō-piya (bird-have) ‘take care of a rice crop’, and ye-molōni-ya (bean-blossom/boil-caus) ‘cultivate beans’. In tōtō-piya we have the same version of piya which we discussed earlier in this chapter, meaning ‘take care of a herd or crop’. In taking care of anything, a salient sub-landmark is likely to be the Thing(s) that would likely damage the Landmark if such care were not taken. Such a sub-landmark in the functional assembly of raising a rice crop is elaborated in this construction by the noun stem tōtō ‘bird’. The resultant stem is intransitive; the Landmark is never overtly specified to be a rice crop, nor it is represented by the 3 pers sg OP ki- ‘it’. Perhaps this fact is related to the fact that piya with this meaning never takes a (specified) OP as its direct object, or perhaps it is so obvious to the Tetelcingans as not to need mentioning that if its birds you’re worried about, it must be a rice crop that you’re protecting. (Of course anybody knows that you wouldn’t be herding birds!)

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4 Another factor may be that the stem mōła when used with λa- ‘unspecified object, s.t./the usual thing’ (5.4) almost always means ‘shoot’. Since shooting has the target as a strongly salient landmark, for the psychological and perceptual reasons gone into above, it would not be surprising to find that people had reanalyzed the λa- as referring to the targets rather than the bullets. Also there may have been influence from Spanish, where tirar (throw) in the sense of ‘shoot’ regularly takes as its only object a dative pronoun designating the person or other Thing shot at. Then, since λa- in many respects functions as a schematic incorporated noun (5.4), the construction λa-mōła, now meaning ‘shoot (at) things’ rather than ‘hurl the usual thing, i.e. bullets’, would easily and directly sanction formations such as tōč-mōła. Another partially sanctioning pattern may have been the Bodypart-mōła constructions discussed in the next paragraphs.
The stem molōniya (blossom/boil-caus) with a specific OP always means, as far as I know, ‘boil it’, but with the unspecified object marker ƛa- it means ‘cultivate’.5 Apparently the Thing that is caused to boil or flower is the soil which is fluffed up by hoeing or cultivating it. ƛa-, then, designates ‘the usual thing’, i.e. the soil. The crop planted in the soil which is being cultivated is a secondary landmark, yet elaborating it creates an intransitive stem in much the same way that elaborating the target of mōla creates an intransitive stem. Note that in English we can speak of hoeing the beans when we are “really” hoeing the weeds which are growing among the beans.

Changes in Which Direct Object is Expected

There is a pattern closely related to the one we have just seen, which involves shifting the transitivity rather than abolishing it.

mōla again appears with an incorporated noun in the stem kši-mōla (foot-hurl) ‘shoot or throw (s.t.) at s.o.’s feet/lower legs’. Unlike tōč-mōla this stem is transitive: it expects elaboration of the person whose feet or lower legs are involved. But notice that this is not the expected Landmark of mōla; we should expect elaboration of the Thing hurled. Like tōč in tōč-mōla, kši in kši-mōla elaborates the target, which is a secondary landmark. Like tōč, kši by being elaborated gives greater prominence to the target, tending towards if not actually effecting a Type III construal of the predicate. However, it does more than that; it specifies that target as part of a person. Like all body parts, kši is a relational noun, having very salient within its base a body, of which it is a part and relative to which it is defined. That body is prototypically a human body, which gives it even greater salience. An automatic consequence of incorporating kši is the introduction into the structure of a salient, differentiable, human landmark, a prime candidate for the position of main Landmark. To say the same thing another way, as soon as we know that feet are being shot at or thrown at, we want to know whose feet they are. The explicit introduction of the feet as target “drags in”, if you will, the person they belong to, and he is naturally more salient than the Thing thrown or the bullet shot at him. Thus it is very natural that he should be taken as the main Landmark, expecting elaboration by a direct object. This structure is diagrammed in 4.2.c, assuming, for purposes of comparison with 4.2.b and since it is prototypical in any case, a version of mōla meaning ‘shoot’.

\[\text{4.2.c. kši-mōla}\]

5 With the Landmark’s Active Zone incorporation yekas-te (nose-stone?) ‘nose’ it means ‘bang s.o. so as to give him a nose-bleed’, lit. ‘make s.o.’s nose flower on him’.

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Directly parallel to kši-mōła is kʷā-mōła (head-hurl) ‘shoot s.o. in the head, throw s.t. at s.o.’s head’.\(^6\) Also closely similar is a version of mā-kʷi (hand-grasp) which means ‘take (s.t.) from s.o.’s hand’ (another version meaning ‘take s.t. with the hand’ was given in 4.1 as a “Trajector’s active zone” incorporation; a third version means ‘take s.o. by the hand’, and is a “Landmark’s active zone” incorporation). In all these cases the introduction of a body part in a secondary object incorporation has led to a construal where the bodypart-owner ousts the Thing hurled or grasped and takes over as the primary Landmark.

**Landmark’s Active Zone Incorporations (Again)**

One might expect to see the same thing happen when the primary Landmark itself instead of a secondary landmark is elaborated by a relational noun. The stem would stay transitive, with e.g. the bodypart owner taking over as Landmark.

In fact this is extremely common—all the incorporations of the “Landmark’s active zone” type discussed in 4.1 can be viewed in this way.\(^7\) 4.1.i, for instance, can be reanalyzed to have \(kama\) ‘mouth’ be the actual direct object (after all, it is only the mouth that gets kicked), with the stipulation that the mouth’s owner will take over as a transitive Landmark, expecting elaboration.\(^8\) This construal is diagrammed in 4.2.d.

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\(^6\) kʷa- appears only in incorporations and similar constructions, which makes it at least tend strongly towards prefixality. This matter is discussed in 4.3.

\(^7\) Rincón (1595:44) notes this as a transitivity shift, remarking that one would expect to use an applicative to produce such a change in meaning.

\(^8\) Such a construal contradicts Mardirussian’s proposed universal (1975:384) that noun incorporations always cause intransitivity. (This “universal” is of course already contradicted by all the temporal, manner, secondary object, etc., incorporations.)
composite stem is still transitive, now with the person whose mother is mentioned being the Landmark.\textsuperscript{9} One’s mother is not the prototypical sort of active zone, but the parallels to constructions such as 4.2.c-d are clear. A similar example is \textit{kō-konē-čih-čīwa} (\textit{rdp-child-rdp-make}, i.e. \textit{doll-make}), a transitive stem meaning ‘make an effigy of s.o.’, where the person whose effigy is made is the main Landmark, expecting elaboration by a direct object.

**Other Transitivity Shifts**

In yet another transitivity changing pattern, elaboration of the main Landmark of a transitive verb produces a transitive stem in which a normally subsidiary landmark expects elaboration.

Something like this may be involved in the transitive verb stem \textit{maka} ‘give’. As we saw in 3.1. (3.1.g), the giver is Trajector and the recipient is Landmark in the prototypical usage of this stem, though in another usage the Thing given may be taken as the Landmark. The Thing given may also be elaborated by an incorporated noun. Some examples are \textit{pāki-lis-maka} (\textit{rejoice-nr-give}) ‘give joy to s.o., make s.o. happy’, \textit{teki-maka} (\textit{work-give}) ‘cause problems for s.o., give hassle to s.o.’, \textit{λāl-maka} (\textit{earth-give}) ‘give land to s.o.’, \textit{λāl-htē-l-maka} (\textit{unspec-say-nr-give}, i.e. \textit{word-give}) ‘advise s.o.’, and \textit{konēhos-maka} (\textit{counsels-give}) ‘give advice to s.o.’. In every case the composite stem remains transitive, with the recipient as Landmark. These can all be analyzed as cases of the first construal of \textit{maka}, with elaboration of the secondary landmark by the incorporated noun, but they could also be viewed as Object Incorporations, with the noun elaborating the main Landmark of \textit{maka} in the second construal, with a concomitant shifting of transitivity to another landmark (the recipient) in the structure. Perhaps the first analysis is more likely to be salient, but perhaps the second one is utilized to some degree as well.

For there are other such shifts of transitivity. For example, the transitive verb stem \textit{čpāna} means ‘sweep s.t.’, its Landmark being the floor or the room or house which is swept. The noun stem \textit{λāl} ‘ground’ can be incorporated onto this stem, elaborating the Landmark and thus satisfying its valence. However, the stem remains transitive, taking, this time, the thing used as a broom as its Landmark which is to be elaborated. The meaning of \textit{λāl-ičpāna} is ‘drag s.t. across the ground’.\textsuperscript{10} It is diagrammed in 4.2.e. A similar example is \textit{kʷen-λāl-inya} (\textit{furrow-ground-vr}, i.e. \textit{furrow-place}), where the furrows are the thing placed, constituting an Object Incorporation, but the composite stem is still transitive, expecting the elaboration of the place where the furrows are placed, an otherwise subsidiary landmark. (Compare this to the applicative stem \textit{λāl-i-liy}, discussed in 6.5.b-c.)

\textsuperscript{9} The fact that mentioning a person’s mother (Sp. \textit{mentarle la madre}) is under many circumstances a grave insult to him is likely a crucial factor behind the formation of this construction and its being used in this way. It would be interesting to know if the American Black practice of ‘playing the dozens’, trading insults about each other’s mothers, and phrases such as “son of a bitch” are parallel but independent developments, and if so, what motivates their parallel development.

\textsuperscript{10} Concurrently, specifications within \textit{čpāna} of the nature of the thing dragged (a broom) and of the manner and purpose of dragging it across the ground are de-emphasized; the stem is used for any type of dragging, whether or not it is done for purposes of cleaning.
In fact, all the examples of elaboration of a subsidiary landmark of a transitive verb stem can be viewed in this way, as elevating that landmark to the status of main Landmark and elaborating it, only to have another landmark take its place.

Changes of Trajector

These examples of changing transitivity with respect to the Landmark have many close parallels in changes that occur with respect to the Trajector. The cases of incorporation of the active zone of the Trajector or incorporation of the instrument can be viewed as actual subject incorporations, with another Thing in the structure, especially a Thing prominent in the relational noun, selected as Trajector. Further examples include yes-kīsa (blood-emerge) ‘bleed’, where the blood is what emerges from the body, but the body (or the person, if distinguished from his body) takes over as Trajector and still expects elaboration. The structure of this stem is diagrammed in 4.2.f.

Similarly, in the verb stem lāpāl-kīsa (paint-emerge) the paint is the Trajector, going off the surface it was painted on, but the composite stem still expects elaboration of a Trajector, this time the surface: the stem means ‘become unpainted’. The stem kopīn-i means ‘come loose’; in te-kopīn-i (rock-loosen-intrns) the trajector, the Thing that comes loose, is a rock or rocks, but another trajector is chosen, a person who causes
the rocks to come loose. The composite stem means ‘pull rocks out of the ground’.

In all these cases the Trajector is elaborated by the incorporated noun and another Trajector is chosen to replace it.

I have one example of incorporation of a subsidiary landmark causing a change of Trajector. The stem tepēwi means ‘be scarce, fall off/out’; it is used of the leaves on trees. In the form kʷā-tepēwi (head-fall-off) the place from which the falling occurs is elaborated by the incorporated noun. The expected Trajector, the thing which is falling out, is the hair. But instead the person whose head (and hair) are in question becomes the Trajector of the composite stem. The meaning is not ‘fall off a head’ but ‘go bald’. (Cf. īš-ā-yō-tepēwi (eye-water-abstr-fall.out) ‘shed tears’, which is a Subject incorporation, or perhaps a Trajector’s Active Zone incorporation.)

Finally, it is not totally clear whether there are any cases of incorporation of a Trajector which are not accompanied by the selection of another Trajector. The best examples I have found are ā-ćoyōni (water-fry(intrns)) ‘(the) water boils away’, lit. ‘water fries/gets fried’, where it seems that the water is the only subject, and tōna-l-sēwi (shine-nr-rest, i.e. sun-rest) ‘it ceases to be so bright, the sun goes behind the clouds’, where it is the sun that is resting, and there is no clear evidence of another subject. In fact, it might be possible to claim that all meteorological verbs are of this type, having no subject, since their trajector is internally specified. If they do have a subject, it is always a 3 pers sg SP (Appendix F), which is phonologically zero and thus rather difficult to detect, and as far as I know they never have a clausal subject.

Summary

- In the prototypical noun incorporation pattern, Object Incorporation, the incorporated noun is the direct object of the incorporating verb. šītoma-namaka (tomato-sell) ‘sell tomatoes’ (4.2.a) was an example of that type of structure. The incorporated noun satisfies the transitivity of the verb stem, so that they together produce an externally intransitive (internally transitive) composite structure.
- In tōč-mōla (rabbit-hunt) ‘shoot rabbits’ (4.2.b) a secondary landmark is elaborated, but contrary to what might be expected the composite structure becomes intransitive, no longer expecting the “missile” landmark to be elaborated, even though that valence is never directly satisfied.
- In a more common pattern the elaboration of a secondary landmark by a relational noun introduces another Thing into the structure, which takes over as Landmark; kši-mōla (foot-hunt) ‘shoot at s.o.’s feet’ (4.2.c) is an example of this type of structure.
- The Landmark’s Active Zone incorporations we saw in 4.1 (e.g. kama-teriksa (mouth-kick) ‘kick s.o. in the mouth’, 4.1.i) are susceptible to a similar analysis as being true Object Incorporations but introducing another Thing which takes over as Landmark and is expected to be elaborated. 4.2.d represents such an analysis.
- īš-DāDkīsa (ground-sweep) ‘drag s.t. along the ground’ (4.2.e) illustrates a similar pattern in which an Object Incorporation takes place but instead of an intransitive stem resulting, a secondary object is upgraded to Landmark status.
- Similar cases, where elaboration of the Trajector by an incorporated noun takes place but another Thing in the structure takes over as Trajector, also obtain. yes-kīsa (blood-emerge) ‘bleed’ (4.2.f) is an example; all the Trajector’s Active Zone incorporations (e.g. kama-piya (mouth-have) ‘hold s.t. in one’s mouth’, 4.1.h) can be similarly analyzed.

11 Contrast this with teh-tekōp-in-a (rdp-rock-loosen-trns) where the verb stem kop-in-a is transitive and the incorporation is an Object Incorporation.

12 If these analyses are correct, they contradict Sapir’s (1911:278) contention (as I understand him) that this never happens, that subject incorporations never abolish (or finally satisfy) the subject valence.
• In *kmä-tepēwi* (head-be.scarce/fall.off) ‘go bald’ a secondary landmark is elaborated by the incorporated noun, but there is a change of Trajector as a result.

• Finally, in *tōna-l-sēwi* (shine-nr-rest) ‘the sun goes behind the clouds’ there is a subject incorporation with perhaps no resultant shift of Trajector; the subject valence is, it seems, thereby satisfied, as the object valence is satisfied in canonical Object Incorporations, and the verb picks out no replacement in that role.

**Profile Determinance**

It was noticed in passing (fn. 3) that most of these construals do not have the prototypical profile determinant relationship between the verb stem and the composite structure. In each case the composite structure has a processual profile, like the stem, but it profiles a somewhat different process. In canonical profile determinance, such as that in 1.5.c, 1.5.g or 1.5.j, the profile determinant component is schematic for the whole structure, i.e. it covers the same semantic area in less elaborate form, and its specifications fit harmoniously with those of the complete structure. Thus the difference between it and the composite structure amounts to filling in details but otherwise not changing anything. In particular, the scope of the profile remains the same, and the Trajectors and Landmarks correspond. Here in 4.2.b-f, however we have cases where what we would still want to call the profile determinant element is only partially schematic, where the composite structure has a broader scope, where the Trajector or Landmark of the composite structure does not correspond with that of the putative profile determinant.13

I would like to suggest that the way to account for this is not to deny profile determinance here nor to disequate profile determinance and a relationship of schematicity between the profile determinant component and the composite structure, but rather to note that schematicity is a matter of degree and thus that profile determinance is so as well. DOG is to me almost schematic for COYOTE (more nearly so than for PUG, on many counts), but it is not quite. CAR and TRUCK are both partially but not entirely schematic for RANCHERO and also for VAN. RUN is partially schematic for JOG or TROT, but not entirely. More to the point, SPEAK is partially schematic for TELL, even though the two predicates profile different Landmarks. The same sort of thing is going on here: although *mōla* ‘hurl’ and *tōč-mōla* ‘shoot rabbits’ have slightly different profiles there is still a clear asymmetry between *tōč* and *mōla* in that *mōla* is much more nearly schematic for *tōč-mōla* than is *tōč*. Thus we do have an asymmetry of profile determinance, even though it is not the prototypical one in that neither element is totally or absolutely profile determinant. And if semantic weight as a whole is taken in consideration, *mōla* is clearly heavier than *tōč* in this construction.

In any case, what I am claiming is that the meaning of the incorporational construction is not absolutely predictable from the combination of the noun and verb stems; there is, as it were, a medial stage, after the pieces have been combined to produce the expected construal, where one looks around to see if any restructuring is warranted or desirable. After *tōč* or *kši* has been combined with *mōla* in the expected way, the resultant structure is judged not to require elaboration of the missile after all, and, in the case of *kši-mōla*, to require elaboration of the owner of the foot instead. These judgments, whenever they were made,

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13 Actually, even in 4.2.a the profile determinant is not exactly schematic for the composite structure, since its specification of transitivity is contradicted rather than preserved (or elaborated on). The same proves true of 1.5.e and 1.5.j, though not 1.5.g, if we represent the expectation of elaboration of the discrete Thing in PL, and of the landmark of HIT, and of the trajector of HIT/SAM’S FOOT. However, this difference does not directly involve the profiling, and differences in the base are precisely what are to be expected in construction. Note e.g. that in HIT there is an expectation of animate hitting inanimate rather than vice versa, which is contradicted in 1.5.j. Beyond that, this particular switch (of a construction ceasing to bear a valence once that valence is satisfied) is strongly prototypical for profile determinance relationships.

What it comes to in the end is that, as stated below, schematicity, and therefore profile determinance, is a matter of degree, and these cases vary from the prototypical (absolute) degree only slightly and very nearly predictably. Thus they need not concern us as much as the more striking departures from the norm.
produced the kinds of usage that is now established as canonical for these verb stems. The whole does not equal the sum of its parts: its meaning, while reasonable, is not strictly predictable.
4.3 Summary and Discussion

Incorporational Schemas

The constructions we have been examining can be subsumed under schemas which define the various types of noun incorporations. The prototypical schema, the (Direct) Object Incorporation construction, which is schematic for 4.2.a and many other constructions, is diagrammed in 4.3.a. In it a noun stem elaborates the landmark of a transitive verb stem, satisfying its valence. The verb stem is thus semantically dependent on the noun; it is also profile determinant: the composite structure profiles the same process as the stem does. Phonologically the noun precedes the verb but neither one is specified as affixal to the other.1

4.3.a. Object Incorporation  4.3.b. Argument Incorporation  4.3.c. Noun Incorporation

4.3.a is an instantiation of a schema in which a Thing element in the verb stem, which may or may not be its Trajector or Landmark, serves as e-site. Other than the de-specification of what the role of the e-site is, the specifications of 4.3.a remain intact. This schema, the Argument Incorporation schema, is diagrammed in 4.3.b. Besides 4.3.a, it includes among its instantiations all of the secondary object incorporations such as 4.1.c-e, subject incorporations such as tōna-l-sēwi (shine-nr-rest) ‘the sun stop shining so hard’, and all other noun incorporations to the extent that there is within the verb stem a salient Thing which is elaborated by the incorporated noun, so that the verb is dependent on the noun. 4.3.b is in turn the prototypical instantiation of the Noun Incorporation schema, 4.3.c, in which there is no specification of the profile of the noun corresponding to anything in the verb, but merely the minimal specification that some substructure in the noun corresponds to some substructure in the verb. The specifications remain that the noun precedes the verb and that the verb is profile determinant.

4.3.c will have many subschemas besides the prototypical 4.3.b, including manner, time, purpose, and cause incorporations, and so on. In many of these structures the noun would be more strongly dependent on the verb than vice versa; in others dependency would be indeterminate, and some of their subschemas would also be subschemas of 4.3.b. Other subschemas under 4.3.c would be an Active Zone incorporation schema, which would have Trajector’s Active Zone and the relatively prototypical Landmark’s Active Zone constructions (the latter is diagrammed in 4.3.d) as instantiations. These Active Zone constructions can easily be taken as Argument Incorporations (i.e. as elaborations of 4.3.b); I am not treating them so because it is not clear that the active zones involved exist independently as salient Things in the verb stem. In any case, there will be a well-entrenched Landmark’s Active Zone schema elaborating that in 4.3.d, which will also be an elaboration of the Object Incorporation schema, 4.3.a; this will be the way the availability of both analyses (e.g. both 4.1.i and 4.2.d) is expressed. Similarly there will be a well-entrenched Trajector’s Active Zone schema which simultaneously instantiates the one mentioned above (parallel to 4.3.d) and the Subject Incorporation schema. Another subschema of 4.3.c subsumes constructions such as 4.2.b-f, including the

1 As claimed below, either may be affixal to the other in certain sub-cases.
Active Zone constructions just mentioned; in it the verb stem is specified as only partially profile determinant, with some of its specifications countermanded in the composite structure. This Transitivity Shifting Noun Incorporation schema is diagrammed in 4.3.e.

4.3.d. Object’s AZ Incorporation  4.3.e. Transitivity-Shift  4.3.f. Incorporation

4.3.c, then, is schematic for all noun incorporation constructions. It is to be related to the Relation Incorporation construction E.j; they are both instantiations of 4.3.f, the Incorporation construction. This structure in turn is to be related to constructions in which nouns or adjectives incorporate other stems. The interrelations of all these constructions are represented in the schematic hierarchy in 4.3.g. \(^2^3\)

There are of course other schemas elaborating 4.3.c (and, as appropriate, 4.3.a, 4.3.b, etc., as well), in which the verb or the noun is specified but its companion is left schematic. Some of these have pretty clearly achieved unit status. There is an Object-\textit{namaka} ‘sell Objects’ schema, an Object-\textit{saka} ‘cart Object(s)’ schema, an Object-\textit{piya} ‘take care of, herd Objects’ schema, and others; also an \textit{īš}-Verb Stem ‘apparently Verb’ and a \textit{kʷā}-Verb Stem ‘Verb s.o. on the head’ construction, and a number of others.

\(^2^\) This is not to be thought an exhaustive account. The interrelations among the sub-cases of the incorporation construction are unusually intricate: the schematic hierarchy given in 4.3.g is woefully inadequate, leaving out many important generalizations. A whole dissertation could easily be written on incorporation constructions in Nahuatl.

\(^3^\) In 4.3.g I abbreviate the titles of some of the diagrams referred to in what I hope are intelligible ways.
It was mentioned in passing in 4.1 and 4.2 that several verb stems have specialized meanings when they are used in incorporational constructions. For instance, the stem *miki* ‘die’ means ‘suffer’ when used with a (typically causal) incorporated noun, and *piya* ‘have’ means ‘take care of/herd’ when used with an incorporated object. Those specialized versions of *piya* and *miki*, since they only occur with a preceding stem, will internalize the expectation of such a stem. Thus they are practically speaking suffixes; they are strongly established as units, they are strongly dependent both phonologically and semantically on the (noun) stem, and they are profile determinant for the construction, approximating in those points the prototypical stem-affix construction in 2.2.d. However, they are non-prototypical in that the suffix rather than the stem is the semantically heavier, “main” element. Other stems which are saliently associated with incorporational constructions, such an *namaka* ‘sell’ and *kowa*, ‘buy’ etc., will also have suffixal subversions, but since those versions do not contrast in other semantic specifications with their parent schema, they are unlikely to be as saliently units in their own right as are -*piya* or -*miki*. The stem *puroh-piya*, with -*piya* analyzed as suffixal, is diagrammed in 4.3.h.
There is one noun stem, kʷā- ‘head’ which never occurs as an independent noun but usually occurs in incorporational constructions. It is almost always a Landmark’s Active Zone Incorporation: a few examples of its usage are kʷā-ilpiya (head-tie) ‘tie s.o.’s head’, kʷā-melāwa (head-righten) ‘straighten s.o.’s head up’, kʷā-tek-мя (head-pour-applic) ‘baptize s.o.’. Two transitivity shifting examples — kʷā-mōlā (head-hurl) ‘shout at s.o.’s head, s.o. in the head’ and kʷā-tepēwi (head-be.scare/fall.out) ‘go bald’ — were mentioned in 4.2. Since kʷā- always occurs preceding a stem, there will be internalized to it the expectation of further appearing in such a construction: it will be prefixal. The stem kʷā-tek-мя ‘baptize s.o.’ is diagrammed in 4.3.i; the internal structure of tek-мя ‘pour (water) on s.t.’ is not represented, nor are the religious and cultural specifications associated with the composite structure.

Another incorporated noun that has a well-entrenched sub-version which expects incorporation and thus is prefixal is bɨ- ‘eye’, which, as noted in 4.1, incorporates with a meaning like ‘to the eye of the beholder’ or ‘apparently, sort of’.

In sum, if either the incorporating verb or the incorporated noun becomes strongly associated with the incorporational construction, it becomes to that extent, by the principles set forth in 2.1 and 2.2, affixal. We have seen examples of both these tendencies, suffixal verb stems and prefixal noun stems. The OP’s (Chapter 5), and particularly the unspecified OP la-, can be viewed as always-incorporated nouns parallel to kʷä- in that they only occur in incorporational constructions, and certain verbal suffixes such as aspect markers (B.2) and causative/applicatives (Chapter 6) can be viewed as always-incorporating verbs, parallel to the specialized versions of miki and piya in that they never occur independently.

**The Productivity of Incorporational Constructions**

The productivity of the incorporational constructions is hard (for me at least) to assess; a form that is new to me may well be firmly established for the TN speakers. My strong impression is that most of the incorporational stems I have heard were in fact not novel formations. A few times I think the formation was, if not novel, at least very recent. The higher schemas such as the Direct Object Incorporation schema seem to be semi-productive at best, but certain more elaborate sub-schemas, such as the Object-namaka ‘sell Objects’, Object-kowa ‘buy Objects’, and Object-piya ‘guard a herd/crop of Objects’ constructions mentioned above, appear to be productive. It is apparently the constructions which tend toward affixality that tend toward productivity. There are, I think, reasons why this should be so.

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4 The independent noun used in place of kʷā- is tontekoma- (hair-calabash-abx), which occasionally incorporates, e.g. tontekolapān-i (head-split-open-intrns) ‘have a splitting headache’. kʷā- appears (always preceding a stem) in other constructions, e.g. the complex postposition kʷā-ti-kpāk (head-conn?-on.top.of) ‘on the (very) top of’, adjectives such as kʷā-pinti-k (head-pointed-adj) ‘sharp-pointed, pointed on top’ or kʷā-sikal-ti-k (head-gourd-conn-adjr) ‘bald’, or nouns such as kʷā-te-nē'-lā (head-rock-lime-abx) ‘dandruff’ or kʷā-teš-lā (head-grind.perf.abs.nr) ‘brains’ (lit. ‘head-dough’). As stated above (4.3.g), these noun and adjective constructions (at least) are sisters to the incorporation constructions we have been examining. Thus they merely reinforce the affixality of kʷā-; it is a prefix; it is just not a specifically verbal prefix.

5 It is only in their usage as verbalizers of nouns that the causative/applicative suffixes would parallel miki and piya directly; they and the aspect markers would in their prototypical usages more closely parallel Adjective and Verb Incorporation patterns (Appendix E).
The Incorporational constructions are normally secondary constructions for both stems; the cases where they are not are those where one or other of the elements is affixal to some degree. As a consequence, the well-entrenched schemas which potentially sanction novel utterances tend to be at a relatively great distance from their spoken instantiations. For a form like \textit{ni-nemi} (1-live), for instance, there are well entrenched schemas \textit{ni-Verb Stem} (appendix F) and SP-\textit{nemi}, both sanctioning the form at a minimal distance, as well as the SP-Verb Stem construction (F.f) sanctioning it from a greater distance. For a form like \textit{neš-keča} (ash-stand), however there is no \textit{neš-Verb} construction to sanction novel formations, nor a Noun-\textit{keča} construction; the nearest well-entrenched sanctioning construction is the Object Incorporation Construction (4.3.a), but it is at a fairly great distance. \textit{neš-keča} of course sanctions itself, but it is so specific as to preclude direct sanctioning of any form with e.g. different phonology from itself. As a result, there is not as strong warrant for sanctioning novel formations similar to \textit{neš-keča}, as there is for sanctioning forms like \textit{ni-nemi} but with a different SP or verb stem. Because of the indirectness of its sanctioning (as well as, no doubt, for other reasons), the Object Incorporation construction is not commonly used to sanction novel utterances, so it fails to be productive, i.e. to be expected to be so used. Constructions like the Object-\textit{namaka} or the Object-\textit{piya} schemas, however, can sanction novel formations more closely and this helps account for their relative productivity.

A further factor in the lack of productivity of incorporational constructions is that there is no well-established structure which expects a Noun-Verb construction to enter into it. For instance, the clause schema in TN specifies an SP-Stem construction (a verbal) as one of its constituents (7.1): there is no account for their relative productivity.

\textbf{Why Are Incorporated Objects Generic?}

One issue that we have not dealt with yet is the fact that in Object Incorporations the incorporated noun tends very strongly to be construed generically rather than specifically. \textit{šītoma-namaka} (4.2.a) cannot be taken to mean ‘sell a/the tomato’, but rather ‘sell tomatoes’, and \textit{λaškal-to-tōn-iya} (tortilla-<rdp-hot-\textit{vr}) means ‘heat tortillas’ rather than ‘heat a/the tortilla’. This is related causally (and perhaps in other ways) to the fact that these stems are notionally imperfective, with the repetitive type of imperfectivity (Appendix C), even when the same stem without an incorporated noun is taken as perfective; it is difficult to do something to an unspecified number of members of a class unless one is acting on an unspecified number of occasions. This is a universal tendency: incorporated objects in many languages are generic (cf. Mardirussian 1975:386, Sadock 1980:307, Woodbury 1975). Why should this be?

First let us ask to what extent it is true. It is not the case that secondary object incorporations exhibit this tendency at all strongly. \textit{kʷah-leho} (tree-climb, 4.1.d) is notionally perfective, meaning ‘climb a/the tree’ in its most natural construal, \textit{puro-tepešiwiya} (burro-dump, 4.1.e) naturally means ‘dump something off a/the donkey’; only if the verb is construed imperfectively or if the Thing dumped is plural or generic (and not always even then) will the donkey(s) be construed generally. Similarly, for “cause” incorporations \textit{āpis-miki} (famine-die, 4.1.g) is most naturally construed as ‘die of a/the famine’ rather than ‘die of famines’. Again if the Trajector is plural or generic, a generic reading can be forced in certain situations, but it is not the most natural. Or again with the Active Zone incorporations, \textit{kōkō-posōw-i} (throat-swell-\textit{intrns}, 4.1.g) means ‘s.o.’s (the TR’s) throat swells’, rather than ‘throats swell on/for s.o.’ or some such thing, and \textit{kama-teriksa} (mouth-kick, 4.1.i) means ‘kick s.o. in the mouth’ rather than ‘in mouths’. And in fact not even all incorporated direct objects must be taken generically. In \textit{kal-čiwa} (house-make) or \textit{tepān-čiwa} (wall-make), for instance, the trajector may be making or building just one particular house or wall. And \textit{neš-keča} (ash-stand) is notionally perfective, tending to profile a single act of preparing the corn-lime mixture for a single batch of tortillas or tamales. Thus it is not absolutely the case that all incorporated direct objects are generic, and there is a strong tendency for other types of incorporated objects not to be generic.
These facts are explained by claiming that incorporated nouns are not full nominals (7.1), i.e. they are epistemically ungrounded rather than explicitly generic or unspecified. They thus are free to be taken as designating specific individuals or not, according to the exigencies of the particular situation. Incorporated secondary objects tend to be understood as specific because their participation in the designated situation tends to single them out, particularly when the situation is a perfective realis one, with a specified Trajector and Landmark, as it prototypically is. For instance, when a specific, definite Thing is dumped off a donkey(s), the most natural construal is that there is only one donkey involved; when a specific person does tree-climbing in a specific place at a specific time, the most likely conclusion is that there is a specific tree involved. That is why the incorporated nouns in *puro-tepešiwiya* (donkey-dump.off) ‘dump s.t. off a donkey’ and *kʷah-ƛehko* (tree-ascend) ‘climb a tree’ are specific. However, they are never explicitly stated to be specific. In a case like *kši-mōla* (foot-hurl) ‘shoot at s.o.’s feet, shoot s.o. in the foot/feet’ (4.2.c) the incorporated noun is prototypically either single or dual, because a person (the Landmark) has two feet, and shooting to the vicinity of one usually involves shooting to the vicinity of the other; since actually hitting the one, however, does not necessarily imply actually hitting the other, when the construal involves such direct hitting (‘shoot s.o. in the foot/feet’), neither one nor both is specified. The specificity of Secondary Object Incorporations thus clearly seems derivative of the specificity of the Trajector and Landmark and of the designated situation in which they participate, rather than existing on its own.

Incorporated Direct Objects also do not bear their own expectation of specificity, and thus can be taken as specific or not according to the demands of the situation. Tetelcingans do not normally sell tomatoes one at a time: for this reason *šītoma-namaka* ‘tomato-sell’ has been used constantly for designating situations where indefinite amounts of tomatoes were sold. That fact naturally internalizes, reinforcing it as the expected case. The same is true for many other processes, such as harvesting ears of corn (*ēlōDteki* (corn.ear-cut)), pulling up peanuts (*ƛālDkakawaDkopīnDa*), or herding donkeys (*purohDpiya*). When it comes to house-building (*kalDčīwa*), people are much more likely to build one at a time, and thus the expectation of there being many houses built is greatly weakened.

One other factor that is involved in the genericness of TN incorporated objects is the general tendency for Nahuatl nouns, when they refer to non-humans and especially to inanimates, to be construed, or at least construable, generically. This phenomenon, called “common number” (D.1, Andrews 1975:143, Carochi

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6 I am aware that all this is in one sense no explanation for the universal phenomenon: to say that incorporated nouns tend to be generic because they are not full nominals raises the question “why aren’t they full nominals?”. Sadock’s (1980:307) explanation for Eskimo that incorporated objects are indefinite because the verb will never agree with them, and all non-agreement-triggering objects are indefinite, is unsatisfactory in the same way (and others). It seems to me that the answer lies in the fact that incorporations produce verb stems, as opposed to clausal Object Verb constructions, which do not; that such verb stems, as opposed to clauses, will typically be manipulated as units, and that such units are more useful when the epistemic status of the Things in them is not overly specific. However, I do not have the necessary concepts worked out in enough detail to present convincingly.

7 Incorporated nouns in TN, as I would expect in most languages, tend to be non-human and inanimate. Whether this is more the result or the cause of the nouns’ generic construal I do not know; I would expect that it is both.
1945:403), is true of full nominals as well as incorporated stems. One can say e.g. *meyak-tē šītoma-Dme* (much-pl tomato-pl) ‘many tomatoes’, but it is much more normal to say *meyak šītoma-ƛ* (much tomato-abs), literally ‘much tomato’ but translatable by ‘a lot/lots of tomatoes’. Thus even if a noun is used as a clausal rather than an incorporated object it will often be construed generically; *ki-namaka šītoma-ƛ* (it-sell tomato-abs) usually means ‘he sells tomatoes’, just as *šītoma-namaka* (tomato-sell, 4.2.a) does. Incorporated objects in TN tend to be generic in part because non-incorporated objects also tend to be generic.
CHAPTER V
Object Pronouns (OP’s) and OP-stem Constructions

In this chapter we discuss the pronominal prefixes to verbs that prototypically function as direct objects, elaborating the Landmark of the verb stem to which they attach. These are termed Object Pronouns or OP’s. The prototypical sub-type of this group are the Personal OP’s, which are discussed in 5.1. The other types are the reflexive and unspecified OP’s, which are discussed in 5.3 and 5.4 respectively. 5.2 discusses combinations of Subject Pronouns (SP’s, Appendix F) and OP’s which have attained unit status, and 5.5 is a summary section.

Dependent Pronouns

Pronouns, as characterized in D.2, are structures which profile Things which are both highly schematic and epistemically grounded. TN has both independent pronouns (D.2) and dependent pronouns, including OP’s, SP’s, and possessive pronouns. For instance, the independent 1 pers sg pronoun is $naha$ (D.2.a), the 1 pers sg OP is $nēč$-, the reflexive OP is $no$-, the SP is $n(i)$- (F.a), and the possessive is $no$- (D.2.1). These pronouns are in complementary distribution with each other: usually they cannot even appear in the same phonological environments, and when they can, changing them changes the meaning. It could be claimed that they all “mean” the same thing, namely ‘1 pers sg’, differing only in the range of constructions in which they are used. However, we have claimed that association with a construction is a kind of meaning, and in the cases of these dependent pronouns the association with particular constructions is so strong and the predicates are so highly schematic, i.e. so void of other meaning, that that association is a very salient part of their meaning. That salience is further enhanced by the fact that association with a particular construction is the aspect of the pronouns that carries the contrast among them: to say that $nēč$- means ‘1 pers sg’ is like saying that $woman$ means ‘human being’ or that $January$ means ‘month’: it is certainly true, but it is not the whole truth; it leaves out what is distinctive about the form.

This association with a particular kind of construction of course results from how the form is used: it also causes further such usage. You do not say e.g. $nēč$-nemi ($me$-live) for the same reason you do not say $infinity$ is purple or the orphan has a father: semantic specifications would have to be rather ruthlessly overridden in order to do so. What we have is a classic case of internalization (one quite directly parallel to 2.1.d-e), with the chicken-and-the-egg situation of usage engendering the kind of meaning which perpetuates the usage, $nēč$- has internalized to it the fact that it is used as a direct object, and that internalized piece of meaning is the reason it is so used. It also has internalized the expectation of a following stem, making it prefixal. And the stem is specified as symbolic for the process of which the designatum of $nēč$- is expected to be the direct object. Furthermore both the internalized schematic phonological stem and the internalized schematic semantic stem for which it is symbolic are expected to function as e-sites: $nēč$- bears both a phonological and a semantic valence to the verb stems with which it is constructed. Similarly the other dependent pronouns have internalized to them the expectation of a following stem and the specification of how their designatum is integrated with that stem. For the SP’s it is (prototypically) as Trajector of a process; for the reflexives it is (prototypically) as both Landmark and Trajector of a process, for the possessives it is as landmark of a possessive Relation. In each case the syntactic function both results from and causes the appropriate meaning.1

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1 I am ignoring here the analysis that would be expected in many models, which would treat these forms (particularly the SP’s and OP’s) as “meaningless”, “grammatical” agreement morphemes occurring only because of the presence of a nominal (e.g. a personal pronoun) as a clausal argument of the verb. I believe that such an analysis would be seriously misguided. Rather I am proposing that the SP and OP are the subject and the object of the verb. The issue is discussed briefly in 7.1.
OP’s, then, like other dependent pronouns, (a) are prefixal, phonologically dependent on a following stem, and (b) have internalized to them the expectation of a particular Relation holding between their designatum and the semantic structure of the stem to which they are affixed. This expectation is both the result and the cause of their being used in constructions in which that Relation is exploited as a valence.
5.1 Personal OP’s

The OP’s

The personal OP’s are dependent personal pronouns which identify the designatum as the landmark of a process. Personal pronouns (D.2) profile participants in the Speech Situation (1.5.p, repeated here as 5.1.a), in which the Speaker (S) communicates with the Hearer (H) and there may be Other Things (O) in their common sphere of knowledge. (It will be recalled that the basal communicative process is represented by an arrow in the diagram, and the common sphere of knowledge as an ellipse.) Since all the personal pronouns designate Things within the knowledge of both Speaker and Hearer, they are all definite.¹

![Diagram of the Speech Situation]

5.1.a. The Speech Situation

5.1.b. nēč-

5.1.c. nēč-

One OP, we have seen, is nēč- ‘me’, which profiles the Speaker (alone), and identifies him as the landmark of a process.²³ The process which is thus in the base of nēč- serves as an e-site which is elaborated by the stem.⁴ A diagram of nēč- is given in 5.1.b; an exploded version of it, which will be more useful for our purposes, is given in 5.1.c. The other OP’s include tēč- ‘us’, which profiles at least one Speaker with either other Speaker(s) or (or and) other participants in the Speech Situation; mīč- ‘you sg (object)’, which profiles the Hearer alone; nemēč- (ornamēč-) ‘you pl (object)’, which profiles at least one Hearer with either other Hearer(s) or (or and) one or more third persons; and k(i)- ‘3 pers sg’, which profiles one participant Other than Speaker or Hearer. These morphemes are diagrammed below.

![Diagram of other personal OPs]

5.1.d. tēč-

5.1.e. mīč-

¹ It is not clear that this characterization is totally correct for 3 pers SP’s and OP’s, as they sometimes are put in correspondence with indefinite nominals in clausal constructions. This issue is discussed in 7.1.

² nēč- cannot, like English me, be used as the object of an adposition: the possessive is used with postpositions in TN.

³ nēč- can be analyzed into n- ‘1 pers sg’ plus -ēč ‘accusative’; cf. the similar analyses available for t-ēč ‘us’ and nem-ēč ‘you pl (obj)’. However, I do not think that this analysis is any more salient than the analysis which would in English slice off -m from them and him as an accusative marker. -m is at least used in the form whom as well as in the pronouns; to my knowledge -ēč does not occur outside of the OP’s. In any case it does not occur on all the OP’s.

⁴ Since OP’s are always preceded by an SP, I would also posit that there is an internalized reference to the SP both in the phonology and in the semantics of nēč-. In a complete representation the trajector of the internalized process would function as a semantic e-site and there would be a preceding phonological e-site. However, this relationship is probably much less salient than is the relationship with the verb, and I will omit it from the diagrams, arbitrarily setting the cut-off level for salience above it. It is important, however, in the kinds of constructions discussed in 5.2.
**k(i)-** exhibits the phonological alternation of sometimes occurring with the *i* and sometimes without it. (This alternation is paralleled to some extent in the SP’s (Appendix F) and elsewhere.) The distribution of the two forms, *k-* and *ki-*, is quite complex, and it shows signs of suppletive as well as rule-governed motivation.\(^5\) To express the suppletion we posit established sub-versions of the OP with the two different allomorphs. However, this is not to be taken as precluding epenthetic and deletive analyses for at least some of the forms as well as the suppletive analysis implied by listing both forms in the grammatical inventory. Since there is more than one such suppletive analysis that would be necessary, I will refrain from representing the relevant sub-versions of 5.1.g, though I may use one or other of them in constructions in later chapters.

![Images of diaeretic processes for neměč, k(i), and kim](https://example.com/diagrams)

Although *ki-* is glossed ‘sg’ it is used also to designate landmarks with “common number” (D.1) as well, so that it must occasionally be translated by ‘them’ in English.

*ki-* has a plural version which is phonologically *kim-*.\(^6\) It is diagrammed in 5.1.h.

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5. Normally, *ki-* occurs initially before a consonant and medially between two consonants or before two consonants. *k-* occurs initially or medially preceding a vowel or medially following a vowel and preceding only one consonant. It looks like a classic case for an epenthetic analysis (see the Epenthesis rule, A.6). However, when the 2 pers pl SP *nen-* lost its final nasal to become *ne-* and the forms with *nen-ki-* continued to surface with *ki-*, rather than the *k-* predicted by a purely epenthetic analysis. (Contrast *ne-k-neki* ‘you pl want it’ with *ni-k-neki* ‘I want it’.) Thus the present day distribution has to include a (suppletive) reference to *ki-* occurring after the 2 pers pl SP. The historical explanation for this, I claim in Tuggy 1981, is that such a suppletive reference was in the grammar before the nasal was lost. With the loss of the nasal the Epenthetic motivation for the *i-* was gone, but the suppletive motivation was still there. I believe that an epenthetic analysis should still be posited for the forms in which it works, and that a deletive analysis (A.8) is appropriate for at least some cases as well. Both of these coexist with suppletive analyses in which the occurrence of one form as opposed to the other (rather than as predicted from the other) is determined by phonological surroundings (whether a vowel, a single consonant, or two consonants precede or follow) and semantic surroundings (e.g., whether the preceding morpheme is the 3 pers sg. of the 1 pers pl SP, etc.).

Note that it is necessary to make reference to the phonological shape of the preceding element as well as the following one to determine what shape *ki-* (which should therefore really be written as *ki-*) should take. Thus there will be e-sites within one version of *k-* specifying that the preceding element ends in a vowel and that the following element begins with a vowel or a single consonant; another version of *k-* will state that a vowel follows; one version of *ki-* will state that no vowel precedes and a consonant follows, etc.

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6. There is some dubiousness associated with the phonology of this form as well as its analysis into component morphemes. *m* is neutralized with *n* by Nasal Assimilation (A.11) when preconsonantal. However, it appears as *n* (phonetically [ŋ]) when preceding *m*. (This is apparently a dissimilation to prevent *kin-m* from neutralizing with *ki-m.*). Usually *m* appears before a vowel (e.g., *kim-ah-asi* ‘he reaches, grasps them!’) but it is not unusual for *n* (in its velar variant [ŋ]) to do so. Often this is before an incorporated or borrowed element: e.g. *kin-dilmah-niśa* (them-soul-call) ‘he talks to them heart-to-heart’. This suggests that there might be a boundary phenomenon at work, in which *m* (and *n*) neutralize to *n* before a (syllable? morpheme?) boundary, as they do in some Spanish of the region. For many, especially older, speakers the form seems to come out *kimm-* ([*kimpm*]) prevocally in careful speech. And the suffix given as *-im* below seems to be in before vowels more often than *im.* Also it is hard to tell if the *i* is the “short” *i* (phonetically [ɨ]) or the “long” or tense *i* (phonetically [ɪ]). Sometimes it sounds to be clearly one or the other, often it sounds somewhere in between. In part this may be due to the influence of the already high k and, where relevant, the *n*, which also has the tongue high, exerting an upward influence on the *i*. Also, it is possible that the cases of “long” *i* come historically, if not synchronically, from an analysis of *kim-* into *ki + m* whereas the lax *i* might be from analyzing into *k + im* (or *ki + m*). Several of these problems are mirrored to some extent in the 3 pers pl possessive *m*, to which this verbal plural marker *m* may well be related.
There is no doubt in my mind but that a correlate of 5.1.h exists as a strongly entrenched unit in the minds of speakers of TN. However, *kim-* can also be viewed as composed of *ki-* plus a plural marker *im.* This plural marker occurs in a number of forms separate from the *ki.* When the verb has one of the “directionals” *wāl-* ‘hither’ or *om-* ‘hence, immediately, etc.’ (B.2) the directional comes between the *ki-* and the *im.* Examples are *ni-k-wāl-in-kiš-ti* (1-it-hither-pl-emerge-caus.perf) ‘I came and took them out’, and *tē-k-om-in-ihta-k* (you.sg-it-hence-pl-see-perf) ‘you sg. (up and) saw them’.7 (Constructions which fix the sequences *k-wāl-in* and *k-om-in* are certainly well-entrenched units of the grammar of TN.)8 The affix *-im* occurs also in the honorific 3 pers OP *tē-īm-* (the “tense” *i* may be due to a *y* (epenthetic?) between the two front vowels). Apparently it also sometimes occurs after *kim-*; thus occurring twice in succession (*k-im-im*): I have documented forms such as *kim-in-kiš-tih-ki* (them-pl-emerge-caus-pl) ‘they took them out’. Speakers have agreed that these forms are good Nahuatl: there may be some added specification that the Landmarks were many rather than just plural. And, finally, this prefix is sometimes (but only rarely) used when the Landmark of the verb is not 3 pers, and it designates plurality not of that Landmark but of some 3 pers sub-landmark. In most of these cases the verb has been causativized or applicativized (Chapter 6); the *im* in these cases designates plurality of the landmark profiled by the un-suffixed stem. Thus we have forms like *ši-nēč-in-gahē-li* (impv-me-pl-call-applic.perf) ‘call them for me’, or *timiř-īn-maka-s* (you.sg-pl-give-fut) ‘he will give them to you sg.’.9,10 In thus being able to correspond to a sub-landmark, without changing the transitivity, *-im* parallels incorporated nouns (4.1) and the unspecified OP’s *λa-* and *tē-* (5.4).

There is one further personal OP; *tē-* is the OP designating an honorific 3 pers, and its plural is *tē-īm-* (the *im-* is the same morpheme discussed just above.) *tē-* was historically an unspecified OP (see 5.4, B.3).

All of the preceding OP schemas are to be subsumed under higher schemas which neutralize the person and number distinctions; a Singular and a Plural OP Schema, and 1, 2, and 3 Person OP Schemas. The Plural

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7 The SP’s *ni-* ‘I’, *ti-* ‘we’, and *ti-* ‘you sg’ appear with an *o* instead of an *i* preceding *k-om.* *ti-* ‘2 pers sg’ also does so (usually) before reflexive or honorific *mo-.* This can be attributed to a Vowel Harmony rule (A.7): it is almost certainly suppletively motivated as well.

8 *k-wāl-in* occurs regularly verb-initial, in contradiction to what would be expected, given the pattern (predicted by Epenthesis, A.6), of *kri-* appearing initially before a consonant. The fact that *k-w* is homophonous with *k* is surely involved.

9 In this usage the form is always something closely approaching *-in* rather than *-in*; this may be simply a result of the fact that it always follows an apical consonant. If Pittman’s notation for such a construction after *k* (see next footnote) is taken at face value, it is *-in* after *k*.

10 I believe that it is here that an explanation is to be sought for an otherwise anomalous form, in which an applicativized verb apparently has the wrong object marked on it. As is explained in 6.5, applicativized verbs take as their object what corresponds to our (more closely to the Spanish) indirect rather than direct object. In Pittman 1954 (60: line 19) the verb *kin-tepē-li* (them-knock.down-applic) is used with the meaning (clear from the context) ‘he knocked them (teeth) out of him (the lion)’. By the clear patterns of applicative formation we would expect the OP to designate the lion rather than the teeth in this situation. I suggest that in fact it does, that the proper analysis of this form is *k-in-tepē-li* (him-pl-knock.down-applic), in which the OP is *k-,* corresponding to the singular Landmark, the lion, and the plural marker *in* is marking the plurality of the secondary landmark, the teeth, not of the primary one.
OP Schema is diagrammed in 5.1.i; I will not represent the others. These schemas will in turn be subsumed under 5.1.j, the schema defining the class of Personal OP’s.

**OP-Verb Constructions**

As a typical example of a personal OP-Verb construction, let us take *ki-neki* (it-want) ‘want it’. The semantic structure of the expression as a whole construes a trajector experiencing processually (imperfectively) a desire for a 3 pers sg landmark Thing. Componentially, the *ki-* designates the 3 pers sg landmark, *neki* designates the processual Relation of wanting or desiring, and their phonological combination symbolizes the identification of the profile of *ki-* as the landmark of *neki.*

![Diagram of OP Verb Construction](image)

The meaning of *-ki* was discussed above (5.1.g). *neki* is a notionally imperfective transitive stem profiling the trajector desiring the landmark, which may be either an event (construed as a Thing) or some sort of object. Phonologically, as we claimed above, *ki-* is prefixal: that is, it precedes and attaches to a stem and contains an internal reference to that stem. Semantically it makes internal reference to the semantic pole of the stem, being identified as the landmark of a process. Since *neki* is a transitive verb, it will, according to the claims in 2.5, make internal reference to a direct object elaborating its landmark. Their combination is effected as follows: Phonologically the sequence *neki* elaborates the stem implied by *ki-* and the concept WANT elaborates the process implied by the 3 pers sg OP. Also the OP elaborates the landmark of the predicate WANT. Since this latter case is elaboration of a profiled element whereas the former is not, the dependency as a whole is of WANT on the OP. WANT is also the profile determinant: the composite structure profiles a process of desiring rather than a Thing. The phonological integration bears a symbolic relationship to the semantic integration, so that the composite semantic and composite phonological structures are symbolically related. These elements are diagrammed in 5.1.k, in both analyzed and composite form.

Note that the composite form *kineki* is an intransitive stem, an instantiation of 3.b rather than of 3.a. The same is true for all the SP-Verb constructions in this section. Thus *neki* is not entirely schematic (and thus profile determinant) for *kineki*, but the difference is exactly what should be expected, and we will ignore it, continuing to represent the stems as fully profile determinant.

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11 Throughout I will gloss the OP-stem forms with no subject, inasmuch as we are considering them as stems, prior to combination with an SP. The same phonetic shapes can also symbolize a complete verbal, with a phonologically null 3 pers SP meaning “he” or “it” or “they”.

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**ki-** (and its variant *k-*) combines with many other transitive verb stems, both single-morpheme predicate stems and constructions such as applicative and causative stems, and in each case the integrations exactly parallel those of its combination with *neki*. Examples would be *ki-htowa* (it-say) ‘say it’, *ki-maka-ta-s-kiya* (him-give-dur-fut-would’ve) ‘would have continually given him’, *ki-wih-wika-lo-tinem-s-ki* (it-rdp-carry-hon-ambulative-fut-pl) ‘(s.o hon pl) will go around carrying it’, and so on, ad infinitum. Hundreds of these cases are quite certainly cognitive units and so are listed in the grammar; others, including perhaps the last two above, are unlikely to have achieved unit status. All these cases will be united under a schema *ki-Verb*, which is structurally like *ki-neki* except that the semantic and phonological specifications peculiar to *neki* are bleached out, leaving only the Transitive Verb Stem schema (3.a) in their place. This construction is diagrammed in 5.1.1.\(^{12}\)

Parallel to the units such as *ki-htowa* and *ki-neki* there exist many OP-Verb units and non-unit constructions in which the other Personal OP’s (5.1.c-f, h) combine with specific transitive verb stems. Some of these are listed below.

<table>
<thead>
<tr>
<th>Construction</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>nēč-ilwĩ-lo</em> me-tell-hon</td>
<td><em>(s.o. hon) tells me</em></td>
</tr>
<tr>
<td><em>mig-hta-k</em> you-see-pret.sg</td>
<td><em>(s.o. sg) saw you</em></td>
</tr>
<tr>
<td><em>tēč-pasär-ow-a</em> us-pass-vr-pres</td>
<td>*(s.o. pl) will hear you pl’</td>
</tr>
<tr>
<td><em>nemē-kaki-s-ki</em> you.pl-hear-fut-pl</td>
<td>*(s.o. pl) should/might bang my nose so as to make it bleed’</td>
</tr>
</tbody>
</table>

Schematic to the many such constructions for each of the OP’s there will be a construction parallel to the *ki-Verb* construction (5.1.l) in which that OP is combined with the Transitive Verb Stem schema (3.a). Thus there will be a *nēč-Verb* construction, a *mig-Verb* construction, a *tēč-Verb* construction, and so forth. These are organized under schemas neutralizing the person or plurality distinctions: a 1 Pers OP-Verb construction, a 2 Pers and a 3 Pers OP-Verb constructions, a Sg OP-Verb construction and a Pl OP-Verb construction.\(^{13}\) In each case one of the abstract OP schemas like 5.1.i is the first element of the construction and the Transitive Verb Stem schema 3.a is the second. Schematic to all of these will be the Personal OP-

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\(^{12}\) This is the construction that has internalized to *ki-.* I.e. the internal reference of *ki- to a process of which it is landmark corresponds in the Interconnected Network model to a strong association of *ki- with this construction.

\(^{13}\) Unlike the Pl SP-Verb construction (which elaborates F.f), the verb stem in the Pl OP-Verb schema would not saliently specify plurality of the landmark. A sub-version of this schema, dealing with certain reduplicated stems, would specify a plural landmark, however.
Verb Stem construction, 5.1.m, above. In this construction the Personal OP schema 5.1.j combines with the Transitive Verb Stem schema 3.a in a manner exactly parallel to the way in which *ki-* combined with *neki*.

All TN constructions with Personal OP’s, since they are elaborations of 5.1.m, share the following characteristics:

(a) They have an OP (5.1.j) as one element in them. The OP phonologically precedes and is prefixal to a stem which is a transitive verb.

(b) The stem is semantic profile determinant for the construction as a whole.

(c) The stem elaborates (at both poles) the schematic stem implied by the OP.

(d) The OP elaborates the landmark of the stem.

(e) Since the e-site within the OP is not profiled but that within the stem is, there is an overall dependence (grammatical valence) of the stem on the prefix.
5.2 SP-OP Combinations

Both an SP and an OP must be used on any transitive verb; the SP always precedes the OP. The number of possible SP-OP combinations is quite limited, given (a) the limited number of SP’s and OP’s, and (b) the fact that SP-OP combinations in which both predicates profile the same participant in the Speech Situation are impermissible.1 Most SP-OP combinations are repeated over and over again, dozens of times a day. There is nothing within the CG framework to prevent these SP-OP combinations from becoming units: in fact there is every reason to expect that they will.2 And there is some evidence that in fact they have. One kind of evidence has to do with speakers starting a verb, giving the SP-OP combination without any hesitation, and then pausing, seeking for just the right verb stem to use. Thus a speaker might say “ni-\(k\ldots\) ni-\(k\ldots\)” (I-it-\ldots) while searching for an appropriate (transitive) stem.3 Another kind of indication is the tendency of some speakers to write SP-OP combinations as a separate word from the stem. A third kind involves idiosyncratic developments of particular SP-OP combinations; some of these will be discussed a little later in this section.

If we conceive of the combination of an SP and an OP as occurring apart from the verb stem (i.e. if the constituency is \([\text{SP-OP}]-[\text{Verb Stem}]\)), then it involves a valence relation that is atypical in two respects. One point of difference is that the two elements are not asymmetrically dependent: neither presupposes the other particularly more than its fellow presupposes it. The second difference is that neither element is the profile determinant: \(ni-k\) designates neither a special kind of 1 pers nominal nor a special kind of 3 pers nominal. Both elements designate Things: to that extent the construction is like an appositive. Also appositives are somewhat ambivalent as to profile determinance. However, appositives are ambivalent because the profiles of the two predicates correspond and both are profile determinant; here the profiles do not correspond but there is still no clear profile determinant. Also various sub-parts of the two predicates will correspond, functioning as e-sites, in complex ways which will not be available to the nouns in most appositive constructions. I have diagrammed the combination \(ni-k\) in 5.2.a, in both analyzed and composite versions.4

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1 Situations involving such conceptual combinations are, of course, handled by the reflexives. The impermissibility of the SP-OP combinations that ought to mean the same thing as the corresponding reflexives can be accounted for by claiming that all the OP’s have a specification that the process landmark that they designate is not the same as the trajector. I will assume that there is such a specification in all the OP’s discussed in the last section.

2 Here is another place where the intuitions of the old grammarians of Classical Nahuatl were probably correct: they listed these SP-OP combinations as units as well as by the separate morphemes (e.g. Rincón 1595:16-17, passim, all dictionary entries for transitive verbs in Molina 1571, Carochi 1645:411-413).

3 \(ni\) is diagrammed in F.a; \(k\) is the usual post-vocalic version of 5.1.g.

4 It should be understood that particularly in the e-site designations involved in the analyzed version, we are operating with a much lower threshold of salience than we have been using in other diagrams of SP’s and OP’s.
5.2b. **ni-k**-Stem Construction

However, it is not the case that this constituency is necessarily used. An alternative account, which I will adopt from here on, claims that what achieves unit status is not the SP-OP combination per se but rather the SP-OP-Verb Stem construction, preserving the [SP]-[OP-Stem] constituency. Thus **ni-k** would be more properly represented by the diagrams in 5.2.b rather than those in 5.2.a. 5.2.c is a constituency-tree representation of 5.2.b.

[Diagram of **ni-k**-Stem Construction]

5.2c. **ni-k**-Stem Constituency Tree

There is no reason to expect that these SP-OP-Stem constructions will be exempt from the tendency to develop idiosyncratically with respect to their phonology or their semantics or both, any more than are other units of the language. And, in fact, some of them have done so. This constitutes another kind of evidence that these SP-OP combinations are units in their own right. One case of such idiosyncratic behavior we have touched on already, namely the case of **ki** ‘3 pers sg OP’ when following **ne(n)**- ‘2 pers pl SP’. In Classical Nahuatl the form was **an-ki**; for some speakers it is still **nan-ki**- or **nen-ki**-, but for the vast majority it is now either **ne-ki**- or **na-ki**- (except before a vowel, where the OP is **k**- for all speakers). The **i** on the OP in **an-ki**- and **nan-ki**- or **nen-ki**- was motivated by phonological considerations (e.g. Epenthesis, A.6) but the **i** in **ne-ki**- is not. The only motivation for its presence seems to be the fact that it is in this particular SP-OP-stem combination. This example illustrates both the analyzability of the SP-OP-stem constructions (the SP changed in these forms exactly as it changed in other SP-OP-stem and SP-stem constructions) and its unity (the OP retained the shape it had always had in this SP-OP-stem construction, even though the phonological environment motivating that shape had changed).

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5 I adopt this alternative largely for practical reasons, as it makes exposition of certain points easier and avoids some problems, but I do not want to claim that the other account is wrong.
Another couple of cases of idiosyncratic development have resulted in fused forms which are SP-OP’s but which are not easily analyzed into component morphemes. These forms must be used instead of the separated, non-fused forms. The first such case is a bit dubious: when a process has a 1 pers pl trajector and a 2 pers sg landmark we would expect to get a form \textit{ti-	extit{miš}}-Stem. This is, in fact, what we do get. But it is not totally clear in these cases that the \textit{ti-} designates 1 pers pl rather than 2 pers sg. Precisely the same form is used for situations where the trajector is 1 pers sg and the landmark is 2 pers sg, and speakers tend to identify the \textit{ti-} in those cases as 2 pers sg.\footnote{What the reason was for this change taking place I can only speculate. I think it may have had something to do with honorificness and politeness and the general tendency in many American Indian languages to rank 2 pers nominals as higher than 1 pers. (I would hate to have to view it as accidental that both and only 2 pers OP’s are involved in this kind of change.) Perhaps the 2 pers nominal is conventionally viewed as being so important (even though he is the landmark rather than the trajector of the process) that it is superfluous or distasteful to mention who the trajector is. Honorifics do much the same thing by using reflexive causatives and applicatives: the 2 pers trajector is viewed as acting on or with respect to himself alone, making him autonomous (cf. Andrews 1975:112, 114). (The structure under consideration here, however, is not limited to honorifics.)} Thus \textit{ti-	extit{miš}-lhta (I-you.sg-see)} can mean either ‘I see you sg’ or ‘we see you sg’. This means that \textit{ti-	extit{miš}}-stem means either ‘I Verb you sg’ or ‘we Verb you sg’. These two meanings are doubtless combined under a single schema meaning ‘1 pers Verb you sg’. This schema is diagrammed in 5.2.d in a representation parallel to the composite version of 5.2.b.

Thus the construction \textit{ti-	extit{miš}}-stem with the meaning ‘we Verb you sg’ is ranged under two schemas, one with the \textit{ti-} corresponding to ‘we’ and one (5.2.d) where the whole semantic structure corresponds to the whole phonological structure, but where \textit{ti-} cannot mean that the trajector is specifically ‘we’ because the trajector must be able to be ‘I’ as well. This, I think accounts for the dubiousness as to what \textit{ti-} means in these cases.

The result of this change, however it came about, is that there are only two constructions for expressing the combination of a verbal trajector with a 2 pers sg landmark: \textit{miš}+stem for cases where the trajector is 3 pers, and \textit{ti-	extit{miš}}-stem for cases where the trajector is 1 pers. (Cases where the trajector is 2 pers are in a
different category, as they are reflexive.) Plurality distinctions of the trajector in this case are expressed only (indirectly) by reduplication of the verb or by one of the verbal plural suffixes discussed in B.3.

The other case is that of the 2 pers pl OP nemēč-, which never takes an overt SP. For the cases where the trajector is 3 pers, this is expected. Where the trajector is 2 pers, of course, we have a reflexive. Where the trajector is 1 pers we would expect the SP’s ni- for ‘I’ and ti- for ‘we’. Instead, we simply get nemēč-. We could account for these facts perhaps by stating that the prefixes ni- ‘I’ and ti- ‘we’ have built into them a specification that when they are trajectors of a process the landmark is not 2 pers. This specification would be violated by ti-miē under the analysis that it is the 1 pers pl SP plus the 2 pers sg OP, but would otherwise hold. Then there would be a special schema which would give the nemēč-stem construction as meaning ‘1 pers Verb you pl’. This would be combined with a schema giving the nemēč-stem construction as meaning ‘3 pers Verb you pl’, under a yet higher schema giving it as meaning ‘1 or 3 pers Verb you pl’. This last schema is given as 5.2.e.

All of these schemas are elaborations of 5.2.f, the SP-OP-stem schema, which defines the class as a whole. It is given below in both an analyzed version (which is schematic to cases that are still analyzable) and a composite version, which is schematic to all of the SP-OP-stem constructions.

Two other highly fused reflexive SP-OP’s are discussed in the next Section (5.3).
5.3 Reflexives

Reflexives are used when the trajector and landmark of a process are identified with the same participant in the Speech Situation. They introduce many semantic complexities as a natural result of their semantic content. In particular, they often bear meanings which must be translated in English by passives. In this section we will first deal with the different reflexive forms of TN and then with some of the semantic complexities they bring in, ending with a consideration of the reflexive passive construals.

Reflexives as OP’s

The basic reflexive morpheme is mo-, which is from many standpoints a special kind of OP. It occurs with transitive verb stems only and its use normally precludes the use of any other OP’s (exceptions are certain honorific forms and certain rare forms where the reflexive has fused to the stem). In constructions it appears in the same position as other OP’s, following an SP (including ti- ‘you sg’, ne- ‘you pl’, ši- ‘imperf SP’ and e- ‘3 pers’), and preceding the verb stem. Examples are forms such as ti-mo-hṭa or to-mo-hṭa (you-refl-see) ‘you see yourself’, ne-mo-hṭa ‘you see yourselves’, and mo-hṭa ‘he sees himself’/they see themselves’. In these forms the morpheme mo- can be seen as identifying the landmark of a process with its trajector, thus (indirectly) grounding the landmark. I will claim that, like the other OP’s, mo- profiles a Thing which is the landmark of a process. This schematic process functions as an e-site which is elaborated by a (following) stem. Phonologically mo- is prefixal to that stem. Crucially, the (profiled) landmark of the process is identified with the trajector. Three versions of this construal, varying along the compacted exploded dimension, are given in 5.3.a.

![Diagram](image_url)

5.3.a. *m(o)* (3 degrees of compacting)

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1. An example of such fusion is *m-ēwi-liya* (refl-raise-applic) ‘get s.o. up, raise s.t. up’, a causative of *m-ēwa* (refl-raise) ‘arise, get up’, which is the reflexive corresponding to *k-ēwa* (him-raise) ‘raise him/it, get him/it up’. The expected causative (keeping the suffix -liya) would have been *ēwi-liya* but would have been expected to mean ‘cause s.o. to raise s.t.’. Or in *mo-kiya-m-āna-wiya* (refl-rain-refl-take-applic) ‘(be)take oneself out of the rain’ *mo* occurs twice, with the second concurrence following the incorporated noun *kiya*, something the personal OP’s never do. *mo* is also used after a 1 or 2 pers OP in honorifics and after a 3 pers. OP in some ultra-honorifics (see B.3 for examples).

2. This is by no means a foregone conclusion. *mo* could also be viewed as profiling a Relation of identity between the landmark and the trajector of an (unprofiled) schematic process, or as a schematic process or verb in which the trajector and landmark are identified with each other. It is even possible to view *mo* as a sort of SP profiling the trajector of a process which is equated with its landmark. All of these construals would have the same compacted structure (5.3.a, a third diagram). I cannot really argue that these construals are wrong or are not used by speakers. However, the strong formal parallels between *mo* and the other OP’s, such as position class in the verb, (usual) non-cooccurrence with other OP’s (except in honorifics), occurrence only with transitive verbs and satisfaction of their landmark valence but not their subject valence, and evidence of undergoing SP-OP fusion, argue for the reflexives being analyzed as OP’s. All of these facts could be accounted for under the analyses suggested above, but I think it probable that the parallels will tend to reinforce the analysis presented in the text, making it much more salient than the others.

3. As with the other OP’s, the trajector of that process functions as a less salient e-site, being elaborated by a preceding SP. This is not represented in the diagrams.
mo- appears as m- before a vowel (in most cases); this is an example of Vowel Deletion (A.8). It also is, I believe, suppletive; there will be one sub-version of 5.3.a which will specify that the stem is vowel-initial and that the phonological shape of the reflexive prefix is m-; another sub-version will specify that the stem is consonant-initial and that the prefix’s phonological shape is mo-.4

For first person reflexives we have, instead of the expected ni-mo-stem and ti-mo-stem constructions, constructions with no- and to- respectively prefixed to a stem. The inacceptability of ni-mo- and ti-mo- is to be expressed (and explained) by an internalized specification within mo- that its profile is 2 pers or 3 pers. I will assume that such a stipulation is present in 5.3.a, though it is not represented.

The forms no- and to- are perhaps best viewed as fused SP-OP-Stem combinations like those we saw in 5.2.5 no-, or, more properly, the no-Stem construction, is diagrammed in 5.3.b in both an exploded and a compacted version.

[Diagram]

5.3b. no-

There is one other reflexive OP, namely ne-, which historically was an unspecified reflexive (see 3.9) but which synchronically is used to designate 3 pers honorific reflexives. Since the 3 pers SP is o, it can be equally well viewed as in an SP-OP like no- and to-. All such verbs must have the appropriate 3 pers honorific suffix (B.3) on them, since they have a 3 pers hon prefix. 2 pers honorific reflexives are formed like the non-honorific, but with a causative or applicative stem and the suffix -finowa; thus the form for ‘you see yourself’ is to-mo-hita, but the form for ‘you hon see yourself’ is to-mo-hi-lih-finowa (you-refl-see-applic-hon.refl). We will not be dealing with these forms.

Active Zones in Reflexive Construals

Although it is true that reflexives such as mo-, no-, and to- are parallel in many respects to the OP’s and SP-OP’s presented in 5.1 and 5.2, they also behave differently in certain respects. Some of these differences cluster around the traditional inflectional-derivational distinction, with reflexives tending to behave like derivational affixes. In order to discuss these differences, I think it will be helpful to first examine a little more closely what is really going on semantically in the more prototypical, less problematic cases.

4 The first person reflexives no- and to- (next paragraph) do not (usually) lose their o before a vowel. It is surely relevant that if they did so they would be neutralized with the non-reflexive SP’s ni- and ti-, which do not have their i before a vowel.

5 They could be analyzed into n-o- (I-refl) and t-o- (we-refl), but this would be the only place a reflexive -o- would appear. Classical Nahuatl had the forms ni-no- and ti-to-; historically the development may have been ni-mo- > ni-no- and ti-mo- > ti-to- by some sort of Consonant Harmony (cf. the Pochutec forms n-mo- and t-mo-, Boas 1917:17; but see also Langacker 1976:41-47, which suggests that no- and to- may be survivals of Proto Uto-Aztecan *ni- and *ti-, so perhaps the Classical Nahuatl forms came by adding the (redundant) SP’s to the already specialized reflexive forms). At the ni-no-, ti-to stage the SP was essentially superfluous; the 1 pers sg and pl specifications were built in (by internalization) to the new reflexives -no- and -to-. Thus the SP was dropped. Notice that this development crucially involves changing of the SP-OP as a whole unit rather than separate development of the pieces within it.

Another example of such idiosyncratic development of an SP-OP combination is the change of ti-mo- (you.sg-refl) by Vowel Harmony to to-mo-. (Cf. the units no-k-on- (I-it-hence) and to-k-on- (we/you.sg-it-hence), which show the same harmony in another verbal prefix cluster.)
Earlier we cited reflexive constructions with the verb (*i*)hta ‘see’. What happens when one person “sees” another? It is more complex than it might seem at first. For one thing, not all facets of the individuals involved are brought into play in the Relation. The person seeing (the one construed as trajector) is or becomes aware as a cognizing entity of the other person (the landmark) as a physical body. The active zone of the trajector is his mind and his eyes (as sense organs); the active zone of the landmark is the outer surface of his body, including the outer surface of his eyes (as physical objects) and also including such closely associated appurtenances as clothing. This kind of situation holds in most constructions in which one Thing is a trajector and another is its landmark. The active zone of the trajector does not correspond to the active zone of the landmark; we could say that in a very strict and technical sense it is not a case of Alf seeing Bert or Alf hitting Bert, but rather of Alf’s eyes and brain seeing Bert’s body or of his hand hitting a sub-portion of Bert’s body.

When (*i*)hta is construed reflexively, the picture is very similar. A person as a cognizing entity is or becomes visually aware of a physical body, but it is his own body. In virtually every clear reflexive this sort of situation prevails: the active zone of the person as trajector does not correspond to the active zone of the person as landmark. We can always say that strictly speaking it is not a case of Alf seeing himself, or hitting himself, but rather of his eyes and brain seeing his body or of his hand hitting some other portion of his body. But we never do so, or at least no more often than we say that Alf’s eyes and brain are seeing Bert’s body. The person as a whole is so much more salient than the component parts that we view him as entering into Relations rather than viewing parts of him as doing so. Thus essentially the same process is taking place in these reflexives as in non-reflexives. To the extent that this is the case, reflexives will behave inflectionally rather than derivationally. If in doing something to yourself you do the same thing and suffer the same thing as you would do and another would suffer if you did it to him, then in putting in a reflexive you are simply substituting one participant for another in a situation and not changing its basic meaning at all.

However, there are usually built-in differences. In the cases we just examined these are slight but are still there. With the verb (*i*)hta the portion of the landmark’s body that is available to the view of the trajector is rather more limited in the case of a reflexive than in the case of a non-reflexive. Without the aid of one or more mirrors or a camera a person cannot usually see most of his face, his neck, his back, or the top, back, and sides of his head. Other parts (e.g. shoulders) can be seen, but only with a good deal of effort, and so are not normally looked at. This makes the landmark less prototypical in that it is less than totally involved in the action designated by the verb. Also what one’s own body looks like is different from what someone else’s body looks like in other respects than completeness—perspective for instance. The details of the lines on one’s own hands are typically more accessible for examination than the lines on another’s hands. It is true even in a physical sense that we do not see ourselves as others see us. Also, seeing others is a prototypical experience we undergo many times a day, whereas a person might go days at time without particularly looking at his own body. Or again, our own body is always available to be seen (insofar as we can see it), whereas other people can be seen only at those times when they are present. All of these differences could be latched onto in ways that would change the meaning of reflexive (*i*)hta or see vis-à-vis non-reflexive. For instance, we in English use the word see to mean something like ‘meet’ or ‘interact with’ (I’m off to see my girl. I saw John today at the office, and he said… Have you seen a doctor about this?). This usage capitalizes on the fact that if we see someone we must be present with them. There are parallel usages in

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6 In certain usages the active zone of the landmark might include or be restricted to the visible portion of a much larger entourage of associated Things. Langacker has given as an example a British officer in North Africa in World War II, peering through his binoculars and desiring a distant dust cloud on the horizon, and proclaiming *I see Rommel*, when technically all he sees is the portion visible from his viewpoint of the dust caused by the movement of the vehicles of the entire army commanded by Rommel. Note that this is no idiosyncrasy limited to see: such an officer could also say *There’s Rommel* or *That’s Rommel*.

Similarly, the active zone of the trajector can be adjusted in many cases. In many usages of both TN (*i*)hta and English see the eyes may cease to be an active zone; this is part of what is involved in using the word see to mean ‘imagine’ or ‘perceive’ or ‘understand’.
TN—mōsƛa to-hta-s-ki (tomorrow we.refl-see-fut-pl) means ‘we’ll see each other (get together) tomorrow’; ni-ki-hta-k (I-him-see-preter) can mean ‘I ran into him, met him’. But we do not speak of seeing ourselves in this way: both I’m off to see myself and mōsƛa no-hta-s (tomorrow I.refl-see-fut) ‘I’ll see myself tomorrow’ are not felicitous. Or the facts that we cannot easily see ourselves “as others see us” and that we comparatively rarely pay visual attention to ourselves may be called on to help explain the fact that reflexive seeing is more likely to be construed as non-visual, imaginative or internally perceptual seeing. Contrast I saw him winning the Kentucky Derby with I saw myself winning the Kentucky Derby. Similarly in TN the reflexive no-hta often means ‘feel, be in some particular state of health’, referring to a person’s overall perception of his status: kēni ka ti-mo-hta (how with? you-refl-see) means ‘how you are feeling’ whereas kēni ka ti-ki-hta means ‘how you see him’.

Whether it is the reflexive construal that shifts while the non-reflexive stays put, or vice versa, makes little difference. Dealings with other people tend to be prototypical as opposed to dealings with oneself: thus the semantics associated with the non-reflexive will tend to be viewed as the basic meaning and the semantics of the reflexive construction will be viewed as a departure from that meaning.

**Plural Reflexives**

Before dealing with cases where the differences are more pronounced, I would like to discuss briefly the construal of plural reflexives.

Plurals, like other Things, have active zones. When a corporate executive says “We produced 25 million rubber thumbtacks last year”, the workers (or hopefully the machines) in the company are the active zone: he and the secretaries are not. If when looking for my kids, whom I presume to be playing together, I see Craig (who is an active zone in more ways than one), I might say to Joy ‘I see them’ or ‘There they are’. Similarly, in a plural reflexive, the plural entity may be construed as divided into two groups, one of which is the active zone of the plural entity as trajector and the other of which is its active zone as landmark. In our corporation, again, if the executive says “In our last audit we took stock of ourselves”, he means that one group within “us”, the auditors, took stock of certain aspects of the rest of the operation.

More often the construal will involve each sub-member of the plural Thing acting both as a trajector and as a landmark (typically having, as we should expect, a different active zone as trajector from his active zone as landmark). One such situation involves each sub-member acting with respect to the other sub-member(s). Sometimes each will act toward each (and therefore be acted on by each); other times each will act toward some one or some few and be acted on by some one (or few). These situations in English have a special reciprocal construction; in TN as in many other languages they are subsumed under the reflexive construction. The English pattern is probably attributable to some extent to the semantics of our reflexives, which involve the word self in the singular and selve-s in the plural. The replication of the reflexive landmark selve-s points to a replication of the same sort of process coded by the singular reflexives rather than just to a replicate trajector undergoing a reflexive process on itself as a whole.

Taking the construal a step further yields a third kind of construal of plural reflexives, in which each sub-member acts as both a trajector and a landmark with respect to its own action. All three construals are in principle possible with TN reflexives, though different ones may be favored or disfavored in a given case. Thus a form like mo-maka-ya (refl-hit-imperf) can mean ‘some of them were hitting (the) others’ (like in the English ‘they were fighting’) or ‘they were hitting each other’, or ‘they were hitting themselves’. The three construals of mo- involved are diagrammed below in 5.3.c: it is easy to see how they would be construed as

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7 The “reflexive passive” sense may be here involved to some extent as well; kēni ka ti-ki-hta can as easily be translated ‘how he looks to you’ as ‘how you see him’, and thus by a “passive” construal kēni ka mo-hta can mean ‘how (people) see him’ or simply ‘how he looks’. From there it is but a slight step to ‘how he’s doing’.
simply sub-cases of the schematic plural mo- represented at the top, involving slightly different active zones within the profiled Thing. (E-sites and certain other semantic specifications are omitted for clarity’s sake.)

5.3.c. Plural mo- (four versions)

Of these three the reciprocal may be the most common. It is, in any case, the one most likely to be “inflectional”, as the actions going on are the same kind of interaction between different individuals that obtains in the prototypical non-reflexive cases. This is why, as we shall see in 6.3, reciprocal (plural) reflexives are often acceptable where other reflexives are not. The third construal, the “multiple reflexive” construal, in particular involves many of the same aberrations as the singular reflexives, since it involves essentially the same kind of action of each sub-member on himself.

Semantic Complexities

Many of these aberrations arise from the fact that it is not normal or, in many cases, even possible to do to oneself the same things that one can do to other people and things. We have seen that one cannot and does not see himself quite as he sees others; in other cases the differences are even more pronounced. One cannot in any prototypical sense throw a rock at oneself, or give birth to oneself, or marry oneself, or plow furrows in oneself, or carry oneself on one’s back; one does not sit on oneself or sign contracts with oneself or snub oneself or accompany oneself or give Mass to oneself or (usually) talk to oneself or hide things from oneself. Differences of this sort are multitudinous and tremendously far-reaching, and it will not be possible here to do more than scratch the surface of what is going on. One common result of these differences is that a transitive verb will have no reflexive form (except perhaps the “reflexive passive” form, for which see below). mo-ƛāka-liya (refl-person-inchoa-caus(applic)) with the meaning ‘give birth to oneself’ is, as far as I know, ill-formed, as is mo-kʷen-ƛāliya (refl-furrow-place) in the sense ‘plow oneself’. Examples could be multiplied indefinitely. When I term these ‘ill-formed’ it must be remembered that I am not claiming that they absolutely cannot be conceived of, but rather that the conceptualizations they would involve are not conventional, let alone conventionalized, in TN and are therefore not (yet) part of its grammar.

In other cases a form is used even where there is a semantic problem with construing the situation prototypically. One common subcase is that of verbs which (prototypically) involve people interacting with

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8 I suggest below that the “reflexive passive” is a natural development of the semantic aberrations of true reflexives. Sandra Chung pointed out to me that this implies the prediction that, in languages which distinguish reciprocals from reflexives, the reciprocals will not and the reflexives will tend to develop historically or have synchronically a “passive” sense.
inanimate objects. As an example, let us take the verb stem *hkʷilowa*, which means ‘write’. Writing is something normally done by humans to non-human things like letters (whether letters of the alphabet or missives). The activity designated by the stem is not done, in the Tetelcingo culture, by inanimate objects, nor can it be done, in any direct sense, to people. Perhaps the most salient aspect of a person that is particularly susceptible to being written and thus is a likely landmark of this verb is his name. Thus when the verb is used reflexively, one of the construals that is possible in TN is that of a person writing his name, which is his active zone as a landmark. To this notion have been added specifications of where and why he is writing his name down: the word means ‘to sign up (on a list)’. (Compare the Spanish *inscribir-se* (inscribe-refl), which can bear the same meaning.)

Here it is easy to view *mo-* as a “derivational” affix; the meaning of “write” is quite different from the meaning of “sign up”. Yet it is surely no accident that *mo-* is acting as a “derivational affix” precisely where it is not possible for it to act as an inflectional affix, i.e. where any reflexive construal must needs differ quite drastically from the prototypical non-reflexive construal. The difference is really not attributable to the reflexivity per se but rather to the fact that the reflexive requires a human landmark. (*hkʷilowa* can also be used as a transitive verb with a non-reflexive human object, meaning to sign someone else up). The reflexive usage is much more common, presumably because people usually sign themselves up or, even if another does the actual writing, the scene is still structured in terms of “getting signed up”, without focussing on the person doing the signing. This construal is also coded by a reflexive, as we will see in 5.3.f below.)

The other way that *mo-hkʷilowa* can be construed (other than having the person be landmark as well as trajector, writing himself in some sense) is to have the non-human Thing which is landmark of the prototypical construal viewed as writing itself. This is again an anomalous construal, as non-human things cannot write in any prototypical sense. The only construal that fits is the “passive reflexive” construal, in which the Thing is viewed as getting written without it being specified who is doing the writing. We will get to this construal in a few pages, but first I would like to discuss a few other somewhat simpler cases of complexities introduced by *mo-* and the other reflexives.

Sometimes a reflexive has a “derivational” flavor even though the verb stem can be used with a personal landmark and essentially the same external activity is understood to be performed whether the verb is reflexive or non-reflexive. Often this is because people know (or judge) that the reflexive action and the non-reflexive action correspond to rather different internal motivations and lead to rather different internal states of mind. The man who pampers his wife and the man who pampers himself are likely to have rather different characters: love and self-love (or hatred and self-hatred, or confidence and self-confidence, or pity and self-pity) are rather different propositions, though they may have the same outward characteristics. Thus *λasohti-lis-lix* (love-ν-obs) is a very commendable attribute to exhibit, but to be a *mo-λasohła-ni* (self-love-er)

9 Note that in this type of case, where animacy or humanness seems to be the distinctive factor, 1 pers and 2 pers nominals will share the same “derivational” behavior as reflexives. Since letters and written things in general are never Speakers nor Hearers, “I write you” or “you write me” will have, or at least tend strongly, to be interpreted in the same sort of manner as is “I write myself”.

10 There are other senses in which a person could “write himself” or write another person besides the one just discussed. In English we get people in as landmarks of the verb *write* by expanding the profile of the verb (in a Type III extension) to encompass a larger portion of the functional assembly that serves as the verb’s base, to include the person who, in the intent of the writer, will read what is written. In TN this construal is coded by the applicative verb stem *hkʷil-kiya*. One might also expect a person’s history to be viewed as writeable active zone (I can imagine a newspaper editor commanding an underling to “write up Chomsky”), or, in the case of an author, his style may be such an active zone (“he writes pure Hemingway”).

11 Again this is not an absolute law that cannot be bent. We can speak of waves writing on the sand or Nature writing the history of life in the fossils, and what we mean is that inanimate things (unless we are Pantheists) are leaving some sort of interpretable mark, recording the occurrence and nature of certain events. These usages sound poetic, but that is largely because they are not yet conventionalized; ordinary language is full of usages every bit as fanciful (and apt) which seem mundane to us because we have heard them so often.
‘egoist’ is deplorable. Similarly *ki-čamāwa* ‘he praises him’ and *mo-čamāwa* ‘he brags, praises himself’ involve much the same sort of external activity, but are viewed very differently in the prototypical cases. If a person *ki-tē-ilwiya* (him-unspec.hum-tell) ‘accuses’ another, it is unpleasant but basically understandable; if he *mo-tē-ilwiya* ‘accuses himself’ it is likely to be a much more puzzling phenomenon. Or again *ki-mik-tiya* (him-die-caus) ‘he kills him’ and *mo-mik-tiya* ‘he commits suicide’ are from one viewpoint clearly non-reflexive and reflexive cases of the same act, and are both viewed as deplorable, but the internal motivations behind the different acts are quite different, and, as a result, people’s responses to them are not the same. (In this case, an additional factor is that the subsequent histories of the trajectors and those associated with them will be very different in the two cases as well.)

There are many other examples of verbs which prototypically involve a human acting on a non-human thing, which have well-established reflexive versions involving a human’s action on himself. In some cases it is difficult to tell which should be viewed as an extension of which, when both usages are very firmly entrenched. An example of this sort is that of the verb *ƛāl-iya* (ground-vr, cf. 6.5.b-c) which when used non-reflexive means ‘put (down)’ or ‘place’ but when used reflexively means ‘sit (down)’. It is obvious that, if placing means causing a Landmark to achieve a state of resting equilibrium on top of some sub-landmark, humans can do it to their own bodies as well as to other physical objects. However, the means used to accomplish that end are drastically different; in the one case everything is external to the Landmark, hands reaching down to grasp it, an external agent (the Trajector) conveying it to the desired location, lowering it (from above, and finally relinquishing contact with it, and in the other case everything is internal to the Landmark, legs supporting the rest of the body from beneath, moving it near the desired location, and then doubling in order to lower it. The difference is exacerbated to some extent by the specialization of *mo-ƛāl-iya* to a subcase of placing oneself, namely the (very common one) in which the sub-landmark is (prototypically) a chair and the body ends up in the seated position. Actually this specialization is not surprising, since the verbs for the other two prototypical cases of causing the body to achieve a static equilibrium are coded by reflexive forms of other verbs of placing which specify a vertical or horizontal final position of the Landmark, *mo-(tē)-tēka* (refl-(rdp)-lay/toss down) ‘lie down’, *mo-ƛāh-kali* (refl-down-throw) ‘lie down’, and *m-ēwa* (refl-raise) or *mo-keča* (refl-stand up) ‘stand up’. All of these cases are parallel to *mo-ƛāl-iya* in that they designate a very different type of action from the corresponding non-reflexive, simply because one cannot perform the action specified by the verb on oneself in the way one can on another object. Other cases of the same sort include *ki-hkʷeniya* ‘he moves it (from one place to another)’ vs. *mo-hkʷeniya* ‘he moves (over, away)’, or *ki-kʷepa* ‘he flips it over, turns it around, puts it back’ vs. *mo-kʷepa* he turns around, returns’. Or *ki-malwiya* means ‘he guards it, keeps it safe’ (from robbers, or from contamination, by keeping it always with him or in some safe place), while *mo-malwiya* means ‘he keeps himself pure from contamination (particularly from unchastity, by whatever means, but almost surely internal means, proves effective for that purpose)’. And so on, almost *ad infinitum*.

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12 Construal of acts of sitting and lying in this way as reflexives is involved in English forms such as the dialectal *Sit yourself down* or the traditional *Now I lay me down to sleep*; Spanish reflexives such as *sentar-se* (seat-refl) ‘sit down’ or *acostar-se* (lay-refl) ‘lie down’ involve directly parallel construals.
5.3.d. mo-keča (Internal Causation)

Reflexives of this type can easily be viewed as quite strongly derivational, as causing a significant change in the construal of the verb stem to which they are attached. This is illustrated by the diagram in 5.3.d, in which the “normal” or “basic” sense of keča ‘stand s.t. up’, the sense in which a person prototypically stands an object up, is viewed as being quite different from the “derived”, composite sense mo-keča (refl-stand) ‘stand up’.¹³ Note that in 5.3.d. the relationship between the predicate of keča and the composite semantic construction symbolized by mo-keča is not one of schematicity: the composite is a process but it is a different kind of process: in particular Relation A in keča does not correspond to Relation A’ in mo-keča. Thus keča is only partially profile determinant in this construction. This can be avoided, of course, by taking a less specific, less prototypical version of keča to start with, one in which little or nothing is specified about what is done to cause the Landmark to assume a vertical posture. Nothing is wrong with such a construal, and it is likely often used; however I assume something like 5.3.d is also often used, especially since it so closely corresponds with other construals we will see later.

To the extent that construals such as 5.3.d are associated with reflexives like mo-, they will internalize to them, and the reflexives will come to mean not just “Thing which is landmark of a process in which the trajector and the landmark correspond” but “thing which is landmark of a process in which the trajector, which corresponds to the landmark, operates on it in a purely internal manner.”

Some of these verbs could also be used with another human as the landmark. For instance ki-tēka could be used of laying someone down, or k-ēwa of standing him up. Or ki-kʷepe can be used of turning someone else over or around, or ki-hkʷeniyā of moving him over. In all these cases the means used to accomplish the designated action with respect to another person differs quite a bit from that needed to accomplish it on

¹³ Relation A’ is diagrammed above B’ to represent the fact that this is not prototypical causation, in which the causing Relation precedes the caused Relation temporally (Characteristic (vii) in 2.3), but rather is atypical in that it (presumably) coincides with it temporally (as well as being atypical in other respects).
oneself. The non-reflexive construal has (naturally) an agent (trajector) and actions external to the landmark, whereas the reflexive does not; the movement is internally motivated and executed. Even when there is no movement involved, the lack of movement itself may be so viewed. The verb *ki-kāwa* (him-leave) means ‘leave him(it) (alone)’; *mo-kāwa* means (not surprisingly) ‘remain, keep stative’.

Often the action (or inaction) specified by the verb and viewed as reflexive since it is internally motivated and executed is also voluntary, but not necessarily always. For example, if a person *mo-ōliniya* (refl-shake/move) ‘shakes’, he might be doing it on purpose, or he might be shivering from cold. If he *mo-kāwa* ‘stays’ where he is, it is often implied that he does so on purpose, perhaps against psychological pressure to do otherwise, but he may be asleep or inattentive or even held there by psychological pressure or even physical restraints: the external action will be the same in any case. A person can bother another (*kipasolowa*) or simply beCOME irritable and act bothered (*mo-pasolowa*). In some of these cases there might well be some external cause or potential motivation for the action; the person might stay where he was because he knew he would be discovered if he moved. Or the person’s irritation might be related to various minor circumstances; excuses or occasions for the irritation which are potential trajectors or causes of the bothering but which are judged as too insignificant to qualify as real trajectors.

It seems obvious that such more or less internally motivated and internally executed actions of a human being are paralleled, at least phenomenologically, by actions of certain inanimate things. A human may move himself from one place to another; so, it would seem, can the water in a river or a faucet. There is prototypically no obvious external causor agent in either case; both actions would appear to be internally motivated and executed. Thus it should not be surprising that reflexive verbs (e.g. *mo-ľalowa* (refl-run)) can be used of water running. A human may shake something (*k-ōliniya*) or just shake (*m-ōliniya*) under internal motivation of some sort, whether voluntary or not. It should not be surprising that earthquakes can be viewed as reflexive occurrences, coded by the same verb. A ball that is thrown into the air returns (*mo-kwelpa*) to earth of its own accord, a lost item suddenly turns up (*mo-nēš-tiya* (refl-appear-caus)) or a child’s hammock swings up and down (*mo-pē-pēšoh-wiya* (refl-raise/nurture)) and multiply (*mo-meyak-i-liya* (refl-much-vr-caus), lit. ‘it muchifies itself’), producing flowers which bloom (*mo-loňi*) on their own, and the sun emerges from below the horizon (*mo-kēš-tiya* (refl-emerge-caus)) apparently of its own will.\(^{14}\)

As when humans perform such internally motivated and/or executed actions, there may be other factors in the conceptual context that one could point to as likely candidates for trajectors motivating, causing, or even executing the action. In many cases the situations can be so construed, and some such factor can be coded as the trajector. But they can also be construed so as to ignore those external factors. For instance, consider a case where a person comes across something he has been missing for a long time. The situation can be construed as involving his finding the thing; that is a non-reflexive construal and will be coded by a non-reflexive form such as *ki-nēš-tiya* (it-appear-caus) ‘he finds it’. Or the situation can be construed as the thing turning up on its own, in which case a reflexive is likely to be used (*mo-nēš-tiya*). Perhaps the capitalist multiplies his money in the bank: *ki-meyak-i-liya* (it-much-vr-caus) is the form. Perhaps, however, the money is viewed as multiplying of its own accord. Then the reflexive form, *mo-meyak-i-liya*, will be used. It is all a matter of what perspective one wishes to take on the situation. Some situations will make one construe more likely than the other, but many situations will allow of either type. When one wishes to construe a situation making an external causal factor of some change prominent, a way to do this is to structure the situation non-reflexively, with the external cause as trajector and the changing item as landmark; but if one wishes to construe the situation so as to fade the external factors out of the picture, he can do so by...

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\(^{14}\) This last case involves at least historically an honorific usage, addressing the sun as a god, as Brewer and Brewer (1962:156) report. But the essence of such an honorific usage is to attribute precisely this sort of action springing from within oneself, responsive nor responsible to anyone else.
structuring the situation reflexively, with the changing Thing viewed as undergoing the change from purely internal causes.

There is another kind of construal that I think is probably involved in many of the cases we have been considering. It will be remembered from the discussion in 2.3 and 2.4 that one prototypical trajector/landmark (figure/ground) alignment is to take as trajector some agent of causation, a Thing which causes a change, and to take as the main Landmark (direct object) the most salient Thing involved in that change. This we called a Type II construal. In the preceding paragraphs and 5.3.d we have been working with construals where a Type II trajector and landmark are taken to be identical; a Thing is construed as causing a change in itself. However, if you focus in on the change itself, totally ignoring causation and other normally external factors, another type of canonical figure/ground organization becomes relevant, in which the most salient Thing involved in the change is taken as trajector, and the landmark is whatever its changing position is calculated relative to. This was what we termed a Type I construal.

Many times, we noted, when a Type I construal is invoked, the nature of the landmark is hard to specify. Often there is no one particular landmark which stands out from the rest; for example a thing might move relative to a rather homogenous background like an expanse of sand or a cloudless sky, or a very complex background like a bed of weeds, and it might be difficult to pick any one thing out of the background as a landmark. One kind of construal is not to code any landmark at all, to use an intransitive verb, leaving unspecified what the landmark is. Another possible construal in such cases is to take the original position of the moving Thing as a Type I landmark, a point of reference for calculating its movement. Something like this may be a part of what is involved in the English locutions of shifting/changing one’s position/posture. In many cases it is difficult to come up with any other landmark appropriate for coding. Consider the case of growing. A change is certainly involved (“My, how you’ve changed!”), but the only landmark relative to which the change can be calculated is the former state. Spreading out, assuming a curled-up as opposed to a spread-eagled as opposed to a straight posture, increasing or decreasing, reddening or paling, all of these are changes, but changes which can only be characterized by calculating them relative to the former state. Thus one kind of Type I landmark can be the trajector’s former position.

However, it is not necessary to think of one’s position as separate from oneself. Another way to construe this same thing is to view the landmark as being one’s self in the previous state or position. Or, to say the same thing in another way, one’s former position or state may be taken to be one’s active zone for certain construals. Thus in a form like mo-Dhkʷeniya (refl-move) ‘he moves (over), the reflexive may be not so much a result of a construal in which he (as a willing entity) is causing his body (as a physical entity) to move, as of a construal in which he (as a changing entity) moves through space, as calculated relative to himself (as a previously located entity). This makes it easier to see how a form like mo-Dhkʷeniya could be used of an inanimate entity: it changes position or location, and the change is calculated relative to its original position. The form can be used when it is obvious to anyone how it was changed (e.g. someone moved it), but all that is focussed on is the nature of the change. mo-kʷepa (refl-turn) ‘return’, similarly, may be used with no necessary implication, even far-fetched, of the thing causing itself to move: it returns to its former position, and that former position is construed as the landmark of the expression and as a part (active zone) of the trajector. Thus you get a reflexive. Or in another version of mo-kʷepa, where the change is not

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15. They could also be calculated, I suppose, against some norm or set of norms; growth can be calculated against growth charts for children of different ages, for instance. But both states have to be compared to the norms; thus the two states ultimately do have to be compared with each other. Note that even when there is no change involved, many states of these sorts are easily viewed as reflexive; being spread out, curled up, spread-eagled, etc., can be characterized as particular sets of Relations of subparts of the whole body: this will naturally be susceptible to construal as reflexive.

16. Cf. the English construction in I don’t like myself when I’m like that, with the meaning that the speaker doesn’t like himself in retrospect, not that he doesn’t like himself at the time. He doesn’t now like what he has been in the past, and this can be construed as a reflexive. An even clearer case might be that involved in first we went 20 miles that direction, then we doubled back on ourselves to get to here. The “selves” we doubled back on were we at our former location.
from one physical location to another, you get the meaning ‘change, become, turn into’ (cf. Spanish *volver-se (return-refl)* which can bear the same meanings). Here the construal fits nicely that the reflexive is coding the implicit comparison of the original state and the changed state, with the person or Thing changing as trajector, with his unchanged state being his active zone as landmark. A construal of this type of *mo-kefa* (refl-stand) ‘stand up’ is diagrammed in 5.3.e. Compare this construal with that represented in 5.3.d: note that again kefa is not schematic for *mo-kefa*: the scope has been reduced to the change profiled in Relation B.

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**Reflexive Passives**

I think, then, that we now have some tools with which to approach reflexive passives. On the one hand, reflexives can be Type II reflexives, in which the person or other Thing as trajector does something to himself as landmark, prototypically causing himself to change. Such a Type II reflexive Relation can be conceived of as occurring internally: the change involved is internally motivated and internally executed. Such construals are possible even when there are other, external, causal factors involved. On the other hand, many of the same reflexives, and others, can be construed as Type I reflexives, in which the Thing as trajector changes with respect to itself as landmark. Again, the construal is possible even when there are

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17 *volver-se* can also be used of returning to a physical location, and so can the non-reflexive (and intransitive) *volver*. However, there is a difference; with *volver* there must be a going-and returning trajectory involved, but the trajector need not in every case have gone through the whole trajectory. Suppose my parents had come to America from Europe; I could describe myself as returning there, but only with the non-reflexive form: *volvi a Europa* (*I.returned to Europe*) is applicable to such a situation, but not *me volví a Europa* (*me=myself I.returned to Europe*). This is to be expected given the analysis I have suggested of the self in the unmoved state being the landmark in reflexive constructions of this sort. (Some native speakers do accept the second sentence here, however, so this is hardly conclusive evidence.)

18 It seems to me that some such construal will help to explain usages such as the Spanish one where reflexives can go on even intransitive imperfective verbs, and seem to code a perfectivization or a change of state. E.g. *dormir* means ‘sleep’, and *dormir-se* (sleep-refl) means ‘go to sleep’, *callar* means ‘be quiet, keep silent’, whereas *callar-se* means ‘shut up, become quiet’, *or sonreir* means ‘smile, be smiling’, while *sonreir-se* means ‘break into a smile’. In imperfective construals the former state and the later states are all the same and merge into one another: when there is a change, however, the later state is a departure from the former state. Thus the self as awake is the landmark for the trajector self becoming asleep, or the self as making noise is the landmark for the self as quiet, or the self in repose, with a neutral expression, is the landmark for the self smiling.
obvious external causes involved. Construals of these sorts are sometimes almost forced to occur, when a straight Type II construal is not possible (e.g. in mo-hkʷilowa (refl-write) with an inanimate trajector); in other cases they are permitted freely even when they are not forced to occur.

As long as there is no salient external motivation in the larger conceptual scene, constructions involving these construals will usually be translated in English by intransitives. Thus mo-ƛāliya corresponds to the intransitive ‘sit down’, mo-kʷepa to the intransitive ‘return’, and mo-kāwa to ‘remain’. However, when there is a clear external cause for the change inherent in the situation as a whole, things are different. For instance, when an inanimate Thing mo-ƛāliya, it (almost always) does so under the direct influence of someone who ki-ƛāliya ‘places it’. In English we don’t say that it sat down on e.g. the table, we say that someone placed it there, or that it was placed there. When a piece of written material comes to be written, it can in TN be said to mo-hkʷilowa (refl-write). Probably the construal is (predominantly) that of comparing the changed, written state, to the former, unwritten state. But we in English say that someone wrote it, or that it was written. The naturalness of such construals is, I believe, the reason for the prevalence of “reflexive passive” constructions in the world’s languages. Reflexives can be used in TN (and, I believe, Spanish, and I presume, other languages) to impose a viewpoint on conceptual scenes such that external causing factors are ignored, either because the internal causing factors are viewed as primary, or because the change itself is viewed as a reflexive, without considering any of the causes for the change. This can be done in cases where such external causes or influences are clearly presumed to exist as well as in cases where it is not clear. To the extent that such causes are conceptually present the reflexive represents a contraction of a Type II structure to include only its resultant Relation, and the most salient element in that Relation, the erstwhile Landmark, is taken as Trajector. Other languages, such as English, can achieve a closely similar construal for certain cases where clear external causes exist only in other ways. For English they are two: (a) we can express that external causation but de-specify the Thing doing the causing (“someone” wrote it, “someone” placed it), or (b) we can use a passive construction (it “was written”, it “was placed”). As Langacker claims (1982a), the English passive essentially involves a version of the past participle which de-specifies the Trajector and focuses on the change which the new Trajector (Landmark of the non-participial stem) undergoes. TN can use the “someone” or “they” type of construction as well as the reflexive passive, but it has no non-reflexive passive; some other languages (e.g. Spanish, Classical Nahuatl) have all these mechanisms available.

Somewhat paradoxically, another relevant type of construal for this passive-like reduction of the scope of a Type II construal to include only its resultant Relation may be a kind of expansion of scope to a wider Type II construal, one in which the Trajector causes something to happen to himself only indirectly. For instance, TN mo-hkʷilowa (refl-write) can mean ‘sign up’ even when the Trajector is an illiterate and someone else must do the actual writing: perhaps ‘get oneself signed up’ is a better translation. Of course literate people can also have another sign them up. In this way a reflexive can be used even when the immediate causer is someone or something other than the Trajector, if the Trajector is involved in a more distant, tenuous, or remote causation. The amount of the Trajector’s involvement in such causation may be only minimal; he may do nothing more than fail to stop himself from being railroaded into being signed up, and yet the situation may be construed as him ‘getting himself signed up’ and coded by a reflexive in TN. From there the steps to a ‘getting signed up’ construal and thence to a ‘being signed up’ construal are very small. In 5.3.f is diagrammed a version of mo-hkʷilowa in which the person’s causing his getting signed up is still quite salient; the switch to a more passive-like construal would be a matter of increasing the salience of B’ relative to A’.
There are of course other such construals. A person may be said to *mo-kʷá-pih-pi* (*refl-head-rdp-cut*) ‘cut his hair’ when in fact he has the barber do it; we can of course do the same in English. It could even be said in TN of a child who has resisted getting his hair cut; in English we would probably have to say “he got his hair cut” rather than “he cut his hair” in such a situation. Or again, when a physical object or a bit of information *mo-hta* (*refl-see*) ‘is visible, perceptible’, the use of the reflexive could be prompted to some extent by attributing causality to the object or information’s intrinsic tendency to salience, causing people to perceive it. It is not seeing itself, but it is causing itself to be seen. It is easy to see how close that is semantically to a passive notion such as ‘be seen’. Thus a reflexive can grade into a passive by the causing verbs. In English we have well-established and quite productive patterns for using transitive verbs opposed to, say, English is the salience and immutability of the transitive and intransitive categories of *halt*. Are used very frequently to give the construal of lesser scope that corresponds to an English transitively; notional and historical transitives like *jump* are used with it as to be almost indistinguishable.

Another factor that is important in accounting for the use and prevalence of reflexive passives in TN as opposed to, say, English is the salience and immutability of the transitive and intransitive categories of verbs. In English we have well-established and quite productive patterns for using transitive verbs intransitively, and vice versa: notionally and historically intransitive verbs like *walk, run, and jump* are used transitively; notional and historical transitives like *dress, shave, put a shirt on, drive, shoot*, etc., are used intransitively. TN has no such strong patterns, and thus for the many verbs that are rigidly categorized as transitive and have no intransitive counterparts, the “reflexive passive” construal provides an out, allowing an intransitive construal. Reflexives of stems with explicit causatives or applicatives are often of dubious acceptability (6.3) because there is a simpler stem already existing to cover the meaning. *ƛāka-ti-liya* (*refl-man-inchoa-caus*) ‘give birth to s.o.’ is not used with a reflexive to mean ‘be born’, because *ƛāka-ti* (*man-inchoa*) already exists with that meaning. Verbs like *kʷepa* ‘turn s.t.’ or *keča* ‘stand, halt s.t.’, on the other hand, have no such intransitive counterpart, and their reflexives *mo-kʷepa* ‘return’ and *mo-keča* ‘stand (up), halt’ are used very frequently to give the construal of lesser scope that corresponds to an English intransitive.

19 It is so used in 2 pers hon forms, but that is at least to some degree a different matter.
Another factor that comes into play after patterns such as those discussed above (and there may well be others) have become established, is usage and the internalization that it causes. The reflexive construction’s usage to contract scope from a Type II structure to the caused Relation may come to be the primary facet of its meaning in at least one prominent sub-version. The identification of the Trajector with the Landmark, which we have taken as the primary or basic meaning, may give way to the replacing of the Trajector by the Landmark which is a natural result of contracting the scope. That replacement may itself be the primary element in some sub-construals.

This leads the way to (and is reinforced by) scope-contracting construals which take the original Landmark as Trajector in verbs which may have no causation or change involved. In the process of seeing, for instance, the Trajector, the seer, does not in any obvious sense cause anything to happen to the Landmark; in fact, nothing obvious happens to the Landmark at all. Thus the Landmark cannot in any straightforward way be construed as causing a change in itself or even as undergoing a change with respect to itself, in order to permit a reflexive passive of the sorts we have seen above. Yet mo-hта (refl-see) commonly occurs with the meaning ‘be seen’ or ‘look (intrns)’. Similarly mo-mаti (refl-know) means ‘be known, be common knowledge’, mo-hтowa (refl-sаy) means ‘be said’. And this is perhaps a pure passive semantically: the meaning of the morpheme mo- is no longer ‘reflexive’ but rather ‘restructure the conceptual scene to take the Landmark as Trajector’.

5.3.g. mo-hтowa

mo-hтowa is diagrammed in 5.3.g with mo- in a not-quite-yet-passive construal. mo- appears in 5.3.d-g as if those were relative novel occurrences, in which mo- would be construed as in 5.3.a, as we had come to expect from the more “inflectional” usages, and in which all the unexpected semantic shifts are associated most strongly with the construction as a whole rather than with its parts. However, to the extent that construals such as those in 5.3.d-g are entrenched by usage (and most of them are, I believe, strongly so entrenched) they will be strongly associated with the reflexive and thus will be internalized to it. In particular, there will be a passive version of mo- which will be construed in cases like mo-hтowa and will sanction further such usage. It will change a transitive verb stem into an intransitive with the erstwhile

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20 As was mentioned above, a construal of the “tenuous causation” variety may be possible for some cases of mo-hта, but I do not think for all.
landmark as trajector. Such a construal of *mo-htowa* is diagrammed below in 5.3.h. The same will be true (in perhaps lesser degrees) of the other reflexives: they too will have a system of subcases ranging from the “true” inflectional reflexive to a passive like that in 5.3.h.

![Diagram of *mo-htowa* with passive *mo-*]

5.3.h. *mo-htowa* (with passive *mo-*)

It is to some extent an arbitrary fact, given that construals like 5.3.h exist, that there is in TN no established mechanism for coding who the original trajector of the transitive stem was (as with a *by*-phrase in English). This however is not surprising in a historical perspective if such construals come from reflexives; it is not surprising even synchronically given that there are still close morphological ties to reflexives and close semantic ties between such “pure” passive construals and the many construals which still have definite reflexive-like elements and, through them, to reflexives themselves.21

“Reflexive passives”, then, can be seen to run the gamut from cases like *mo-ḥal-inya* (*refl-ground-vr*) ‘sit down’, where a person sets his body down virtually independently of outside causational factors, or *mo-kwe* (*refl-turn*) ‘return’, where the trajector changes with respect to its former position, again independently of outside causing factors, through cases where outside causing factors may be more or less prominent but are ignored, to cases like those just discussed, where the ignoring of the expected trajector and the setting up of the expected landmark as trajector in its place is the main contribution of the “reflexive” morpheme to the semantic structure.22

**Summary**

To sum up:

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21 It is true as well, as many have pointed out, that even in English the “*by*-Agent Phrase” is at best optional and in many cases undesirable and that passives in a universal perspective lack such agent specifications more often than not. One way of accounting for this is to note that if speakers want to code the agent all that badly, they can use the active: the purpose of using a passive is to take attention away from the agent (i.e. the trajector of the original stem), and make the landmark figure in its place.

22 One important matter which I have not discussed is the nature of the schema(s) which synchronically subsumes reflexives and passives as against non-reflexive transitives and straight intransitives. Of course it is not necessary for there to be any such overriding schema for the two to be related through a chain of multiple construals such as I have discussed, but I believe such a schema can be drawn, along the lines of Langacker’s (1976) notion of “non-distinct arguments”, i.e. structures in which (unlike intransitives) both a trajector and an elaborate landmark are presupposed, but in which (unlike canonical transitives), they are not kept distinct from each other, either by being identified (reflexive) or by the trajector being despecified (passive). I have had some difficulty in elaborating the necessary notions, however, and am not ready to present the analysis here.

Reflexives involve other complexities besides those presented here. For instance, transitive *asi* (3.1.f) involves the Trajector (relatively large and stable) grasping the relatively small and perhaps movable or moving Landmark, which thereby is attached to him. Reflexive *m-asi*, in contrast, involves the Trajector (relatively small and instable) taking hold of a relatively large and immobile landmark, anchoring himself to it. It is the difference between ‘grab (s.t.)’ and ‘grab on (to s.t.)’ The landmark is integrated into the clausal structure as the object of the postposition -teč ‘next to, touching’ (e.g. *m-asi i-teč* (*refl-grasp it-touching*) ‘he grabs on to it’). This is somehow parallel to the fact that in English one can hit himself on the corner of the table, though he cannot hit anyone else there. Many other examples could be given; the semantic idiosyncrasies of reflexives are far from exhausted.
(1) Probably the prototypical usage of reflexives is as a special kind of OP in which the landmark is epistemically grounded by identification with the trajector.

(2) SP-Reflexive combinations, perhaps more than other SP-OP combinations, have tended historically to fuse. no- ‘I refl’ and to- ‘we refl’ are examples of such fusion.

(3) Reflexives typically have one part of the designatum functioning as its active zone as trajector, and another part the active zone as landmark.

(4) In plural reflexives three types of construals may be distinguished, one in which a sub-group of the replicated Thing acts as the trajectoral active zone and another as the landmark active zone, a second (reciprocal) in which each replicated Thing acts as a trajector and as a landmark with respect to the others, and a third (multiple reflexive) in which each replicated Thing acts as a trajector and a landmark with respect to itself.

(5) Many processes cannot be performed on oneself in the same way or sense that they can be performed on others. This leads to either unacceptability or different construals for reflexive than for non-reflexive verbs. Since the non-reflexive cases are (usually) prototypical, the reflexives tend to be perceived as deviant, “derivational”.

(6) There are a number of ways in which a process that cannot be performed on oneself as on others can still be taken as reflexive. Three important patterns are the following:
   (a) Many processes can be taken as reflexive by construing them as caused internally by the landmark, which is acting “by itself”.
   (b) Many processes profiling a change of state can be taken as reflexive by construing the trajector’s initial state or position as the landmark relative to which he changes.
   (c) Some processes can be taken as reflexive by construing the landmark as causing the process in some tenuous or remote sense of causation.

(7) The net effect of such reflexive construals, as compared to the corresponding non-reflexive construals, is often to reduce the scope of a Type II structure (a Relation A-causing-Relation B structure) to just the caused Relation, taking its trajector (the Landmark of the Type II structure) as Trajector.

(8) This reduction of scope and change of Trajector may, by internalization, become the primary aspect of meaning of some sub-schema(s) of the reflexive construction. Such a sub-schema would be more of a passive than a reflexive.

(9) Reflexive passives, then, at least in TN, include construals in which the reflexivity is predominant and the similarity to passives is, so to speak, accidental, and construals in which the passive-like construal is dominant, with the reflexive form and morphology essentially secondary, and a whole range of cases in between.
5.4 Unspecified Object Pronouns

There are in Nahuatl generally three other pronominal verb prefixes besides the ones we have looked at, namely ƛa-, tē-, and ne-. They may be termed unspecified argument prefixes, as their meanings lie in the range of designating an indefinite-nonspecific Thing which is somehow involved in the verb, usually as a landmark. They are used when the Speaker either cannot or does not care to be specific about who or what he is designating. ƛa- typically designates a non-human Thing, tē- designates a human Thing, and ne- a reflexive, usually human, Thing. tē- is rarely or perhaps never used productively in this sense in TN, though there are still some clearly analyzable cases of it around, and ne- is so rarely used at all in this sense that I will ignore it. (tē- and ne- have historically shifted to be used productively as 3 pers hon OP and 3 pers hon reflexive, respectively.) ƛa-, on the other hand, is ubiquitous and has a very complex network of usages and meanings. Thus this section will be mostly devoted to ƛa-.

ƛa- ‘Unspecified OP’

As a simple example of the usage of ƛa-, consider the stem ƛa-htowa (unspec-say) ‘talk’. The stem htowa designates (prototypically) the process of speaking, of a human trajector producing sounds which constitute a verbal message. It is a transitive stem, with the sounds or the message (construed as Things) as its landmark. ƛa- (in this usage, which is a prototypical one) corresponds pretty closely in its semantics to kanah-yeka (dub-someone) ‘somebody’ (D.2.k and following discussion). It designates a Thing which is unspecified, i.e. which is located outside the spheres of interest or attention of the Speaker and Hearer. This Thing is identified as the landmark of a verb, making ƛa- a kind of OP. In combining the two the stem htowa elaborates the stem implied by ƛa-, and ƛa- is put in correspondence with the landmark of htowa. There is not a clearly elaborative Relation between ƛa- and the landmark; the meaning of ƛa- can be viewed as consisting largely of the absence of any such elaboration or specification. In fact, the elaboration works backwards in that ƛa- is elaborated by the specification within htowa that the landmark is a verbal message or the sounds symbolizing it. Nevertheless I will represent the landmark of htowa as in 5.4.a, as an e-site: the valence of htowa is pretty clearly satisfied by ƛa-, so that the composite stem ƛa-htowa is as a result intransitive, as we should expect of any OP-stem combination. It is not clear to me which element should be taken as more strongly dependent: ƛa-‘s dependency on htowa is weakened by the fact that the e-site is not profiled, whereas htowa’s dependency on ƛa- is weakened by the fact just mentioned, the absence of an elaborative Relation from the e-site to the corresponding predicate. htowa is clearly the heavier element semantically, and it is profile determinant: the composite stem designates a process of speaking rather than a Thing which is spoken. As in other OP-stem constructions and Object Incorporations the profile determinance is less than absolute in that the composite structure is not transitive, as htowa is, since ƛa-satisfies its landmark valence. ƛa-htowa is diagrammed in 5.4.a.

1 ƛa- is occasionally used with postpositions as well, as are tē- and ne-. These usages will be discussed later.
Note that ƛa- is, as represented in 5.4.a, a near elaboration of 5.1.j (the Personal OP schema) and a close relative of 5.1.g and 5.1.h (ki- and kim-); ƛa- is in some sense a 3 pers OP, at least in this usage. To be more explicit, there will be a schema containing all the specifications common to 5.1.g, 5.1.h, and ƛa- as in 5.4.a, but neutralizing the specified/unspecified and singular/plural distinctions. Also there would be subsuming that schema and 5.1.j a schema neutralizing the specifiedness and person distinctions: this would be the higher order OP schema diagrammed in 5.5.a.

The verbal message which is the landmark of htowa may be technically specific, or even definite, but it is, as represented in 5.4.a, unspecified. For instance, the Speaker may know what the content of the message is, and in fact may have just told the Hearer what it was, but immediately afterward refer to the speech process with some form of ƛa-htowa, signalling that he is for the present ignoring what it was that was spoken. Whether or not it is specific correlates to some extent with tense and mood: realis and perfectives generally tend to be specific, as do present and recent past tenses, but in more remote past, future and irrealis tenses, the Thing designated by ƛa- tends to be non-specific. Also there is a correlation to some extent with person of the trajector: first person is more likely to be specific, and third person less likely to be so. All this is of course natural: things are likely to be more identifiable to the Speaker and Hearer if they are contiguous to them temporally (present or immediate past), if they are experienced rather than imagined or projected (not irrealis or future), and so forth.

The tie-in between the use of ƛa- and the notional perfectivity or imperfectivity of stems with which it is used is especially important. htowa, for instance, is one of those stems which can easily be construed either perfectly or imperfectively. Where it has a specific landmark, as in ki-htowa (it-say) ‘say it’ or mo-htowa (refl-say) ‘be said’ (5.3.h), it tends to act as a notional perfective. This is natural enough: the spoken message’s being a clearly definable, specific Thing means that it is a bounded entity whose limits are known to the Speaker and Hearer. It will prototypically be bounded in the time domain, as well as perhaps in other domains, and the temporal bounds of the speech process, which make it perfective, will tend strongly to coincide with those of the message. But when the OP is ƛa-, the easiest construal is that, since the nature and bounds of the message are left unspecified, so are the temporal bounds of the speaking process; thus ƛa-htowa tends to be construed imperfectively. Or to come at it from the other side, if it is known what the temporal bounds of the speaking process were (i.e. if it is construed perfectly), it is less easy to conceive of the message as an entity whose bounds are unknown, i.e. as a non-specific Thing. To put at least part of it another way, where imperfectivity is construed as repetitive, the Thing designated by ƛa- tends to be non-specific, because while what one says on an indefinite number of occasions will be specific at each time, in retrospect one speech will tend to blend into another, to the point where one forgets exactly what was said. This correlation is in fact a general tendency with ƛa-, and is one of the ways it can be viewed as “derivational” rather than “inflectional”: it tends to imperfectivize stems.

There are many other examples of usages of ƛa- with a verb stem which closely parallel ƛa-htowa, but most of them have a certain degree of idiosyncrasy in them, some way in which the verb is construed a little differently by having an unspecified rather than a specified object. One such case is ƛa-kʷa (unspec-eat) ‘eat’. ƛa-, as we would expect, designates an unspecified Thing, and is the direct object of kʷa. kʷa is a
transitive stem meaning ‘eat s.t.’; putting it into this construction with ḵa- converts it into an intransitive. Within kʷa it is presupposed, *ceteris paribus*, that the thing eaten is an edible thing, and nothing else is specified about it. With kʷa alone, however, there is the possibility of further specification indicating that the thing eaten was unusual or perhaps even somewhat inedible; with ḵa-kʷa there is no such possibility. Thus ḵa- can be taken to mean, if you like, ‘the usual’. This distinction did not come through clearly in the case of ḵa-htowa because a verbal message is almost by definition anything spoken; saying something constitutes it as a message. Here food is not by definition anything eaten: eating something does not automatically make it food.

As with the Thing spoken, this ‘the usual’ Thing eaten may be technically specific, but it is unspecified. I may have just told my hearer that I ate caviar and beans, and refer to that process as ni-ĥa-kʷā-ya (I-unspec-eat-impf) ‘I was eating’. Even though the designatum of ḵa- is technically specific in such a situation, it is treated as if it were non-specific. One would use the form ḵa- in such a situation because he did not care to pay attention to what it was he ate. It is within his epistemic reach in an absolute sense, but he withdraws his epistemic reach, leaving it out of consideration even though it is available for consideration.

A further development of ḵa-kʷa from the meaning we have been discussing, of ‘eat (something/the usual)’, has been to perhaps strengthen the idea of what is eaten being ‘the usual’ and to specify to some extent the circumstances in which the eating takes place. The prototypical version of ḵa-kʷa now means ‘eat in the normal way, partake of a meal’. This is, I think, to be viewed as a normal case of internalization; ḵa-kʷa is the normal stem for designating the normal kind of eating situation, and all the specifications of the normal kind of eating situation have become internalized into it as a result. Of course, the word still can be used of non-prototypical meals, but it rarely is, and the less prototypical the eating involved is, the more likely it is that this will be specified somehow, usually by construing it with the specific OP ki- and specifying, in the clause, what was eaten. If the giant’s wife says “he’s eating” as her husband devours whole carcasses at once, one supposes that she sees nothing unusual in it; for anyone else we would have to say “he’s eating whole carcasses at once”. This construal of ḵa-kʷa is related to the “general object” and “canonical activity” construals discussed below.

Another general characteristic of ḵa- that was not very clear in the case of ḵa-htowa is that when a Thing is treated as unspecified, distinctions such as singularity and plurality tend to go by the board. It is hard to distinguish where one message ends and another begins, unless they are temporally separated, in which case you are dealing with imperfectivity as well as plurality, but eaten Things are more likely to be construed as physical objects, i.e. as being primarily bound in physical space, and for them plurality is likely to be more salient. It makes a good deal of difference whether you get one tamale or three. But if you do not even care to specify what was eaten, it is not likely to be nearly so important to specify how much or how many of it was eaten. It should not be surprising that there is no plural form of ḵa-, nor that it can often be translated by “things” or “(some) stuff” as well as by ‘something’. Other distinctions also tend to fade away, of course. The human/non-human distinction used to be preserved, at least to some extent, by the use of te- ‘unspecified human OP’ in contradistinction to ḵa-, but even that seems to be fading in TN: a fair number of verbs such as ḵa-mik-tiyi (unspec-die-caus) ‘kill (people), be a murderer’ seem to have a prototypically human landmark yet code it with ḵa-. The “generalized activity” sense of ḵa- is, as we will see below, involved in many of these cases.

**Extended Senses of ḵa-**

ĥa- often has, concomitant with its meaning as ‘unspecified object’, other specifications which are more or less salient. These can be viewed as internalizations from the kinds of situations in which it is useful to construe an unspecified object. In some versions of ḵa-, it seems, they may be quite central.
Obviously one of the most common reasons a speaker will decline to specify what a landmark is is that he doesn’t know what it is: unspecified OP’s are used more often than not to code non-specific landmarks. It is mentioned in D2 that one of the things that makes a Thing specific is when it is known to be a participant (such as a landmark) in a particular Relation. However such participation does not necessarily guarantee specificity. One of the most common situations in which a person does not know or cannot identify the landmark of a process he can identify is when that process evidently extends beyond his personal experience, when he can extrapolate or generalize to its occurrence in other places, on other occasions, etc. Even if the landmark of the process is within his experience (i.e. is specific) he is likely to avoid designating it if it is plural,\(^2\) or composed of many disparate Things, or spread over a large area or time span, etc. These considerations are of course tied in with the affinity of \(\lambda a\) for imperfectives, mentioned earlier. They also are involved in a common construal in which it means ‘things in general, all kinds of things, everything’ as opposed to ‘something’.

In this construal, which I will call the Generalized Object construal, \(\lambda a\)-htowa means ‘talk, (be able to) say things (in general)’ as opposed to ‘say something’, and \(\lambda a\)-k\(^m\)a means ‘eat (all kinds of) things’ rather than just ‘eat’. These construals are not prototypical, especially for \(\lambda a\)-k\(^m\)a, but similar construals are quite prototypical for many verbs. An example would be \(\lambda a\)-kaki. kaki means ‘hear’; the trajector of the verb is construed as perceiving some sort of acoustic signal. kaki is, like k\(^m\)a, a transitive stem; either the acoustic signal or its source can be construed as the landmark (e.g. one can hear — \(\lambda\)-kaki—either the baby’s cry or the baby). \(\lambda\)-kaki seems to have a couple of meanings which are separable, at least to us. One is ‘listen, pay attention’. This is a not-surprising extension of the expected basic sense of ‘hear (things)’, in which the hearer is presumed to be voluntarily involved in hearing unspecified things. In this case the landmark may not be generalized and may in fact be something specific that the person is listening to or for, but often the landmark is generalized, and the person is listening to everything that comes to his ears. The second usage means something like ‘understand’; it is used of children to designate their ability to understand speech: ye \(\lambda a\)-k\(^m\)a (already unspec-hear) means something like ‘he understands you when you talk now’. Here a version of kaki is used which involves interpreting rather than just perceiving the acoustic signal (cf. English “I hear you”); this is, of course, the canonical kind of hearing. At first it might appear that the ability to hear rather than the actual accomplishment of the hearing is designated. However, this version of \(\lambda a\)-kaki is, as far as I know, only used in imperfective tenses, and there is not very much difference between the imperfective (repetitive) construal with a generalized object, ‘he understands things (constantly)’, which I would take to be the meaning here, and ‘he can understand (things)’, which is an acceptable English translation. This version of \(\lambda a\)-kaki can hardly be construed as not involving a generalized landmark; the speaker is not concerned with any particular piece of speech that the child has heard, but with many different pieces, too numerous to keep track of even if he had witnessed them all.\(^3\)

Another such case is \(\lambda a\)-\(\ddot{c}\)iya (unspec-expect) which means ‘look around, look (at something)’. (\(\ddot{c}\)iya has a range of meanings, from ‘hope for’ through ‘look for’ to ‘look.’) Like \(\lambda a\)-kaki, \(\lambda a\)-\(\ddot{c}\)iya is often used (again almost only in imperfective tenses) to refer to an infant’s having acquired the ability to see (or interpret what he sees): ye \(\lambda a\)-\(\ddot{c}\)iya (already unspec-expect) means ‘he can see now’. Again the landmark is general; the meaning is something like ‘he can see things now’. \(\lambda a\)-\(\ddot{c}\)iya can also be used to mean, more or less, ‘be

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\(^2\) It is of course common for languages to use plurals as unspecifieds (e.g. the “proverbial ‘they’” of English); this phenomenon occurs in TN especially with subjects, where a plural “they” verb is often used as a sort of passive, unspecified the subject: e.g. ki-mik-\(\tilde{t}\)-ki (him-die-caus.perf-pl) ‘they killed him/he was killed’. I will not delve into such usages. Burnham (1981b) reports two cases in Nahuatl where apparently a historical impersonal (i.e. unspecified subject) structure came to be a plural.

\(^3\) A third version of \(\lambda a\)-kaki (only used with durative suffixes, I believe) designates absence of external activity. Presumably it is an internalization of the prototypical situation in which a person who wants to listen avoids doing anything else so as not to be distracted or to create acoustic interference masking the signal he wants to hear. This verb can be used of Things which are not normally considered able to hear; thus \(\lambda a\)-kak-ta-ya (unspec-hear-dur-impf) is used to mean ‘it was calm, still, the wind wasn’t blowing’.
Awake': ye λα-čiš-tika (already unspec-expect-dur) means ‘he’s awake now’, literally, ‘now he’s looking at things/everything’. As with λα-kaki, then, λα-čiya can designate the generalized case of seeing or hearing.

Closely allied with the notion of a general (and therefore unspecified) object, as we noted above, are the notions of performing the action generally or constantly or repetitively, and closely allied with those notions of performing it habitually or in the canonical way. Remember the gloss of λα- in λα-kα as ‘the usual thing’, and the gloss of λα-kα itself as ‘eat a meal’, i.e. eat in the usual, habitual, canonical way. Similarly λα-kaki and λα-čiya can be taken to mean, for the infant, ‘hear/see just like everybody else’, implying seeing or hearing of the canonical kind.

This element shows up more pronouncedly in other forms. For instance, the form ki-kowa (it-buy) ‘he buys it’ is inappropriate to designate a situation in which nothing is bought, but λα-kowa can be used in some such situation, as long as the trajectory has done the canonical activity associated with buying: the stem can be translated ‘go shopping’ rather than ‘buy things/something’. Most commonly, of course, since the canonical activity is directed towards buying, it will result in it, so that the notion ‘buy things/something’ can be invoked as well. Another case would be that of λα-ówa. The stem ówa was discussed in 3.1 (c); it is a transitive stem meaning to shell corn. k-oh-owa (it-rod-shell) is used when a particular batch of corn is shelled, λα-ówa is used much more frequently, and designates essentially the same thing as the naked stem would, namely the process of shelling corn. k-oh-owa means doing a particular job of shelling corn, shelling a specific batch, but λα-ówa means performing the canonical action of shelling corn, even if only for a short time. pēwa means ‘poke, goad s.t.;’ λα-pēwa means ‘goad the usual thing (i.e. oxen, horses) in the canonical situation’, i.e. ‘plow’.

Dozens of other cases could be cited, where λα-, by virtue of designating an unspecified object of a process, comes to designate a generalized or canonical object, and thus to designate doing the canonical process in general terms. In some of these cases one expects a process to have a human landmark, but λα-, which was historically non-human, can still be used to designate the generalized or canonical version of the process. Thus palēwiya ‘help’, usually takes only human landmarks—ni-k-palēwiya (I-him-help) is odd in the sense ‘I help it’ but fine in the sense ‘I help him’, but λα-palēwiya is the form used for ‘help, be helpful’. The transitive stem mač-tiya (know-caus, 6.1.h) ‘teach s.o.’ is a process usually only done with human landmarks, but the verb denoting the generalized performance of this process is λα-mač-tiya ‘teach, be a teacher’. ki-nawatiya means ‘he tells him, orders him’; the landmark is always a human, but λα-nawatiya is the form for ‘make an announcement, give orders’. ki-maka can mean ‘he hits him, it hits it’; λα-maka means ‘he hits (people), it hits’.

Very often the form means ‘habitually, characteristically, professionally perform the process’; cf. the gloss above for be a teacher’. This is, of course, a naturally prominent case of canonical activity. Verbs construed in this way are used almost always in imperfective tenses, and when used in perfective tenses the feeling is that of assuming the guise of one who habitually does the process involved. Thus o-λα-mač-ti (past-unspec-know-caus.perf) means something like ‘he acted as teacher’. Not surprisingly, when verbs of this type are nominalized into agentive nouns, λα- is almost always prefixed to the stem (or sometimes tē- on older formations). Thus the agentive noun from kα is λα-kα-ni (unspec-eat-er) ‘glutton’; mik-tiya (die-caus) ‘kill s.o.’ yields λα-mik-tiyan-i (unspec-die-caus-er) ‘killer, murderer’; piya means ‘have, keep, guard s.t.’ — čiboh-piya means ‘he keeps goats, is a goatherd’; many other such forms with incorporated nouns and piya may be remembered from 4.3 — and a (professional) keeper or guardian is a λα-piš-ki (unspec-have-er).

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4 This verb can be used of a piece of machinery which is hitting against something: it is hitting the thing, but what is important is not its effect on the thing it hits, but rather on itself. Thus the location of the hitting may be completely specific, and even definite, (“it is hitting right here”), but one still avoids a construal whereby it is the direct object. In English we use an intransitive hit; in Nahuatl they use a form with λα.
Non-agentive nominalizations of the action of the verb, designating a canonical instance of the activity construed as a Thing, also often have \( \lambda a \)- on them. For instance \( \pi\hbox{ow}a \) is ‘kiss s.o.’, but a ‘kiss’ is a \( \lambda a\hbox{-pičō-l-i} \) (unspec-kiss-nr-abs); \( ah\hbox{-ahw}a \) (rdp-scold) means ‘scold s.o.’, and a ‘scolding’ is a \( \lambda a\hbox{-ahwī-lis-λi} \) (unspec-rdp-scold-nr-abs).

Also related to the ideas of imperfectivity and generalization of the landmark is the notion of a process occurring in many places. In some usages of \( \lambda a \)- this element seems to be prominent: \( \lambda a \)- comes to contribute a sort of adverbial notion translatable as “happen all over”. As usual, this is often a concomitant of the other senses, particularly the ‘happen to everything/things in general’ sense. This “all over” notion seems particularly common with “meteorological” verbs, verbs that designate occurrences affecting the whole general environment, and which often began with \( \lambda a \)- in TN. For instance, \( k\hbox{-ōlīni} \) means ‘he shakes it’; \( \lambda a\hbox{-ōlīni} \) means ‘it earthquakes’. \( ki\hbox{-nēš-tiya} \) (it-appear-caus) means ‘he finds it, it reveals it’; \( \lambda a\hbox{-nēš-tiya} \) means ‘it shines all around, illuminates’. \( ki\hbox{-sem}a\hbox{na} \) means ‘he scatters it’; \( \lambda a\hbox{-sem}a\hbox{na} \) means ‘he scatters stuff all around’. \( ki\hbox{-či}pāwa \) means ‘he cleans it’, \( \lambda a\hbox{-či}pāwa \) means ‘he cleans (everything, the whole place) up’.

A final type of meaning which seems to attach to stems with \( \lambda a \)-, including many of those we have seen, is the notion of intense or complete action. This is doubtless related to the ideas of repetitiveness and of generalized action and action “all over”; in fact it is hard to find an example where these can not be invoked as well. I think it is a factor in such forms as \( \lambda a\hbox{-šītōni-ya} \) (unspec-ruin-trns) ‘knock (clear) down, (completely) destroy (things)’ or \( \lambda a\hbox{-mō}λλa \) (unspec-hurl) ‘shoot, hurl something’, and it may be an element in some of the meteorological verbs as well. It will show up more clearly in later examples.

\( \lambda a \)- on Intransitive Stems

\( \lambda a \)-, unlike the other OP’s, is not uncommon on intransitive stems, and these notions of action “in general”, “constantly”, and “all over” seem relevant to accounting for these cases. Again meteorological verbs are a very common case: \( p\hbox{epe}λ\hbox{aka} \) means ‘sparkle, shine’, and \( \lambda a\hbox{-pepe}λ\hbox{aka} \) means ‘lightning (all over)’. \( nēsi \) means ‘appear’; \( \lambda a\hbox{-nēsi} \) means ‘dawn, light up (all over)’. \( ki\hbox{ša} \) means ‘emerge, to out’, and \( \lambda a\hbox{-ki}ša \) means ‘the rains go out, the rainy season ends’. \( p\hbox{ōk-tēmi} \) means ‘it fills with smoke’, and \( \lambda a\hbox{-pōk-tēmi} \) means ‘it (the whole house, all outdoors) fills all up with smoke’. \( yow\hbox{a} \) means ‘get dark’, \( \lambda a\hbox{-yow}a \) means ‘get dark all over (from a storm, or night)’. \( wāki \) means ‘dry (out)’; \( \lambda a\hbox{-wāki} \) means ‘dry up, dry out completely, dry up after a rain’; \( či\hbox{pīni} \) means ‘drip’, and so does \( \lambda a\hbox{-či}pīni \), though \( \lambda a\hbox{-či}pīni \) is more likely to be used when the weather is drippy. Similarly \( \lambda a \)- can be used on intransitive verbs with the meaning ‘perform the designated action in the usual way’. Thus there are forms \( t\hbox{esi} \) ‘she grinds corn’ and \( \lambda a\hbox{-tesi} \) ‘she grinds corn (i.e. goes through the normal routine of grinding)’, or \( \lambda a\hbox{-iē-āna} \) (unspec-ixtle-take) ‘get ixtle (thread) from a maguey plant’, where the incorporated noun stem \( iē \) is doubtless to be viewed as satisfying the landmark valence of the transitive \( \ānā \), and similarly \( lah\hbox{-λa-mi}s\hbox{-maka} \) (rdp-unspec-mass-give) ‘give a mass (in honor of a saint)’, \( \lambda a\hbox{-ōme-pi}y\hbox{a} \) (unspec-two-have) ‘have two women, be a bigamist’.

It seems that in these cases there is a sort of shift from a specifically nominal to an adverbal kind of function, from ‘unspecifically extensive landmark’ to ‘unspecifically great extent,’ and so forth. Another

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5 Actually this may best be viewed as a case of the incorporated noun elaborating a sub-landmark and the \( \lambda a \)- detransitivizing the verb; the most common version of \( m\hbox{aka} \) profiles the recipient rather than the gift as Landmark. If this analysis is taken this is another example of \( \lambda a \)- being used where a human (or saintly) landmark is expected.

6 There are other intransitive verbs which begin with \( \lambda a \) but have no forms without it that I know of: many of these may be historically results of these types of constructions; e.g. \( \l\hbox{anaw}i \) ‘get sicker, approach death’, \( \l\hbox{akasi} \) ‘cough’, \( \l\hbox{alāsa} \) ‘lay (an) egg(s)’, \( \l\hbox{ičtīni} \) ‘be lazy’. Sometimes it is quite clear that this is happening, even though there is no intransitive stem without \( \lambda a \); e.g. \( \l\hbox{a-līni} \) ‘ring, resound’, \( ki\hbox{-līn}y\hbox{a} \) (it-ring-caus) ‘make it ring by striking a blow’.
possible analysis for at least some forms is that \( \lambda a \)- is elaborating other Things in the intransitive predicate, secondary landmarks such as locations, etc. This idea will be discussed more later.

\section*{\( \lambda a \)- on Stems which Remain Transitive}

Another way in which \( \lambda a \)- differs from the other OP’s is that it often occurs in a verb stem with another OP; it follows the OP in such cases.\(^7\) In other words, \( \lambda a \)- can appear on a transitive stem without destroying its transitivity. This is most common with causative or applicative stems. As with the usage on intransitive stems, it again seems that the notions of repetitive/intense, generalized, canonical, or spatially extensive action are involved in at least some of these construals, though very often it is hard to tell what the contribution of \( \lambda a \)- is, as the forms with and without \( \lambda a \)- are nearly synonymous or differ in rather idiosyncratic ways.

For instance, \( \text{palti-liya} \) (wet-vr) means ‘get s.t. wet’, and \( \lambda a \)-\( \text{palti-liya} \) means ‘get s.t. all wet, sop s.t.’; \( \text{temowi-liya} \) (descend-applic) means ‘take (s.t.) down from off s.t.’, and \( \lambda a \)-\( \text{temowi-liya} \) means ‘unload s.t.’: these cases seem to involve the notion of intensity or completeness. \( \text{pati-liya} \) (change-applic), however, means ‘change (s.t., usually clothes) for/on s.o.’, and \( \lambda a \)-\( \text{pati-liya} \) means almost exactly the same thing. \( \text{poh-poli-wiya} \) (rdp-lose/erase-applic) means ‘forgive s.o. (for s.t.)’, and \( \lambda a \)-\( \text{poh-poli-wiya} \) means ‘forgive s.o. (for s.t./everything)’. \( \text{k\'epi-liya} \) (turn-applic) means ‘return (s.t.) to s.o.’, and \( \lambda a \)-\( \text{k\'epi-liya} \) means ‘pay s.o. back’. \( \text{p\'owi-liya} \) (count-applic) means ‘tell s.o. (s.t.)’, and \( \lambda a \)-\( \text{p\'owi-liya} \) means ‘tell s.o. (s.t., usu. an accusation against another)’.

There are quite a few transitive stems with \( \lambda a \)- which do not occur without it, including verbalized stems. A few examples are \( \lambda a \)-\( \text{\'on\'epal-wiya} \) (unspec-braid-vr) ‘braid s.o.’s hair’, \( \lambda a \)-\( \text{\'in-lya} \) (unspec-base-vr) ‘paddle s.o., whack s.o. on the bottom’, \( \lambda a \)-\( \text{yek-\'ana-liya} \) (unspec-good-take-caus; cf. \( \text{yek-\'ana} \) ‘lead s.o.’) ‘put s.o./s.t. out in front’, i.e. ‘cause s.o. to lead’.

It is clear that in a number of these cases the analysis is possible whereby \( \lambda a \)- is viewed as elaborating the secondary landmark of the verb stem.\(^8\) This is strengthened by cases where some of the characteristic shifts associated with \( \lambda a \)- seem to apply to such secondary landmarks. For instance, \( \lambda a \)- often means ‘the usual, canonical thing’, and such a construal is likely part of \( \text{\'ama\'aka} \) (unspec-give) ‘feed s.o.’, i.e. ‘give s.o. the usual thing’. It also accounts for the virtual synonymy of many of these stems with their form without \( \lambda a \)-: secondary landmarks which are not elaborated are simply left unspecified, and if \( \lambda a \)- simply marks them as unspecified, it is not really adding much to their meaning. Also, it will be recalled that a similar construal was possible for some of the cases of \( \lambda a \)- with intransitive stems. Perhaps the strongest evidence that this is indeed what’s happening is the fact that the secondary landmark resists clausal elaboration in many of these cases: e.g. \( \text{n\'e\'c-k\'epi-li m\'ak\'mili p\'eso} \) (me-return-applic five peso) ‘he paid me back five pesos’ is good, but \( \text{n\'e\'c-\lambda a-k\'epi-li m\'ak\'mili p\'eso} \) is very odd if not unacceptable; \( \text{ki-pati-li \'kami\'sa} \) (him-change-caus his-shirt) ‘he

\(^7\) It can also follow incorporated elements: e.g. \( \text{yek-\lambda a-pali-liya} \) (well-unspec-wet-caus) ‘sop s.t. thoroughly’, or \( \text{\'i\`a-poli\'liya} \) (eye-unspec-lose-caus) ‘distract s.o., make s.o. goof’. This behavior is paralleled by the unspec hum OP \( \text{\'e\`a} \) (see below) and also to some extent by \( \text{mo\`o} \), though not by the other reflexives; see fn. 1 in 5.3.

\(^8\) It easy to see how this could have arisen historically by \( \lambda a \)- fusing with the basic stem and then the applicative construction being superimposed. For instance, \( \lambda a-poli\'owal\) (unspec-rdp-lose/erase) means ‘forgive (things)’: superimposing the applicative construction on that stem would give \( \lambda a-poli\'owal\) ‘forgive s.o. (for things)’. \( \lambda a-\text{\'yan\'a} \) (unspec-well-take) means ‘lead, be a leader’, and its causative would be \( \lambda a-\text{\'yan\'a-liya} \). This account is strengthened by the overwhelming presence of causatives and applicatives on these stems. Even so, \( \lambda a \)- would be different from the other OP’s in its tendency to such fusion. However, this is not a complete account, for it does not take care of the cases where the basic stem does not normally appear with \( \lambda a \)- (e.g. \( \lambda a-k\'epa \) (unspec-turn) is very rare if it exists at all, but \( \lambda a-k\'epi-liya \) (unspec-turn-applic) ‘pay s.o. back’ is a strongly entrenched unit), nor of the cases where there is no applicative or causative, such as \( \lambda a-\text{\'in\'ya} \) (unspec-base-vr) ‘paddle s.o.’ or \( \lambda a-\text{\'ama\'aka} \) (unspec-give) ‘feed s.o.’.
changes his shirt’ is fine, but *ki-ƛa-pati-li i-kamīša* is much less so. It is a general fact that landmarks that are elaborated by unspecified OP’s resist any further elaboration (cf. discussion in 7.2), and it is certainly a natural phenomenon; why would one explicitly avoid specifying a landmark only to specify it after all?

**ƛa- as a Schematic Incorporated Noun**

We have seen, then, a number of ways in which the behavior of ƛa- parallels very strongly that of incorporated nouns. Incorporated nouns, as we saw in 4.3, are epistemically ungrounded, not put in a specific relationship with the Speaker and Hearer. ƛa-, we have claimed, is epistemically grounded in the weakest possible way, by having every strong kind of grounding denied.9

Incorporated nouns are specific only as to category but are vague as to plurality, specificity, etc. ƛa- is vague as to plurality and specificity and as to category as well.

Incorporated nouns immediately precede the stem, following OP’s; ƛa- does the same. Incorporated nouns prototypically correspond to the landmark of the incorporating verb, fulfilling its landmark valence and rendering it intransitive. ƛa-, we have seen, does the same in prototypical cases. However, incorporated nouns also often elaborate some other Thing within the verb’s base, some sub-landmark or path implied by the designated Relation of the verb, or an active zone of the trajector or landmark. Thus incorporated nouns can appear with intransitive verbs, or appear with transitive verbs without destroying their transitivity. ƛa-, we have just seen, also appears on intransitives and on transitives without destroying their transitivity, and sometimes this pretty clearly involves elaboration of a sub-landmark.

Incorporated nouns sometimes (e.g. 4.1.a) do not clearly correspond to any sub-landmark, apparently being construed almost adverbially; ƛa- may also require such construals, e.g. where the notions of canonical or repetitive action are most central.

Incorporated nouns sometimes change the transitivity of the stem to which they are incorporated, making a different Thing be selected as Landmark. ƛa- does the same in a few cases: e.g. *kʷepōni-liya* (detonate-applic) means ‘clobber s.o., hit s.o. hard’, but ƛa-*kʷepōni-liya* means ‘set off skyrockets for s.o. (dead), shoot at s.t.’. ƛo-ƛoni-liya (rdp-play-applic) means ‘play (music, an instrument) for/to s.o.’, but ƛa-ʔo-ʔoni-liya means ‘play s.t. (an instrument)’. One special case of such transitivity shifting involves a secondary object incorporation causing a verb stem to become intransitive (cf. 4.2.b); an example of that with ƛa- would be *nō-nōča* (rdp-talk) ‘talk to, chat with s.o.’, vs. ƛa-nōča ‘speak to a secret lover (intrns)’ or ƛa-nō-ńōča ‘preach, give a discourse’.

There are some verb stems which have a particular meaning associated with incorporated objects: e.g. *piya* means ‘have’ with a personal OP but ‘guard, herd, take care of’ with an incorporated object; ƛah-piya means ‘guard, watch over a flock or herd’, i.e. perform the canonical activity of herding. This clearly lines it up with the incorporated nouns as against the other OP’s.

And finally, incorporated nouns typically occur as nominals outside of verbal constructions. It is at least arguable that ƛa- does so too, that the form *iƛa* which occurs in *kanah-ƛa* (dub-s.t.) ‘anything at all’ or *amo-iƛa* (neg-s.t.) ‘nothing’ or even occasionally as an isolated word (e.g. *ƛā iƛa miř-ilwī-s* (if s.t. (he)-you-tell-fut) ‘if he says anything to you’) is really ƛa with a “supportive” (epenthetic) *i* to give it two syllables.10 In any

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9 It might be possible to claim that ƛa- is actually ungrounded, like an incorporated noun, meaning simply ‘Thing’. However, the fact that it would be used as a direct object only when the speaker does not want to specify whichThing he is designating (if he does he will use a personal OP), would guarantee by internalization that ƛa- would come to bear the meaning ‘unspecific’ as well as the meaning ‘Thing’, at least where it is a direct object.

10 Such epenthesis occurs elsewhere: e.g. the verbs ‘he is’ and ‘he goes’ are kept by it from being monosyllabic ka, ya: ika and iya are the forms. It is part of a conspiracy to avoid one-syllable (and therefore unstressable) nouns and verbs.
case, not all incorporated nouns do occur unincorporated: the noun stem *kʷā* ‘head’ does not, with the result that it is strongly prefixal, like *ƛa*.

Thus in nearly every particular *ƛa* behaves similarly to incorporated nouns and can be viewed as a schematic incorporated noun.

In 5.4.b I have diagrammed a construal of *ƛa-nō-nōča* (unspec-rdp-talk) ‘preach, give a discourse’, to illustrate at least some of these similarities; notice how similar 5.4.b is to 4.2.b and that it is an instantiation of 4.3.e, the Transitivity-Shifting Incorporation schema.

**tē- ‘Unspecified Human OP’**

The unspecified human OP *tē-* is less widely distributed than is *ƛa-* and is not clearly productive with that sense. (It is productive with the sense ‘3 pers hon OP’.) It almost always occurs with some other OP: the most common cases where it occurs as the only OP are in de-verbal nouns. More strongly than *ƛa-* it appears to require the “general object” sense: it can almost always be translated ‘people’ and almost never ‘someone’.

The construals associated with *tē-* usually parallel construals with *ƛa-*. *ƛaokol-tiya* (give-caus, discussion following 6.3.d) means ‘arouse pity in s.o.’; *tē-ƛaokol-tiya* means ‘arouse pity (in people), be pitiful’; *tē-* is here clearly an direct object, and the generalized or habitual activity notions are discernable. Similarly *ƛa-kʷēntah-tiya* (unspec-account(Sp.)-caus) means ‘sell things to s.o. on time-payments’, and *tē-ƛa-kʷēntah-tiya* means ‘sell things to people on time-payments’. In the pair of stems *mā-k-tiya* (hand-loc-caus) ‘surrender s.t. (to s.o.)’ and *tē-mā-k-tiya* ‘surrender s.t. (up)’ we again see the ‘generalized object’ kind of sense, this time applied to a secondary object. Very often *tē-* corresponds to the primary Landmark of a verb but effects a transitivity switch to a secondary landmark, in a manner parallel to that of 4.2.e. For instance, *(i)lwiya* means ‘tell s.o. (s.t.)’, but *tē-ilwiya* means ‘accuse s.o.’, i.e. ‘tell people (s.t. bad) about s.o.’. *maka* almost always
means ‘give s.o. (s.t.)’ (rarely it means ‘give s.t.’); tē-maka means ‘give s.t. away (to people)’, wīki-tiya (carry-applic) and ƛa-wīki-tiya both mean ‘owe s.o. (s.t.)’; tē-wīki-tiya means ‘owe s.t. (to s.o.)’.

A number of de-verbal nouns have a tē- on them: tē-koko (unspec-hurt) and tē-tōnē (unspec-sting/burn) both mean ‘pain’ (they are fairly frequent as an almost compound word, tē-koko=tē-tōnē); a tē-kʷā-ni (unspec-eat-er) ‘people-eater’ is a mountain lion or other fierce animal, and tē-mik-ti (unspec-die-caus) is ‘poison’.

Usage with Postpositions

ƛa- and tē- (and also ne-) sometimes occur with postpositions. Examples are ƛa-kpak (unspec-on.top.of) ‘up top’ (i.e. ‘on top of things/everything’), ƛa-čin-ƛa (unspec-base-loc) ‘underneath (everything)’, ƛa-ne-pantla (unspec-unspec.refl-loc-loc) ‘in the middle (of everything)’, tē-pa (unspec-on) ‘to people’, or tē-pal as in tē-pal čah-čān-ti (unspec-by.grace.of rdp-home-vr) ‘be a squatter’ (lit. ‘dwell by grace of people’). These cases parallel the OP usages in that the unspecified Things are put in correspondence with (and elaborate) the landmark of a transitive Relation, this time a stative one. It also parallels the Noun-Postposition construction (which should also be related to the object incorporation construction), and to some extent the Possessive-pronoun construction. Particularly tē- could easily be taken for a possessive here, since tē- is the regular 3 pers hon possessive.

Summary

To summarize,

1. ƛa- (and tē-) are like OP’s in their position in the verb and often in their meanings. They prototypically designate a schematic unspecified Thing which is the direct object of the verb stem with which they combine.

2. Unlike most other OP’s, however, they can also be secondary objects of the stem, elaborating a secondary landmark instead of the primary one. They can cooccur in such cases with direct object OP’s on transitive stems and they can occur on intransitive stems.

3. ƛa- as an OP often means ‘things in general’ rather than ‘something (unspecified)’, sometimes it means ‘the usual sort of thing’; similarly tē- means ‘people’ rather than ‘someone’.

4. ƛa- often brings with it motions of imperfectivity, canonical activity, intense activity, activity extended through space, etc. Such notions may become central in some versions of ƛa-; this helps explain its usage on intransitive stems and on transitive stems when it is not a direct object.

5. ƛa- and tē- may be profitably viewed as schematic incorporated nouns. ƛa- parallels incorporated nouns in position in the verb, to some extent at least in epistemic status, in prototypically being direct object but not being limited to such usage, in sometimes being virtually adverbial, in causing aberrations in transitivity, in being associated with a certain version of the verb stem piya, and in occurring independent of the incorporation construction.
5.5 Summary

All of the OP’s including the prototypical reflexives and unspecified OP’s, can be subsumed under one schema, which is diagrammed in 5.5.a. This schema profiles a Thing which is identified as landmark of a process and which has a schematic Relation to the Speech situation. 5.5.a and F.c (the SP schema) are subsumed under 5.5.b, the Argument Prefix schema. 5.5.b, the cases where λa corresponds to a secondary object (5.4.), and the SP’s used in Non-Relational SP-Noun construals under F.p are subsumed by 5.5.c, the Pronominal Verb Prefix schema. Included as instantiations of 5.5.c are all the construals examined in 5.1-5.4 and Appendix F, except the passive construal of reflexives (as in 5.3.h) and perhaps some adverbial construals of λa (5.4).

These schemas and the Prefix-Stem constructions with which they are associated (in which the stem appears overtly as well as just internalized to the prefix, and is profile determinant) bear an important relationship to the Incorporation constructions. The OP-stem construction (5.5.a with a stem, given below as 5.5.e) is an elaboration of the Object Incorporation schema 4.3.a. There is a special affinity with sub-cases of 4.3.a where the noun incorporated (e.g. kwa ‘head’ as in 4.3.i) does not occur outside the incorporation construction and thus is strongly prefixal. The Argument Prefix and Pronoun Prefix constructions (cf. 5.5.b-c) are closely related to 4.3.c, the Noun-Incorporation construction, differing only in that they do not specify the stem as a process, while it does not specify the incorporated noun as prefixal. They would all be subsumed under the Thing-stem construction diagrammed in 5.5.d, which neutralizes those differences. 5.5.d is also schematic for a large number of other types of TN constructions, most of which we have not examined, such as Noun-Noun compounds, Noun-Adjectivizer constructions, Noun-plural constructions such as D.1.c, Noun-Postposition and (perhaps) Pronoun-Postposition constructions, and so forth.

5.5.a, the OP schema, and F.c, the SP schema, are especially salient because of their appearing in strongly entrenched verb schemas. One such schema, the OP-Transitive Verb Stem schema, unites a transitive verb stem, (3.a) with 5.5.a, producing an intransitive verb stem (3.b). This construction is diagrammed in 5.5.e. It is the strongly prototypical and most clearly (not to say prolifically) productive subcase of the Direct Object-Transitive Verb Stem schema diagrammed in 5.5.f below. (This schema is
identical with the Direct Object Incorporation schema of 4.3.a). As we explained in 2.5, the essence of transitivity is the internalization to the verb (stem) of a construction in which it occurs with a direct object: these are such constructions, and every transitive verb stem in TN contains an internalized reference to 5.5.e and/or 5.5.f as a very salient part of its meaning. That is to say, every transitive stem in TN contains a strong expectation that it will be used in a construction where its landmark will be elaborated by a Thing predicate, and virtually all such stems further strongly expect that that Thing will be a pronoun. The phonological specifications of the constructions also internalize, though in keeping with our practice since 2.2 I have not diagrammed that internalization: the stems thus also contain the expectations that the Thing morpheme will phonologically precede and be in the same word with them, and only less strongly that it will be prefixal.

Similarly, 5.5.g is the very strongly entrenched SP-Verb Stem schema (= F.f), in which the trajector valence of an intransitive verb stem is satisfied, producing a verb with no (strong) argument valences. This schema is part of the meaning of virtually every verb stem in TN. 5.5.e and 5.5.g are also very salient because they are the means whereby an important part of the epistemic grounding of all verbals is accomplished; the composite structures of 7.1.b and 7.1.c cannot be achieved in TN without them.
CHAPTER VI
Causatives and Applicatives

There is in TN a group of verbal suffixes which have meanings in the areas of causing someone to do something, acting for or towards someone, transitivizing intransitive verbs, or verbalizing non-verbs. These suffixes fall into two broad groups, causatives and applicatives.

The term “causative” is familiar enough: I am using it to designate forms which transform the profile of a stem to become a Type II transitive (2.4), adding a causing Relation to the structure and choosing as Trajector the trajector of that Relation. “Applicative” is a term traditional among Aztecanists; applicative verbs are often best translated into Spanish by verb phrases with dative pronouns and into English by clauses or verb phrases with “indirect objects” or oblique verbal complements (e.g. “to” and “from” phrases). Applicatives will be discussed mostly in 6.5; I will claim that they essentially involve transforming the stem to become a Type III transitive (2.4).

The causative and applicative suffixes are many, and their meanings and usages are very complex, involving a tremendous amount of overlapping. They include -a ‘transitive’ (which we have already seen in 3.2), -(yl)a ‘transitive, imperfective, present’, -liya ‘applicative’, -tiya ‘causative’, -wiya ‘applicative’, -lwiiya ‘applicative’, and -owa ‘verbalizer, loan nativizer’. They are obviously related etymologically, and may indeed be analyzable synchronically to some extent. However, I do not propose to delve deeply into these relationships where it would not serve any clear synchronic purpose. Synchronically almost all of these affixes function in three or four different categories; the glosses I have given above are based on what seems to be the most common or prototypical usage of each.

In this chapter I will discuss two of the most commonly occurring affixes, -tiya in 6.1-4 and -liya in 6.5-6, describing them and their usages in some detail. In Appendix G I give a quick run-down of the others, giving examples in which they are used like -tiya or -liya. I will by and large not be addressing most of the rather complex (and very interesting) morphophonological questions associated with the endings of the stems to which these suffixes are connected. Most of the phonological alternations seem at this point in history to be related only to particular sub-constructions (e.g. occurring only after Class III verbs, or occurring only preceding an applicative) and to symbolize no further semantic content.

6.1 Simple Cases of Causative -tiya

The suffix -tiya is morphologically complex, but I propose to ignore most of those complexities. -tiya in any of its usages, in any of its allomorphs (namely -tiy-a, -ti, -thi, -ti) will be referred to by the “citation” form familiar to Uto-Aztecanists, namely -tiya. In the examples I will give the citation form as well, though in diagrams I will use -tiy, the more basic notionally perfective form of the stem, with the understanding that either -a will be added, giving -tiya, or else one of the other allomorphs given above will surface.

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1 The final -a is an imperfectivizing suffix, which is found on Class III verbs (B.1); all verbs in -tiya are Class III. The -a appears only in the present and imperfect forms. The y may be part of the -a (if the -a is taken to be the suffix (lya discussed in Appendix G), or it may be simply a transition sound. More probably it should be taken as part of the -ti element, on the assumption that it is the source of the h and the long vowel in the -thi and -ti allomorphs (B.1, cf. Tuggy 1979b). -tiy (assuming it to be correct) is perhaps analyzable into -ti ‘inchoative’ or perhaps ‘perfective’ (Appendix G), plus -y ‘caus’ or perhaps ‘trns’ (cf. (lya in Appendix G).
-tiya With Intransitive Verbs

As a typical example of causative construction with -tiya let us take the stem mik-tiya (die.perf-caus) ‘kill s.o.’. The stem miki is a notionally perfective intransitive process involving a change of state from living to dead; its trajector is the one who changes state. In present or imperfect tenses it is normally given an imperfective construal by profiling (and extending through time) some intermediate state from among those involved in the change; sometimes, where possible, as with plural subjects, it is construed repetitively. In perfective construals it profiles the entire change. The addition of -tiya to the perfective stem of miki yields a stem that is transitive, profiling a process in which the trajector if miki is the Landmark. The Trajector of the construction is the trajector of an unspecified process which causes or results in the perfective accomplishment of the process of dying.

Thus we can say that the contribution of -tiya to the structure is to introduce a new Trajector, which does something that causes something to happen, and which takes the trajector of the happening to be its Landmark. The “something that happens” within -tiya functions as an e-site which is elaborated by miki. Further construction under OP-Verb and some SP-Verb schemas from chapter 4 will elaborate the remaining e-sites, namely the Landmark and the Trajector of the compacted stem mik-tiy. Within that stem -tiya is clearly the profile determinant: it is its transitive profile and not that of miki that is carried on in the composite structure. miki, however, is heavier semantically; most of the semantic specifications and expectations of mik-tiya come from it.

Phonologically -tiya follows miki and is suffixal to it according to the criteria of 2.2; it strongly expects (even demands) a phonological string to precede it, and makes no specification as to its shape, whereas miki does not so strongly expect anything to follow it and expects whatever does to be from a relatively small class of forms. These asymmetries, of -tiya being phonologically dependent and miki being semantically heavier, establish this as a subcase of 2.2.d, one of the prototypical stem-suffix constructions. The phonological integration of the two morphemes symbolizes their semantic integration. These elements are diagrammed in 6.1.a below.2,3

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2 -tiya is given a perfective profile, since we are dealing with the more basic perfective allomorph -ti. It will also be noted that it appears as if the e-site within -tiya is not schematic for miki, since it has no trajector specified. It is to be understood that within such a subtrajectory the most salient Thing is the trajector, even if it is a landmark in the predicate as a whole. In particular this was specified to be the case for diagrams of causational concepts as in 2.3.b. Thus the specifications of the e-site and miki are compatible.

3 Note the similarities in the semantic specifications of -tiya in this construction and of the causative -a in 3.2.f.
Tetelcingo Nahuatl Transitivity and Space Grammar

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6.1. mik-tiya

Notice that in 6.1.a Relation A (the causing Relation) is represented as being totally schematic. This is true of the most schematic version of mik-tiya: any Process or Relation that results in the Landmark’s dying can be being referred to. However, there will be different sub-versions of mik-tiya, including the prototypical ones, in which the nature of Relation A (which may be quite complex) is specified to some degree. These will correspond to various versions of the extended base against which mik (and therefore mik-tiya) is defined, which will include notions relative to what events precede and/or cause death, and what events follow and/or result from it. If some process in such a base with an appropriate trajector causes death (prototypically, these days, men do it with guns and women with poison), that process will be identified with Relation A within -tiya. Such a prototypical construal is diagrammed in 6.1.b.4,5

4 Note that an automatic result of the construal represented in 6.1.b is that the Landmark of -tiya (the trajector of Relation B) is identified with the landmark of Relation A. This is prototypical for causatives (it is Characteristic (xiv) in 2.3); when you want someone to do something you usually do something to him to make him do it. Similarly other characteristics (volitionality, physical action, etc.) are true here.

5 Notice that at this level of salience the entire structure represented by mik, and particularly the combination of A’ and B’ (including with B’ the events subsequent to it), corresponds to the profile of -tiya and can be taken as a sort of e-site for it. Thus mik is to some degree dependent on -tiya. However, it is less schematic than -tiya, so that the schematicity component of prototypical dependence is violated. Also the e-site in mik is much less salient than the e-site in -tiya.
Another case of a Verb-\textit{tiya} construction would be the stem \textit{pāk-tiya} ‘make s.o. happy’, constructed from the perfective form of the stem \textit{pāk} ‘be happy’, and -\textit{tiya}. This case is almost exactly parallel with that of \textit{mik-tiya} except for the differences between \textit{miki} and \textit{pāki}. \textit{pāki} is a notionally imperfective intransitive profiling an \textbf{IN} or \textbf{EXPERIENCE} relationship of the trajector to the state of mind we call “happy”. The perfective stem gives a perfective view of this relationship; the trajector is viewed as entering (beginning to become full (or overfull). I would claim that this is a fact about profiling an internalization in which the perfectivity is part of the characterization of this particular version of temporally. Some verbs (like \textit{mik} and \textit{pāk}) are already perfectivized, so they accord with -\textit{tiya}; others, like \textit{išwi}, are perfectivized by brute force. Of course, use of the construction will ultimately produce an internalization in which the perfectivity is part of the characterization of this particular version of \textit{išwi} anyway, bringing congruence. All of this means that the marking of the stems \textit{mik} and \textit{pāk} by Perfective Stem Formation is in a sense redundant: they would be construed perfectively in any case, and the alternation involved can be viewed as simply suppletive, marking the allomorph that is used with the causative.

Another example is that of the stem \textit{išwi-tiya} (\textbf{be}.completely.full-caus) as in \textit{k-išwi-tiya} ‘he overfeeds, stuffs him’. \textit{išwi} is, like \textit{pāki}, a notionally imperfective process. Its combination with \textit{tiya} parallels quite exactly that of \textit{pāki} except that it does not have any stem change to signal the change from imperfective to perfective construal.\footnote{It could possibly claimed that Perfective Stem Formation does apply to \textit{išwi}, and that the final \textit{i} in this form is a different \textit{i} produced by Epenthesis. Against this idea are the fact that Perfective Stem Formation never (elsewhere) deletes a vowel following two consonants, and that even if the \textit{i} were Epenthetic historically, there is no surface indication of that fact, so the form would likely be reanalyzed.} Yet the final construal is pretty clearly perfective: the person involved changes state to become full (or overfull). I would claim that this is a fact about -\textit{tiya}, that it tends to perfectivize the stems to which it attaches. This, of course, is Characteristic (vii) of prototypical causatives (2.3) in action, and it is a natural result of (viii), namely the fact that the causing Relation A precedes the caused Relation B temporally. Some verbs (like \textit{mik} and \textit{pāk}) are already perfectivized, so they accord with -\textit{tiya}; others, like \textit{išwi}, are perfectivized by brute force. Of course, use of the construction will ultimately produce an internalization in which the perfectivity is part of the characterization of this particular version of \textit{išwi} anyway, bringing congruence. All of this means that the marking of the stems \textit{mik} and \textit{pāk} by Perfective Stem Formation is in a sense redundant: they would be construed perfectively in any case, and the alternation involved can be viewed as simply suppletive, marking the allomorph that is used with the causative.

There are many other constructions in which -\textit{tiya} combines with an intransitive verb stem. Some examples are given below. In each case the normal citation form, with 3 pers sg subject and object markers as appropriate, is given for both the intransitive stem and the Stem-\textit{tiya} construction.

<table>
<thead>
<tr>
<th>stem</th>
<th>meaning</th>
<th>intransitive stem</th>
<th>transitive stem</th>
</tr>
</thead>
<tbody>
<tr>
<td>nēši</td>
<td>appear</td>
<td>‘appear’</td>
<td>nēš-tiya appear.perf-caus</td>
</tr>
<tr>
<td>čōka</td>
<td>cry</td>
<td>‘cry’</td>
<td>čōk-tiya cry-caus</td>
</tr>
<tr>
<td>koči</td>
<td>sleep</td>
<td>‘sleep’</td>
<td>koč-tiya sleep-caus</td>
</tr>
<tr>
<td>kʷalāni</td>
<td>be.angry</td>
<td>‘be angry’</td>
<td>kʷalān-tiya be.angry.perf-caus</td>
</tr>
<tr>
<td>kʷisa</td>
<td>emerge</td>
<td>‘come out’</td>
<td>kiš-tiya emerge.perf-caus</td>
</tr>
<tr>
<td>mā-kīsa</td>
<td>hand/power-emerge</td>
<td>‘escape’</td>
<td>mā-kīš-tiya hand/power-emerge.perf-caus</td>
</tr>
</tbody>
</table>

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As can be seen in the above examples, there are a number of differences between cases with respect to the form of the stem used with -tiya. Often the stem is the (truncated) perfective stem (A.5, Appendix C), but often it is not. When it is, the notion of perfectivity may be a contributing factor to the idea of completion of a perfective process (as in mik-tiya) or inchoation of an imperfective process (as in pāk-tiya). As we will see in later examples (e.g. 5.1.d), sometimes the stem changes a final a to i. This change (given as a phonological rule in A.1) is probably associated with the pattern of -a on transitives and -i on intransitive verbs; here it may symbolize a “deactivation” of some sort, perhaps a lessening of the volitionality of the trajector in performing the action (cf. Tuggy 1979b, also the discussion of -a vs. i in 3.2). Sometimes the stem has a final vowel lengthened (this is usual, though not exceptionless, with final i). Sometimes a stem consonant is palatalized (A.2), likely historically because of an a to i shift with, in many cases, later truncation of the i. In the case of kīsa and verbs derived from it, the root vowel is shortened before -tiya. Sometimes the same stem may have two causative forms which differ with respect to one of these changes; for instance compare pākī-tyi, ‘give s.o. pleasure’ with pāk-tiya ‘make s.o. happy’. All of these phonological distinctions do exist, and must be dealt with at some level, and generalizations must be made where possible. But, except for the first two, there is, as far as I can tell, no consistent piece of semantics associated with any one of them that is not shared by all, so for our purposes we can ignore them, treating them as (what they are, but perhaps not the only thing they are) suppletive allomorphs conditioned by the particular form in which they occur.

Notice too that the semantics is not exactly the same in each case, nor exactly what you might expect. The difference between ki-pāk-tiya ‘he makes him happy’ and ki-pākī-tiya ‘he gives him pleasure’ is unpredicted, and, as far as I know, unpredictable.7 Apparently in ki-pākī-tiya the mode of making happy (by gratifying the senses) is specified. And ki-nēš-tiya means more than just ‘he causes it to appear’. nēš ‘appear’ makes no specification as to whom the trajector appears to. But in ki-nēš-tiya it must appear to (a group including) the person who causes the appearance; the verb designates discovering rather than revealing or showing. This sort of thing is, of course, a perfectly common phenomenon; the English word comput-er, as Langacker has pointed out, has more semantic content than just ‘instrument of computation’ (a calculator is an instrument of computation but is not a computer), and sneak-er-s has come to mean more than ‘instruments of sneaking’. You cannot call just any place where a fire might be or has been lit a fireplace, and verbs such as (intransitive) throw up or put on include much semantic material not calculable from their component parts. Such shifts in meaning are to be expected: the constructions as a whole, we have claimed (1.3), have existence independently of a computation of their value from their parts, and those composite units can develop semantically in the same ways that non-composite units do. The result is that,

7 In fact, one might have expected that the form with the perfective stem would code the more temporary kind of joy (pleasure). As a concomitant of the difference in meaning, you can say no-pākī-tiya (1.refl-rejoice-caus) ‘I indulge myself, become debauched’ but no-pāk-tiya sounds somewhat odd, probably because it is virtually equivalent semantically to pāki.
as in these cases, the whole often equals more than the product of the parts. A diagram of nēš-tiya is given in 6.1.c below, with the additional specification shown by a (dotted) line of integration connecting the trajector of -tiya and a sub-part of the landmark of nēš.

![Diagram of nēš-tiya](image)

6.1.c. nēš-tiya

In many of these cases the causative Relation involves various additional characteristics from among those summarized in 2.3. Usually the prototypical version of the causative stem includes notions of volitionality (xii) and of physical activity (xiii), sometimes even of force, on the part of the Trajector of -tiya. Action of the Trajector directly on the Landmark in Relation A is also common (xiv, cf. 6.1.b). Some cases are hard to conceptualize without such notions. (Can you save someone without doing anything? Can you walk someone without both wanting to and doing something directly to him to achieve that end?) Others, however, clearly need not imply them. For instance, one could say nēč-kiDtēnDtiya por laliwis ƛac̸ihDki (me-be.angry-caus by very lazy-adj) ‘he gets me mad because he’s so lazy’ in a situation where the person did not intend to anger one, and being lazy involves precisely not doing anything. Thus I would claim that certain versions of certain of these constructions will involve volition and Landmark-directed activity, and the prototypical version of -tiya will incorporate these notions, but the most schematic versions will not. I will not be representing them in the diagrams.

Ignoring such distinctions, the common ground is that -tiya acts as profile determinant over a semantically heavier stem, introduces a Trajector who does something to cause the process designated by the stem to happen, and designates the trajector of that process as its Landmark. These elements are represented below: diagrams are given in 6.1.d of the schema for -tiya and in 6.1.e of the schematic Intransitive Verb-tiya construction, which subsume all the cases we have seen so far.

![Diagram of -tiya](image)

6.1.d. -tiya

6.1.e. Intrans Verb-tiya Construction

I would like briefly to go over two other examples which are interesting in different ways. The first is the stem tēn-tiya, (be.full-caus), from the intransitive stem tēmi ‘to be full’. ki-tēn-tiya would be expected to mean ‘he fills it’, and it usually does. But it can also be used to mean ‘he keeps it full’, giving an idea of “maintaining” rather than straight “causing”. This construal will be discussed further in 6.3.
The other example is the stem \( \lambda ah-\lambda a-kaki-tiya \) (rdp-unspec-hear-caus) ‘tell s.o. off, make s.o. listen to a thing or two’. The stem \( kaki \) ‘hear’ is transitive. However, in this construction its landmark valence is satisfied by the Unspecified Object Pronoun \( \lambda a- \) (5.4). I think it most probable that the OP-Verb Stem construction in this case occurs lower down the constituency tree than the Verb Stem-tiya construction, that the combination is of the composite and probably already reduplicated OP-Verb with -tiya. This means that the construction is of -tiya with an intransitive rather than a transitive stem. I give a constituency tree diagram of \( \lambda ah-\lambda a-kaki-tiya \) in 6.1.f.\(^8\)

Note however that no uncomfortably great stakes hang on this analysis of the constituency: if -tiya combines directly with the transitive \( kaki \), it will intransitivize it, as we will see below, and \( \lambda a- \) will be elaborating a secondary landmark instead of the main Landmark. Or perhaps it is the causativized stem rather than the non-causativized which is reduplicated. The same compacted structure will be arrived at in any case; once again we see that constituency is not particularly crucial.

\[ \text{[RDP-UNSPEC-HEAR-CAUS]} \]
\[ \text{[RDP-UNSPEC-HEAR]} \leftrightarrow \text{[CAUS]} \]
\[ \text{[RDP]} \rightarrow \text{[UNSPEC-HEAR]} \]
\[ \text{[UNSPEC]} \leftrightarrow \text{[HEAR]} \]
\[ \text{[\( \lambda ah \)]} \rightarrow \text{[\( \lambda akaki \)]} \]
\[ \text{[\( \lambda a \)]} \rightarrow \text{[\( kaki \)]} \]

**6.1.f. \( \lambda ah-\lambda a-kaki-tiya \) Constituency Tree**

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**-tiya With Transitive Verbs**

-tiya does not commonly combine with transitive verbs, but there are a few forms in which it does. The most common of them are listed in the following table.\(^9\)

<table>
<thead>
<tr>
<th>ihta</th>
<th>‘see s.t.’</th>
<th>ihtti-tiya</th>
<th>‘show s.o. (s.t.)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>see</td>
<td>‘see s.t.’</td>
<td>see-caus</td>
<td></td>
</tr>
<tr>
<td>mati</td>
<td>‘know s.t.’</td>
<td>mač-tiya</td>
<td>‘teach s.o. (s.t.)’</td>
</tr>
<tr>
<td>know</td>
<td></td>
<td>know-caus</td>
<td></td>
</tr>
<tr>
<td>l-nāmiki</td>
<td>‘remember s.t.’</td>
<td>l-nāmiki-tiya</td>
<td>‘remind s.o. (of s.t.)’</td>
</tr>
<tr>
<td>memory?-meet</td>
<td></td>
<td>memory?-meet-caus</td>
<td></td>
</tr>
</tbody>
</table>

---

\(^8\) There are specifications of the composite structure besides those directly coded by the component morphemes, e.g. an expectation of anger on the part of the Trajector and of previous wrongdoing on the part of the Landmark, etc.; these are of course not represented in the diagram.

\(^9\) I am here ignoring a number of common honorific forms which are formed by using reflexives and a stem with -tiya. Among those honorific forms is to-mo-mač-tiya (thou-refl-know-caus) ‘you hon. know it’, a third form of the stem mati with -tiya (see exx. below). Also I am not here dealing with cases like ki-\( \lambda ah-\lambda a-kaki-tiya \) (see end of last section) where the landmark valence of a transitive stem has been satisfied by an unspecified OP or an incorporated noun.
**ih†a** (which we discussed in 5.3) is a transitive process in which the trajector experiences the sight of the landmark. I will assume that the effect of the change from **ih†a** to **ih†ti** is an intransitivization, that in fact we have a bimorphemic **ih†-i** (cf. 3.2.d). (This assumption is not crucial; as we will see below, it is necessary to claim that stems are effectively intransitivized by the adding of a causative to them even in cases where the a to i shift cannot be shown to have taken place.) This intransitive version of **ih†a**, then combines with **-tiya** in much the same manner as the verbs we saw in the previous section. -**tiya** once again introduces a new Trajector who does something which causes the seeing designated by **ih†-i** to occur. In effect, we simply have another subcase of 6.1.d. This is diagrammed in 6.1.g below.

![Diagram](image-url)

**6.1.g. **ih†i-tiya**

As noted in Appendix C, **ih†a** (and, I would expect, verbs of physical perception universally) can be construed notionally as either imperfective (the construal represented in 6.1.g) or perfective. Thus the type of perfectivity involved in **ih†ti-tya** can be either the inchoative type or the episodal type; either the seeing begins (and doesn't necessarily cease) or a particular instance of seeing occurs and is over with. Contrast this with **λah-λa-kak†-tiya** (6.1.f), however, where apparently only the notionally perfective, episodal construal is allowed; the Landmark, the person being bawled out, presumably does not begin to forever after have the Trajector's voice resounding in his ears.

The semantic specifications just described are not enough, however; **ih†ti-tya** (like nēš-tya and pāk†-tya and **λah-λa-kak†-tiya**) contains further semantic content that is not directly attributable to either morpheme within it. What the Trajector does to make the Landmark see is specified to some extent; the word can not, as far as I know, be applied to situations in which a doctor heals a man's blindness, nor to such actions as removing a person's dark glasses in order that he may see. Rather than doing anything directly to the Landmark, as we might expect (Characteristic (xiv) in 2.3), the Trajector of **ih†ti-tya** does something to make visible or salient the thing that the Landmark is ultimately enabled to see. Prototypically he will bring the thing out physically from obscurity, if it is small enough, or point to it if it is essentially immovable. At most he will lead the Landmark to a place where that thing can be seen, and point it out to him. We might say that his activity is directed towards the thing he is showing, or to the situation, including that thing, rather than to the person he is showing it to. (This without denying, of course, that the person is still the profiled Landmark.) This could be represented in the diagram by a line of integration connecting the sub-landmark acted on by the Trajector of **-tiya** and some set of objects including the landmark of **ih†ti**.

**ih†ti-tya** also has many extended usages corresponding to extended usages of **-ih†a**, in which the “seeing” is not physical sight but some other contextually appropriate form of perception, and the “showing” (Relation A) is not physical deixis but some other appropriate action, e.g. verbal explanation. We will not discuss these cases except to mention that as one gets farther from physical perceptions (as “see” comes closer and closer to the notionally imperfective “understand” or “know”) the “inchoative” causation seems more prototypical and the “episodal” causation less so.
In mač-tiya we have the perfective form of the verb stem mati, which designates an imperfective process of the trajector being aware of a landmark (having the landmark designated in his conceptual structure). The perfective version designates inchoation of the knowledge, as in o-ki-mat (post-it-know.perf) ‘he found it out, learned it’. When this perfective stem is combined with -tiya it also winds up being intransitive; the landmark of the process of knowing is not overtly specified in the verb. Notice that here there is no a changing to i to mark the change.\(^\text{10}\) In one sense this can be thought of as following as a logical consequence from combining with -tiya. The crucial thing is that -tiya allows combination with transitive as with intransitive verb stems; once that is permitted, it follows from the fact of -tiya’s being profile determinant that only the trajector of the verb stem (the LM of tiya) will expect elaboration.

Notice that in all the previous cases, from mik-tiya to iht-tiya, the stem specified that its trajector be elaborated as agent, but that specification was overridden by -tiya’s specification that it be elaborated as Landmark. Similarly in this case -tiya specifies only two elements in the composite structure that are expected to be elaborated, namely the causing Trajector and (as Landmark) the trajector of the verb stem. Since -tiya is profile determinant, this specification overrides the stem’s specification that its landmark be elaborated as landmark. This means, however, given internalization as discussed in Chapter 2, that there must be a version of mati (namely one connected with the stem form mač) that is intransitive, and this is the form that will be used in combination with -tiya. In fact, it also means that this version of mati will not have an e-site specification for its trajector: the trajector is never elaborated as such. (The same is true for all the other verb stems we have been examining, though they do not, in most cases, have a different phonological shape for that stem, so that their intransitive sub-version is unlikely to be as salient as -mač.)

I will continue to use diagrams like 6.1.h, however, even though a similar diagram with the verb stem represented as intransitive may be more accurate in some cases.

This, of course, dies not exhaust the meaning of mač-tiya. Specifications must be added to the unit, independent of the parts, as to the manner in which knowing is caused; the thing that comes to be known is specified to be esoteric rather than novel. For prototypical versions there will be specifications as to the circumstances in which the knowledge is imparted, and so forth. In every case (I think) there will be a

\(^{10}\) It might be urged that the final i on mati is not the intransitive marker discussed in 3.2 (true enough), and that that is why it does not condition palatalization; that the palatalizing intransitive marker -i is used on this particular version of mati, causes palatalization, and then is truncated off by the Perfective Stem Formation rule. This would make this case more parallel to that of iht-tiya and would account for the palatalization in a somewhat more “natural” way than simply saying that it happens before the causative suffix. While I do not wish to exclude such an explanation (which may parallel historical developments), I do not expect that it is hit on by very many speakers, or even if it is I do not expect that it is particularly salient to them.

It also has been claimed for Classical Nahuatl (e.g. Rémi Siméon 1885:LVIII, Andrews 1975:90-91) that causatives are formed on the impersonal or non-active stem: mač-tiya has the same stem as mač-o ‘it is known’. Thus the stem would be intransitive (non-active) before insertion into the causative construction. Since the impersonal/non-active construction has dropped out of TN (the endings having been taken over by 3 pers honorifics), I take it that this accounting is no longer available or at best is relative unattractive.
specification of volitionality on the part of the causer, etc. I will not attempt to represent all of this diagrammatically.\(^\text{11}\)

For *mači-Dtiya* much the same thing happens. In the stem there is no clear marking of a shift from transitive to intransitive,\(^\text{12}\) but the stem is in fact construed intransitively. I do not know why the future form is used (it is as far as I remember unparalleled in causative constructions, though it is like what happens in the “desiderative” forms like *koči-s-neki* (*sleep-fut-want*) ‘he is sleepy’ E.g-i.) One might guess that it correlates to the fact that the knowing occurs subsequently to the causing (Characteristic (viii) in 2.3). If that is correct, it still must be stated that this particular encoding occurs only on this one stem. In any case the combination of the stem *mači-s* and *-tiya* seems to follow the same pattern as before, and, as before, there is a good deal of further semantic material associated with the unit construction that is not attributable to either or its parts. Particularly it seems that the kind of thing the Landmark comes to know is specified as “news” rather than the kinds of esoterica that are specified for *mač-tiya*.

In sum, it appears that the only difference between *-tiya* as used with intransitive verbs and *-tiya* as used with transitive verbs is simply that in the one case the schematic stem within *-tiya* is intransitive and in the other it is transitive. This is practically equivalent to saying that there is no difference; the schema uniting the two will simply make no specification about transitivity, and will be more salient than its subschemas.\(^\text{13}\) I have in effect already been using this schema in all the diagrams so far. And, whether by an intransitivizing morpheme or by brute force, transitive verbs when used with *-tiya* are intransitive. There is really no practical difference between the two constructions; schema 6.1.d will do for both.

\(^{11}\) Teaching is also one of the situations discussed at the end of 2.3 where the same Relation (knowing) can be viewed as the cause as well as the effect. The teacher’s knowledge is causally related to the pupils’. Thus *mač* might be taken at some level of salience as elaborating Relation A (an essentially applicative construal, cf. 6.3.b,d,e). Rather than (so much) causing the pupil to know, the teacher knows, with that Relation producing effects on the pupil.

\(^{12}\) Again, one might claim that the *i* in the stem is not the ordinary final *i* of *mati* but rather the palatalizing *-i* “intransitive”. But while possible, such a claim is far from obviously true.

\(^{13}\) Yet the difference between such subschemas could become salient if it served as the basis for contrast, e.g. if through usage it were established as important for distinguishing between (prototypical) *-tiya* and (prototypical) *-tiya* (Appendix G).
6.2. -tiya as a Verbalizer

Noun-tiya Constructions

Verbs stems consisting of a noun stem plus -tiya are quite common in TN. As a prototypical example, let us take ƛāl-tiya (land-caus) ‘give s.o. land’. The noun involved here has several versions, all relating to the surface of the earth. Sometimes it means ‘dirt’, designating one (prototypical) material of which the surface is made, sometimes it means ‘earth’ or ‘country’, designating relatively large portions of the surface; in the version which is relevant here it means a relatively smaller portion of the earth’s surface, (prototypically) arable, and (potentially) owned by someone. These relations will be in the base of the predicate ƛāl, but not necessarily profiled. In fact, if ƛāl is construed as a noun, that is, a Thing, they will not. Let us assume for now (we will suggest another analysis later) that such is the case. The stem ƛāl-tiya as a whole designates a process of giving some land to someone or endowing that person with the land. Giving entails (at least) a Trajector doing something (volitionally, in the prototypical case) that results in a change of ownership of some Thing (a sub-trajector) from the Trajector to someone else (cf. the structure of maka in 3.1.g). The nature of what is done is probably specified to some extent: we will ignore that. The contribution of -tiya, then, can be viewed as covering this whole area of giving. It introduces a Trajector who does something that results in the change of ownership of something, which ƛāl specifies as land of the arable, ownable kind. The land, originally owned by the Trajector, comes to be owned by another person, who is designated as the Landmark. Both the Trajector and the Landmark are specified as e-sites for further construction, so that the final structure is transitive. -tiya is clearly profile determinant (the complex structure profiles the process of giving rather than the Thing given) and it is phonologically dependent on ƛāl rather than vice versa. In these ways 6.2.a (the diagram for ƛāl-tiya) parallels 2.2.d, the most prototypical kind of stem-affix construction. However, the prototypical pattern is probably violated by 6.2.a in that -tiya, the suffix, is not clearly semantically heavier than ƛāl, the stem; i.e. -tiya is phonologically suffixal but semantically it is probably not to be taken as the “main” element.

![Diagram of ƛāl-tiya](image)

6.2.a. ƛāl-tiya

Note particularly in 6.2.a the lines of integration from the concept of ownership in ƛāl to the instances of ownership in Relation B in -tiya. Drawing these lines must not be taken to mean that the two ownership Relations in B are identical; in particular their trajectors are different. What is the same is the type of Relation, not the particular instance of that Relation, i.e. the Relation as localized to particular trajectors. This is represented by having the integration marked between the lines representing the Relation rather than between boxes enclosing the instances of that Relation, cf. 4.1.a.

Notice that ƛāl is not represented as epistemically grounded in any way: as far as I know ƛāl-tiya does not mean ‘give someone the land’, though it can be used in a situation where it is clear what land is being
referred to. This of course follows from analyzing it as an incorporated noun, as suggested above. Notice also that under this construal -tiya is a ditransitive, expecting elaboration of two landmark Thing e-sites.

As another case of a Noun-tiya construction, consider the stem tōkāyō-tiya (name-caus) ‘name s.o./s.t.’.1 Clearly this case is rather similar to that of lál-tiya. Both can be glossed in English as ‘give someone a Noun’. The resultant relationship between the person named and the name is not exactly one of ownership, but it is an association that many languages code by expressions prototypically designating possession or “having”. Also, in this case it is not necessary for the Thing given to have previously belonged to the giver. But these are minor points which do not hinder us from viewing tōkāyō-tiya as essentially parallel to lál-tiya as just analyzed, with -tiya designating the process of giving and specifying a transitive structure with the person receiving something as Landmark, and tōkāyō an incorporated noun designating the Thing given.

We can draw a schema from these two cases, expressing the specifications which they have in common, and giving a version of -tiya which is rather different from the one given in 6.1.d-e. These schemas are diagrammed in 6.2.b.2

### The Relational Noun-tiya Analysis

This is not the only way to analyze these forms, however. There is a different analysis that fits in better with the characterization of -tiya arrived at in 6.1.d-e, and also with the analyses presented in F.k-m of SP-Noun constructions. There, for instance (following F.1), the case of ni-no-tōkā (I-my-name) is discussed, and it is posited that a version of tōkā is used which is essentially adjectival rather than nominal, profiling the Relation between a person and his name rather than simply the name, and it is claimed that it is very common, perhaps even usual, for a noun to appear in such a Relational version. We could claim here than in tōkā-yō-tiya we have active the same version of tōkā(yō), and that thus -tiya is combining with an intransitive Relation rather than with a Thing. That is, tōkāyō will be taken to mean ‘named’, or ‘having a name’, and -tiya will designate the rest of the notion of giving, namely the notions of a Trajector doing something with

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1 tōkāyō is complex, being formed from tōkā ‘name’ and the difficult-to-pin-down suffix -yō or -yō which means ‘abstraction of, collective, system of’, or some such thing. This does not seem to be particularly relevant to our purposes here, and will be ignored.

2 For evidence corroborating the naturalness of extending a causal construction to mean “cause someone to have Noun”, consider the English construction exemplified in

- *He’s caused me a lot of grief.*
- *She’s caused her parents many sleepless nights.*
- *That cat’s caused me more trouble than you know.*

Cf. also forms like be-devil, be-dew, be-cloud, be-ribboned; be- is a verbal causative in e.g. be-think. Particularly parallel with tōkāyō-tiya is be-doctor, in which be- means “call or dub, especially excessively” (Webster 1977:96).
the result that a Relation occurs, and the specification of the trajector of that Relation as Landmark, forming a transitive processual stem. This analysis is diagrammed in 6.2.c below.

![Diagram](image)

### 6.2.c. Relational トルィョ-トィヤ

A similar proposal is quite feasible for トルィョ、even though the requisite Relational noun construction is not independently motivated for the SP-Noun construction (to say ニ-トルィョ (I-land-abs) would mean something like ‘I am dirt’ rather than ‘I have land’). The Relation of ownership is already quite prominent in the base of the predicate, and it is simply a matter of upgrading that prominence to make it part of the profile of the predicate. Thus we are taking トルィョ to mean “landed” or “having land”, rather than simply “land”. Then the construction will parallel that of トルィョ-トィヤ in all essential details.

We can, then, draw a schema from these two examples, giving the specifications they have in common, and providing yet a new version of -トィヤ. These are diagrammed in 6.2.d-e.

![Diagram](image)

### 6.2.d. -トィヤ

### 6.2.e. Relational Noun-トィヤ Construction

It should be obvious that these schemas are virtually identical to those given in 6.1.d-e, differing only in that 6.1.d-e have a processional Relation specified in the Relation B e-site of -トィヤ, whereas 6.2.d-e have a stative Relation, and in that in 6.2.e the stem is specified as an extension of a noun to profile some Relation in the noun’s base.³ They will of course be joined under a schema neutralizing that difference; it will be given later as 6.2.n.

I do not have any really strong arguments for the analysis of 6.2.d-e as against that of 6.2.b. There are obvious arguments: e.g. that it is desirable to show a close semantic relationship between such closely identified phonological entities as causative and verbalizing -トィヤ, making the morpheme as clearly one morpheme as possible, or that this avoids an otherwise necessary multiplicity of versions of -トィヤ (one with Relation B meaning ‘have’, others meaning ‘wear’, ‘feel’ ‘be married to’, etc.; see ahead), and so forth. But

³ One could also claim that -トィヤ forces a perfective (processual) profile on the stative Relation, as I have claimed it does on imperfective Relations. This would mean that the noun means ‘come to have a Noun’ rather than just ‘having a Noun’. I have no strong reason to reject such an analysis, but I will adopt the other in the text.
they are all arguments from simplicity and in each case can be countered by similar arguments for only one characterization of the noun stems rather than both Relational and Thing versions.

What we have is the following situation, which is a very common one: two components with fairly well established meanings are used in a construction whose meaning does not coincide with what might be expected from their combination. Three possibilities are open to us. One is to take the first component and expand its meaning to take up the slack. The second is to take the second component and do the same. That is essentially what we have done in 6.2.b and in 6.2.d-e. The third possibility is to make the construction itself take up the slack, leaving the two components as they were. (One can of course mix the three in varying degrees, also, changing component A in this respect and B in that, leaving the other to the construction as a whole.) The third type of construal could be instantiated by positing a silent Relation in the Noun-tiya construction, mediating between the Noun which is a Thing and tiya, as a construction, (i.e. continual use of a noun in such a construction will tend to make the Silent Relation internalize, necessitating an incorporated noun.

As I have said, this is a common sort of situation. It turns up in English all the time. We say the kettle is boiling; the composite structure’s meaning does not add up to what would be expected, in that boil expects a liquid subject, and kettle, though it is its subject, is not a liquid. Do we posit a different version of boil, one that means “contain something that boils” or do we posit a different version of kettle, one meaning “contents of a kettle”, or do we simply say that we have an “idiomatic expression”, that the peculiarity resides in the construction rather than in the parts? Similarly, Lindner (1980 and 1981) discusses forms like pig out (at the pizza parlor), where one could claim that we are dealing with a verbalized pig, or with a verbalizing out (i.e. an out that imposes its verbal profile on the construction), or that the construction itself accomplishes the verbalizing even though neither pig nor out has a verbal profile.

I believe that in each of these cases all three analyses are possible and even probable, that we should not present them as strict alternatives, but, in accordance with the discussion in 1.3, consider them as

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alternatives that may coexist. None of them is absolute, and it is a matter of degree (and quite difficult to determine) which of them will be uppermost in people’s minds. As explained above, one would expect, by the principles of Generality and of Usage, that if either component is more closely associated with the construction at issue, either in absolute or in relative terms, the analysis in which the necessary meaning is internalized to it will be the more salient one, and if neither one is closely associated with the construction, the construction itself will be the most salient bearer of the necessary meaning. But as the threshold of salience is lowered sufficiently, all three analyses will appear.

In this case, I feel that the degree of salience of the analysis diagrammed in 6.2.b and of that in 6.2.e are probably rather close and probably somewhat above that of 6.2.f. -tiya occurs quite frequently in Noun-tiia constructions, certainly to the point where the different constructions are not felt to be idiosyncratic “idioms”, but rather are quite well-entrenched, regular construals; but so do nouns occur quite frequently in these and other constructions where a Relational construal is required of them. I have not made measurements of the frequency of each, which all depends, anyway, on such similar imponderables as how nouns are construed in the other cases. Thus I have no strong principled reason for picking either construal over the other, and in fact strong principled reasons for not giving either one any absolute hegemony. Nevertheless I will make a decision forced by pressures of space and time and guided by expedience and esthetics; I will adopt the representation of 6.2.e for most further diagrams. However, this is not to be taken as a claim that 6.2.b is wrong, or that it could not represent the more salient analysis for many, perhaps even for most speakers.

**Further Examples**

-tiya occurs with many other noun stems in constructions somewhat parallel to those we have been examining. Some examples are listed below:

<table>
<thead>
<tr>
<th>Noun Stem</th>
<th>English Meaning</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>pantalō</td>
<td>trousers</td>
<td>pantalōn-tiya trousers-caus</td>
</tr>
<tr>
<td>šomplēloh-ƛi</td>
<td>hat</td>
<td>šomplēloh-tiya hat-caus</td>
</tr>
<tr>
<td>šōči-ƛ</td>
<td>flower</td>
<td>šōči-yō-tiya flower-abstr-caus</td>
</tr>
<tr>
<td>λahyel-i</td>
<td>diarrhea, nausea</td>
<td>λahyel-tiya diarrhea-caus</td>
</tr>
<tr>
<td>nāmik-ƛi</td>
<td>husband</td>
<td>mo-nāmik-tiya refl-husband-caus</td>
</tr>
<tr>
<td>ī-pil-wā</td>
<td>her kids</td>
<td>pil-wah-tiya child-pl.posd-caus</td>
</tr>
<tr>
<td>yeypān-ƛi</td>
<td>treasury, safe</td>
<td>yeypān-tiwa safe-caus</td>
</tr>
<tr>
<td>īš-te-lolo</td>
<td>eye(s)</td>
<td>īš-ō-tiwa eye-abstr-caus</td>
</tr>
</tbody>
</table>

In the first stem of this group the noun stem by itself designates a Thing; namely trousers. Entering into the characterization of trousers are a number of elements: a complex shape specification, complex expectations as to the material of which they are made, and, crucially for this discussion, a function specification in which there figures the Relation of a person (a man in fact) wearing the trousers. (The notion
of wearing is itself quite complex, but we need not go into that.) Following the pattern of 6.2.c, I would posit that for the stem pantalōn-tiya a version of pantalōn is used which profiles the wearing of the trousers, meaning, in effect, ‘troustered’, or ‘wearing trousers’. This stative Relation, then, combines with -tiya to give the notion of ‘cause s.o. to be troustered, betrouser s.o.’

There are a number of other cases where -tiya is added to a noun stem designating an item of clothing, producing a verb stem meaning ‘put Noun on s.o.’. ki-šomplēloh-tiya ‘he puts his hat on him’ above is an example; others are ki-kak-tiya ‘he puts his guaraches on him’, ki-kamīšah-tiya ‘he puts his shirt on him’, ki-pāšah-tiya ‘he puts her (woven) belt on her’, and so forth. This usage is apparently productive: there is thus clearly a well-entrenched schema for constructing Clothing Noun-tiya expressions meaning ‘put Clothing Noun on s.o.’. This schema is diagrammed in 6.2.g.

![Diagram of Clothing Noun-tiya Construction](image)

6.2.g. Clothing noun-tiya Construction

There are two other factors that enter into the prototypical version of this schema: one is a possessive Relation between the Landmark (the person being dressed) and the item of clothing; cf. the possessives in the glosses given. Another is that prototypically the person dressing and the person dressed are the same: these verbs usually appear as reflexives. But neither of these specifications is fulfilled in all cases: there exist versions in which one person dresses another or in which a person is dressed in another’s clothes.

The stem šōči-yō-tiya (flower-abstr-caus) may be seen as a variant on this theme, where the flowers are not exactly an item of clothing, but are culturally known to be put on oxen and idols and altars at certain times and thus could easily be viewed as adornment or clothing, fitting into the schema with clothing.

The noun lahycl-i in the next example, when used alone, means ‘dysentery, diarrhea’. However, I think that there is another meaning of lahycl-i, perhaps an extension of the first meaning or perhaps the source for it in the first place, which is something like ‘disgust’ or ‘revulsion’ or ‘nausea’. (Anything tē-lahycl-ti-k (unspec-diarrhea?-caus?conn?-adj), I have been told, “le hace vomitar a uno”, “will make you vomit”.) In this version of lahycl would figure saliently the Relation between the feeling and the person feeling it; I would claim that in the version used in the stem lahycl-tiya that Relation is profiled and it is the inchoation of that Relation that is caused. Again, it is the sort of Relation that we could translate by “have”.

In the next example, nāmik-li means ‘husband’; it should be clear that salient within the characterization of that notion is the Relation of marriage. I would claim that in the Relational version used in the stem nāmik-tiya, nāmik means ‘having/being married to a husband’, and that the combination with -tiya denotes the inchoation of that Relation. As far as I know this particular stem is always used with a reflexive; you cannot (or at least do not) say ki-nāmik-tiya, which would mean, presumably, ‘he gets her married, marries her off’. This has certain consequences for the meaning of the form, particularly making it tend to convert to

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5 As an example corroborating the naturalness of construing a Clothing.Noun-cum-causative construction in this way, my wife and I have long talked of “pajamifying” the kids (first “diapifying” the youngest) before putting them to bed (“beddifying” them). More generally established forms like be-ribboned and be-spectacled are also somewhat parallel.
an inchoative, which will be discussed in 6.3. Note also that the Landmark (and therefore the Trajector) of nāmik-tiya will always be a woman. This is of course culturally predictable (no homosexual marriages in Tetelcingo, and only two sexes), but in CG it is still a fact about the language and should be stated.

In the next example the extended Relational version of pil-wah (child-possd.pl) will mean, naturally enough, ‘having children’, and the construction pil-wah-tiya will designate the Trajector causing the inchoation of a state in which the Landmark has children. Not surprisingly (but still necessarily stated) the Landmark must be a woman, and the Trajector a man. Perhaps even less surprisingly, this particular stem cannot appear as a reflexive.

In ki-yeyān-tiya ‘he guards it, keeps it safe’, the Relation that will be profiled in the Relational version of yeyn-ān is not a “have” Relation, but one more prominent in the base of the noun, namely an “in” Relation. It seems likely that in many usages the yeyn-ān designated is not a literal or specific safe place for treasure (in some it is) but is rather “safety” in general, a state rather than a place. In one version a Thing is put into this state or place of safety; this is the construal one would expect to get by fitting the posited Relational version of yeyn-ān into the schema given in 6.2.e. In another version, however, the process denoted is one of keeping or maintaining the Landmark in safety rather than putting it there. This case will be discussed further in 6.3. There are other examples in which a prominent “in” or “on” Relation in the base of the noun is utilized instead of a “have”-type Relation: one is oh-wī-tiya (road-possd-caus) ‘send s.o. on his way’.

Similarly, in iš-ō-tiya ‘watch over s.t.’, the Relation required for the extended version of iš-ō is another case of an “in” Relation, with the trajector being “in” the visual field of (the eye of) a person. I assume that iš-ō means, more or less, ‘sight’, and thus, as construed Relationally here, means “in sight”. Whatever the details (some of which are worked out in 6.2.h below), the interesting point here is that the trajector of -tiya is identified as the person in whose sight the Landmark is. He is the one who “casts his eye” on the Landmark. This is expressed by the lines of correspondence linking the (sub-)landmark of iš-ō with the active zone of the Trajector and the field of vision with the landmark of Relation A, the Thing the Trajector manipulates to achieve the state of the Landmark’s being in sight.

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6 This is an unusual form in that a stem with a possessed plural marker is used where one would expect just a stem. The only other case I know of involves the same stem; in the 2 pers hon possr construction the form is mo-pil-wan-ēti-wā (your-child-possd.pl- rdps-hon-possd.pl), with the possd plural marker appearing twice. This is instead of the expected form mo-pil-ēti-wā. Perhaps this can be attributed in part to the fact that pil in the singular has other meanings (suppletive or partially suppletive stems are used for singular pil: konē ‘son’, čopē ‘daughter’, pilahah-kone-ēi (lad-dim-dim) ‘little boy’ sē-siwan-kone-ēi (rdp-girl-dim-dim) ‘little girl’, pilan-kone-ēi (rdp-baby-dim-dim) ‘baby’). Perhaps it is a case of what Tiersma (1980) refers to as “local unmarkedness”, so that in the case of children plurality is unmarked vis-à-vis singularity. In any case, it must be stated. Parallel to some extent is oh-wī-tiya (road-possd-caus) ‘send s.o. on his way’, where the (rare) ‘possd sg’ suffix -wi is used on a noun verbalized with -tiya.

[In other dialects there is a suffix -wah, of which the -wah of pil-wah-tiya doubtless is the reflex, which means ‘one who has a N’. This would imply a ‘cause to be N’ meaning rather than a ‘cause to have N’ meaning. I do not know of other cases of this suffix in Tetelcingo, however.]

7 I know of no other place where the form is used. It could also be construed as meaning ‘eye’ (i.e. as equivalent to š), but this need not materially change the analysis.
Applicative Noun-\textit{tiya} Constructions

There is, besides the kinds of analyses represented in 6.2.b, 6.2.e, and 6.2.f, yet another construal possible of at least some of the stems we have examined. I do not think it probably the most salient analysis for many of them, but I want to discuss it because it bears on the relationship of causatives to applicatives. It is a characteristic of prototypical causation (Characteristic (xiv) in 2.3, in fact) that the Landmark is not only trajector of Relation B but also landmark of Relation A. In a number of the cases we have been examining, however, it is the landmark of Relation B rather than its trajector that corresponds to the landmark of Relation A, or in many cases both the landmark and the trajector of B correspond in some sense and to some degree with the landmark of A. For instance, in \textit{\text{\textcircled{A}}}l-\textit{tiya} ‘give s.o. land’, the Trajector is acting perhaps more directly on the land (dispossessing himself of it) than on the recipient. In \textit{\text{\textcircled{A}}}antal\textit{-tiya} ‘put trousers on s.o.’ or \textit{\text{\textcircled{A}}}ompl\textit{-lo\text{\textcircled{A}}}h\textit{-tiya} ‘put a hat on someone’, the Trajector pretty much has to handle the hat or the trousers physically; he may manage to avoid touching the person he is dressing. Similarly in \textit{\text{\textcircled{A}}}oč-\textit{-y-\text{\textcircled{A}}}tiya ‘put flowers on s.t.’ the landmark of Relation A is most easily taken to be the flowers.

Particularly in the case of \textit{\text{\textcircled{A}}}-	extit{-\text{\textcircled{A}}}tiya just examined, the landmark of Relation A, the Thing manipulated by the Trajector, cannot be taken as the Landmark, but rather is the eye, or the field of vision. For all these cases, if the noun stem is construed non-Relationally, it may be viewed as primarily elaborating the landmark of Relation A rather than the landmark of Relation B. In the case of \textit{\text{\textcircled{A}}}\textit{-\text{\textcircled{A}}}tiya this analysis is corroborated by a construal which may actually be the most prototypical one for the stem, one in which the Trajector in guarding the Landmark does not even necessarily have it within his field of vision, but rather looks at its surroundings to make sure of causing the situation where the Landmark remains in sight, the Trajector uses his sight to accomplish a different Relation, one of safety, with respect to the Landmark. Thus the sight, symbolized by the string \textit{\text{\textcircled{A}}}\textit{, is construed as the landmark of Relation A, not as a part of Relation B at all. Such a construal is also possible, of course, even where the guarding actually does involve keeping the Landmark in sight, though it is not as strongly indicated there. That construal (since its contrast with 6.2.h is more purely the one at issue) is diagrammed in 6.2.i.
6.2.i. ĭső-tiýa (Applicative Construal)

Under this construal the stem to which -tiýa attaches elaborates not Relation B, as in 6.2.c, e, g-h, nor a subportion of B, as in 6.2.a-b, but rather a subportion of Relation A. In this it parallels not the causatives such as those in 6.1, but rather applicatives like those we will be seeing in 6.3 (e.g. 6.3.b, d, e) and especially in 6.5.

Let me reiterate that I am not proposing this as the most salient analysis for most of these forms; I think it may be the most salient analysis for ĭső-tiýa, but I expect the analyses of 6.2.b or 6.2.e are more salient in most instances. However, I think all three analyses are often operative at once, just as in English transitive verb constructions we may find simultaneously operative Types I, II, and III construals. An example given in 2.4 was I fly DC-3’s to Miami, where the construal may be ‘I fly in DC-3’s’ (Type I) or ‘I cause DC-3’s to fly’ (Type II or causative), or ‘I fly, so that the DC-3’s go to Miami’ (Type III or applicative), or some mixture of the three construals. Similarly here for e.g. ni-k-îső-tiýa kal-i (I-it-eye-abstr-caus house-abs) ‘I watch over the house’, the construal may be ‘I cause the house’s being in my field of vision’ (Type II or causative, = 6.2.h) or ‘I adjust my field of vision so that the house is in it’ (=6.2.i), or ‘I use my vision to make the house be safe’ (both Type III or applicative construals), or, very often, a mixture of them all.

An Adjective-tiýa Construction

-tiýa does not usually combine with adjectives. One pretty clear example is ƛa-seł-tiýa (unspec-rdp-calm-caus) ‘calm s.o. down, apologize to s.o., pacify s.o., smooth s.o.’s ruffled feathers’, which is related to the adjective sel-îk (calm-adj) ‘mild, calm, soft’. The reduplication of the stem is perhaps a marker of intensity (se-sel-îk can mean ‘very calm, mild, soft’) or it could be a marker of repetitivity, denoting some sort of repetitive action involved in achieving calm (se-sel-ki (rdp-calm-adj.pl) is the plural form of the adjective). The ƛa- is probably best viewed as meaning ‘in general’ or ‘generally’ (5.4). ƛa-seł, then designates a Relation (perhaps an “in” or an “experiencing” Relation) between a trajector and a state (general and intense) of calm or mildness. That trajector is overall Landmark of ƛa-seł-tiýa. The Trajector of ƛa-seł-tiýa does something to cause the Landmark to come to be in that “in” or “experiencing” Relation. This conceptualization is diagrammed in 6.2.j below (with ƛa-seł in a composite representation).

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8 It may also mean ‘down’, following the fairly universal iconic correlation of states of excitation with up. Or it could also be viewed as designating certain unspecified things which are calm (e.g. the emotions, the situation). The landmark within -tiýa would then be construed as the person who comes to experience the calmlessness rather than the person who becomes calm (they are, of course, the same person).
6.2.j ƛasesel-tiy

6.2.j looks very much like another case of an elaboration of the schema 6.2.e, the only difference being that there is no noun of which ƛa-se-sel is an expanded Relational version. It also looks very much like a case of 6.1.e, with the only difference being that the stem is not processual.

**Postposition-tiya Constructions**

-tiya is also sometimes suffixed to postpositions. The two examples we will deal with here are ɨš-pan-tiya (eye-on-caus) ‘reveal s.t., uncover s.t., bring s.t. out into the open’, which is derived from the postposition ɨš-pan ‘before, in the presence of, in front of’, and mā-k-tiya (hand-loc-caus) ‘surrender s.t., yield, entrust s.t. (to s.o.)’, which is derived from mā-k ‘in the hand/power of, at the mercy of’.

The construction of ɨš-pan, with ‘at the eye (face) of’ becoming ‘before, in front of’, is fairly straightforward; the composite structure is clearly a well entrenched unit in its own right, however. It designates a transitive stative Relation, in which the trajector is located in the neighborhood of the area of the landmark which is designated as its face. The landmark of postpositions is normally elaborated by a possessive pronoun prefix on the stem, though not when the postpositions are incorporated (Appendix E) and similarly (unsurprisingly) not here. In ɨš-pan-tiya, the notion is of a Trajector doing something with the result that a Landmark comes to be in the position designated by ɨš-pan, i.e. out in front of people, in the place where it is completely visible to them. The landmark valence of ɨš-pan is left unsatisfied, just as is the landmark valence of transitive verbs like mati, in 6.1.h. The whole expression is usually used metaphorically to designate situations in which the Landmark is not physically brought before the physical face of the sub-landmark, but is made accessible for perception by the sub-landmark. At least partly as a consequence of this, that sub-landmark (the Thing before whom the Landmark comes to be) is understood to be human, ɨšpan-tiya is represented in 6.2.k below. 6.2.k is clearly parallel to 6.1.h, in which -tiya is suffixed to a transitive verb stem. Its parallelism with 6.2.j, in which -tiya combines with an adjective stem, is also obvious.
6.2.k. ṭišpan-tiya

The postposition -mā-k is another complex form, but again clearly a unit in its own right, meaning ‘at the mercy of, in the power of’. The trajector is viewed as (helplessly) in the sphere of influence of the landmark. There are two stems which have this stem combined with -tiya. One is mā-k-tiya, which, as mentioned above, means ‘surrender, entrust s.t.’. Here, as in ṭiš-pan-tiya, the stem is put in correspondence with Relation B in -tiya; the Trajector causes the Landmark to be in the situation designated by -mā-k. The landmark valence of -mā-k is left unsatisfied, just as was the case with ṭiš-pan-tiya above. In the second case, the landmark valence of mā-k is satisfied by the unspecified (human) possessive tē- before the stem is joined with -tiya. This produces the verb stem tē-mā-k-tiya, which means almost exactly the same thing as mā-k-tiya. Its construction is parallel to that of intransitive verb stems with tiya (e.g. 6.1.a), except that mā-k is a stative rather than a processual Relation.

Summary: Schematic Hierarchy of Prototypical -tiya Constructions

Schematic to 6.2.e and 6.2.j-k is the Stative Relation-tiya construction 6.2.1.

There is a schema (not diagrammed) uniting 6.2.b and similar construals of the Noun-tiya constructions which do not involve possession. This schema would be united with 6.2.1 into a Stative Stem-tiya Construction, which is diagrammed in 6.2.m. In 6.2.m (and 6.2.o) the entity characterized as an e-site in Relation B must be understood as potentially embracing all of Relation B (including the Landmark, which looks as though it is excluded).

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9 Actually, it may be the case that we should view this as an instance of elaboration of a Thing sub-landmark after combination with -tiya, since the tē- could be an unspec hum OP (5.4) as well as an unspec hum possessive; in other words, this would be an example of māk-tiya with the OP tē- rather than of tē-māk combining with -tiya. Either way essentially the same composite structure will be arrived at.
6.2.1 is also linked with 6.1.e, the Verb Stem-*tiya* construction, under a Relation-*tiya* Construction, which we diagram as 6.2.n. 6.2.m and 6.2.n, in turn, are subsumed under 6.2.o, the Causative -*tiya* construction which thus is schematic for all the construals have touched on except the applicative-type construals such as that in 6.2.i and the Silent Relation construal of 6.2.f. Let us review the specifications of this schema, elements of which I am claiming are common to all the particular Stem-*tiya* constructions we have seen (though not to 6.2.f and i, which are alternative analyses for some of those constructions).

Phonologically, a stem of unspecified phonological shape is combined with a suffix (a dependent, profile determinant, succeeding element), which specifies a phonological shape -*tiy(a)*. Semantically, the stem may be an entity of any sort: Thing, stative Relation, or process; prototypically it is a process (6.2.d-e). The suffix (tiya) specifies a perfective process of causation, and takes the trajector of the causing Relation A as its Trajector, and the trajector of the caused Relation B as its Landmark. It is transitive, expecting both its Trajector and its Landmark to be elaborated. The two predicates are related as follows: the suffix is dependent on the stem, having a schematic e-site which is contained in (and may be exhaustive of) Relation B, the caused Relation. This semantic e-site is symbolized by the phonological e-site of the suffix. The suffix, -*tiya*, is also profile determinant; the composite structure profiles a perfective transitive process with the same Trajector and Landmark as those of -*tiya*. Semantic weight is indeterminate: prototypically (i.e. in 6.2.n) the stem is semantically heavier than is -*tiya*, conforming to the pattern of 2.2.d, but in certain non-prototypical cases such as 6.2.b, the suffix may be the heavier element. The semantic integration of the predicates is symbolized by the integration of their phonological poles.

Finally, in 6.2.p is given a schematic hierarchy, showing the schematicity relationships among the schemas we have been examining, with an indication of their relative prototypicality.
6.2.p. Schematic Hierarchy of -tiya Constructions
6.3 Complex usages of -tiya

Three kinds of Non-Canonical Causation

There are several more or less problematic issues related to causatives of the types we have seen in 6.1 and 6.2. Among them are the following:

(a) Sometimes the notion of “causing” is changed into one of “maintaining”. We already noted that yeyän-tiya (safe.place-caus) can be taken to mean ‘keep s.t. in a safe place’ as well as ‘put s.t. in a safe place’, and that tēn-tiya (be.full-caus) ‘fill s.t.’ can also mean ‘keep s.t. full’.

(b) Sometimes the notion of causation changes to one of facilitation or even of permission. For instance, in ki-čīčī-tiya (him-suck-caus) ‘she suckles him’, the mother is not really making the baby nurse, she is simply arranging things to make it possible. ki-mač-tiya (him-know-caus) does not mean that the teacher makes the pupil come to know (you can lead a horse...), but that he makes it possible for it to happen. Ła-kʷa-l-tiya (unspec-eat-nr?-caus) ‘feed s.o.’ may simply imply giving permission to eat,1 and Ła-sel-tiya (unspec-receive-caus) ‘give the Mass to people’ does not, at least nowadays, imply any degree of forcing its reception.

(c) Reflexive versions of causative stems do funny things. The most common is that they lessen or lose the notion of causation so as to become inchoatives or near synonyms for intransitives. In some of these cases the construction has a connotation of suddenness or forcefulness. The case of mo-nāmik-tiya (refl-husband-caus) ‘she gets married’ was already mentioned, in which the trajector is not particularly viewed as getting herself married, but simply as becoming married. mo-mač-tiya (refl-know-caus) does not mean ‘he teaches himself’, but rather ‘he learns, he is a student’, and mo-nēš-tiya (refl-appear-caus) means very much the same thing as perfective versions of its root, nēši, ‘appear’, with an slight added connotation of suddenness. kalaki means ‘enter’, but its reflexive causative construction mo-kalak-tiya means ‘butt in, barge in, force an entrance’. Also many reflexive causatives are of dubious acceptability; mo-nēš-nen-tiya (refl-rip-lve/walk-caus) ‘he makes himself walk’ is an example. Their acceptability may be improved, however, if their subjects are plural.

These problematical examples are perhaps best viewed as cases of non-prototypical causation, cases where one or more of the characteristics given in 2.3 is violated. For convenience all fifteen of those characteristics are here listed again.

(i) Causation is a Relation between two Relations, A and B, such that
(ii) The probability of A contributes to that of B.
(iii) To the extent that A happens, B happens.
(iv) The trajector of A is overall Trajector, and
(v) The trajector of B is overall Landmark.
(vi) A and B are both processes, as is the causative Relation between them.
(vii) A, B, and the causative Relation are perfective.

1 This form can be parsed either as Łakʷal-tiya (food-caus), a subcase of 6.2.b/e, or as Łakʷa-liiya (eat-caus), a construction like 6.1.e but with the causative -liiya (Appendix G) instead of -tiya. The point here remains the same under either analysis.
(viii) A precedes B temporally.
(ix) A is necessary for B.
(x) A is sufficient for B.
(xi) The Landmark is passive or resistant to B.
(xii) The Trajector wills B.
(xiii) A involves physical action.
(xiv) The Landmark is landmark of A as well as trajector of B.
(xv) The Trajector and the Landmark are separate entities.

Many situations meet all these criteria and are coded by constructions using -tiya in TN. It is also true, however, that most of these factors can be downplayed or contradicted and the situation still be coded by -tiya. We have already seen cases where (vi) (“A and B are processes”) and (vii) (“A and B are perfective”) are not true: Relation A (the causing Relation) is not (or at least need not be) viewed as a process in nēč-kʷalān-tiya por laliwis ƛac̸ih-Dki ('he gets me mad because he’s so lazy'), and it is certainly not perfective. Relation B is not clearly processual in the construals in 6.2, though it might be reasonable to claim that -tiya processualizes Relation B, i.e. that Relation B within -tiya has a temporal profile and that only the non-temporal Relation within it serves as e-site.

"Maintaining" and "Facilitating"

A contradiction of (vii), an imperfective construal of B, is, it seems to me, a large part of what is involved in the notion of “maintaining” as opposed to “causing”. Thus in ki-tēn-tiya ‘he is keeping it full’ Relation B (being full) is construed imperfectively, neither beginning nor ceasing to be full. So also in ki-yeyān-tiya ‘he is keeping it (in a) safe (place)’, Relation B (being safe or in a safe place) is imperfective (if not stative): its trajector neither enters nor leaves the zone of safety.²

Negation of characteristic (viii) (“A precedes B”) is also part of the notion of maintaining: if A precedes B, then B must have a definite starting point subsequent to A, and it cannot then be imperfective. And it is certainly clear that in the cases given above of the notion of “maintaining”, Relation B exists chronologically before Relation A. (I do not think it can ever cease before Relation A begins, however.)

(viii) is also nullified in certain cases where A and B are effectively coterminous temporally. For instance in ki-łah-ła-kakī-tiya (him-rdp-unspec-hear-caus) ‘he gives him an earful, tells him off’ (6.1.f), the (implied) speaking (Relation A) and the resultant hearing (Relation B) are effectively coterminous; in particular they begin at the same time.

Nullifying (ix) (“A is necessary for B”) is involved in the instances where “causation” is watered down to “facilitation”. For instance, in the teaching situation invoked by ki-mač-tiya ‘he teaches him’, what the teacher does may not be actually necessary for the pupils to learn. They could learn at least many of the

². Involved in these cases is an expectation of perfectivity; the thing which is kept full is something that would otherwise be expected to empty out, and the thing which is kept safe is something that would otherwise be liable to being stolen or otherwise harmed. Similarly for other such verbs: e.g. in ƛac̸ilīni-liya (ring-applic), where -liya is used as a causative, the meaning ‘keep s.t. (a bell) ringing’ is possible, perhaps just because the bell would otherwise be expected to stop ringing. Something like Langacker’s concept of anti-bumps and anti-dents (flatness where a bump or a dent is expected) seems to be at work; imperfectivity where a cessation (gradual or abrupt) is expected may be itself a backwards kind of perfectivity. Langacker points out that contain is perfective when it involves holding back something that would otherwise break out. Even though there is no observable change in the situation in the dam is containing the water, the verb is a perfective, as demonstrated by its ability to appear in the imperfectivizing progressive construction. Contrast with *the bowl is containing the soup.
same things on their own. In fact for many of the cases we have seen already this is true to some extent. In *ki-čōk-tiya* ‘he makes him cry’, it is not asserted that he could not have cried otherwise, nor in *ki-pantalōntiya* ‘he puts his pants on him’ is it implied that that was the only way the pants could have gotten on. However, the strong implication usually is that they wouldn’t have been put on, or that he wouldn’t have cried, or that little would have been learned, were it not for what the Trajector did. And in the case of nursing (*ki-čēt-tiya*) it seems pretty clear that if the mother does not feed the baby, the baby can not get food. So in that case, though something like facilitation is involved, Relation A is necessary for Relation B.

More important to the facilitation sense seems to be negation of (x) (“A is sufficient for B”). These structures portray a scene in which Relation A is not sufficient to guarantee the occurrence of Relation B. This is clearly what happens in the context of teaching, or of nursing, where what the Trajector does tends toward the accomplishment or occurrence of Relation B, but does not guarantee it. Again the strong expectation, given the voracious appetites of children’s minds and babies’ bodies, is that Relation B will in fact take place. In fact, in any but future or subjunctive or irrealis tenses, the implication is usually that Relation B does (or did) take place (in accordance with (iii)). Yet, in these cases, it is not necessarily implied that Relation A causes (or caused) Relation B in the strictest sense of the word.

Also, negation of (xi) (“The Landmark is unwilling or passive as to B”) seems to be involved in at least some of these cases: the Landmark is (hopefully) neither passive nor resistant to the efforts of the Trajector to achieve Relation B. If he is, teaching and nursing are rather futile efforts. The fact mentioned above, that Relation B is implied to have occurred, strengthens the contention that (xi) is in fact set aside in these “facilitation” cases, since if the Landmark is resistant in these cases, B will not occur. Yet facilitation can also occur with a non-volitional Landmark; leaf-cutter ants may finish off an already moribund plant, and the situation could be coded by *mik-tiya* ‘kill’.

We have seen examples of contradictions of (xii) (“The Trajector wills B”), in which the Trajector was non-sentient and therefore without will as to the occurrence of B or where the Trajector might be a volitional creature but indifferent to the occurrence of B or even unwilling that it occur. E.g. in *ki-خلاف-tiya* ‘it disgusts him’, “it” could be a dead dog, or it could be a sordid affair whose trajector(s) would will that no one find out and be disgusted. We have also seen cases contradicting (xiii) (“A is a physical action”); physical action is not strongly or necessarily involved in bestowing land (*ki-لاط-tiya*) or making someone cry (*ki-čōk-tiya*), and the absence of it is involved in the case discussed earlier of the man’s laziness angering me.

**Reflexive Causatives**

Characteristics (xi) through (xv) are relevant to the issue of why reflexive causative constructions tend to be unacceptable or to mean inchoation or simply to be equivalent to the intransitive stem on which they are constructed. In reflexives, (xv) (“The Trajector and the Landmark are distinct”) is contradicted by definition. This has consequences for the other factors. For instance, barring some sort of split personality (xi) and (xii) become mutually exclusive; one or the other of them must go. The same person will not normally be both actively willing and passively allowing or actively resisting the same process. This can be circumvented to some extent, as long as (xiii) is satisfied, by viewing the person as a physical conglomerate in which one part of the body can be physically active and another passive. Thus in the Clothing Noun cases such as *mo-سپلله-tiya* (refl-hat-caus) “he puts his hat on” or *mo-پاش-tiya* (refl-sash-caus) “she puts her belt on”, the arms are actively causing a Relation of clothedness to obtain with respect to the passive head or waist, approximating a prototypical causative. These verbs parallel forms like *mo-کِشا* (5.3.d-e), designating common situations for which there are no intransitive predicates, and thus it is not surprising to find them strongly entrenched and thus perfectly grammatical. Certain other predicatives of the same sort

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3 One can say things like *ناها سکی-ین-ماکتی-یَا pero yehwá amo o-کی-یکوک-کی* (I 1-him-pl-know-caus-impfv-impf but they neg past-it-stick-pl) ‘I taught them but they didn’t learn’; thus even Characteristic (iii) can be negated at the clausal level.
would designate quite uncommon situations, and thus are more marginal. For instance, *mo-neh-ten-tiya* (refl-rdp-live/walk-caus) ‘he walks himself/makes himself walk’ is not clearly acceptable: people will interpret it, if possible, as meaning that the trajector moves his (passive) legs with his (active) hands in order to make himself walk, but this is not the sort of situation you run into every day (perhaps in part because it wouldn’t work very well). So the usage is not at all entrenched. One can more easily, however, approximate an active/passive dichotomy between trajector and landmark in such a reflexive causative when the trajector-landmark is plural, allowing a reciprocal or a partitive construal (cf.

5.3.c and the discussion there). Thus *mo-neh-ten-tiya* can be taken as ‘they make each other walk’; its acceptability is much improved by this construal.

But when the reflexive causative involves only one person, and the causing Relation (Relation A) is not a physical action, this type of bipartite, active versus passive, construal is less easy. I am not claiming that it is impossible: we can and do construe ourselves as schizophrenically talking to ourselves, arguing with ourselves, disappointing ourselves, etc. And, as we saw in 5.3, many actions such as standing, sitting, lying, or moving, are normally construed reflexively in TN; one seats, stands, lays, or moves himself. In those cases, however, there was no intrinsically stem coding the same sort of situation; in the prototypical verb- tiya constructions there is. The stem *neh-teni* (rdp-walk) ‘walk’ is a well-entrenched unit, so there is little reason to go to the trouble of construing a reflexive version of its causative form *neh-ten-tiya* ‘walk s.o.’ in order to code the same situations. The kind of thing a person would do internally to cause himself to walk is not easy to distinguish from what he would do if he simply walked without explicitly causing himself to. In other words, a construal of *mo-neh-ten-tiya* parallel to *mo-keč* in 5.3.d is conceivable, but it is quite unnecessary and thus it is not surprising that it has not gained unit status. Using a causative on a stem like *neh-teni* usefully transitivizes it, but using a reflexive on that effectively undoes the transitivization, leaving you in many cases with nothing gained for your pains.

As we will see below, in some cases there are differences in the construals of a simple stem and its reflexive causative, and they may form the basis for establishing the reflexive causative as a unit. Sometimes one of the characteristics of causatives from 2.3 will hold true of the reflexive causative but not of the simple stem. However, in the case of *neh-teni* and *neh-ten-tiya*, there is little or no difference. All that is contributed by characteristics (vi), (ix), and (x) is true, but any volitional activity on the part of a person (such as a prototypical incident of walking) would include these factors, as long as Relation A is whatever the usual internal activity is that stimulates the action. Whatever a person does mentally to stimulate his body to physical actions does not perceptually precede those actions in most cases; thus (viii) is contradicted. And *neh-teni* (rdp-live) ‘walk’ is one of the verbs that are notionally either perfective or imperfective, so that not even the perfectivity of the walking (characteristic (vii)) is anything new. Thus the causative seems to be totally redundant. This helps explain why forms like *mo-neh-ten-tiya* tend to be unacceptable, and why, when they are used, they tend to mean the same as their intransitive stem would.

In certain other cases the simple stem may be notionally imperfective. In these cases the perfectivity contributed by the causative construction (characteristic (viii)) will differentiate between the intransitive and the reflexive-cum-causative stems. This is part of the difference between *mati* ‘know’ and *mo-mač-tiya* ‘learn’; *mati* is notionally imperfective, and *mo-mač-tiya* is notionally perfective, with the inchoative perfectivity expected from imposing perfectivity on the imperfective *mati*. It must be construed in imperfective tenses as denoting repetitive sub-events of learning, or a span of time in which learning was going on but neither began nor stopped, in which the store of knowledge in the learner’s mind was neither empty nor complete, with its increase faded out of the picture.
The case of *mo-nāmik-tiýa* (refl-husband-caus) is similar, with the added factor that, as in 5.3.d and similar transitive stems with no overt causative, there is no intransitive stem which means ‘to be married’.4 Anything external that a girl might do to get herself married is culturally proscribed (though by no means culturally non-existent). Internally she simply does “the usual”. She acquiesces to the proposal brought by the boy’s grandmother and passively but hopefully not unwillingly goes through the process of getting married. Perhaps she goes through it willingly; in any case she is doing virtually the same in getting herself married as if she were simply getting married. The idea of inchoation (characteristic (vii)) is there, but not much else.

Here may lie at least part of the explanation for the idea of suddenness or violence which is sometimes associated with reflexive causatives in contrast to the simple stems. This notion appears most clearly where the simple stem is already perfective, and I suggest that the double specification of perfectivity provided by putting a “passive” reflexive causative construction on a perfective verb can be construed as denoting suddenness. This would account for the implication of suddenness in *mo-nēš-tiýa* ‘suddenly appear’ as opposed to perfective construals of *néši* ‘appear’, or the implication of force in *mo-kalak-tiýa* ‘butt or barge in, force an entrance’ as opposed to *kalaki* ‘enter’.5

Another common difference between a reflexive-cum-causative and the verb stem it is built on is related to semantic extensions of the sort we have seen so often, where certain specifications hold for the stem-cum-causative that pertain neither to the stem nor to the causative. These extended specifications can carry over to the reflexive-causative construction, and differentiate it from the intransitive. This seems to be another part of the difference between *mati* and *mo-mač-tiýa*. The (transitive) causative stem *mač-tiýa* has specialized, at least prototypically, to a schoolroom context, to the scene of a knowledgeable person imparting culturally or economically important knowledge to pupils. Much of that scene carries over into the prototypical versions of *mo-mač-tiýa*: the learning takes place in the school situation, there is a teacher imparting esoteric (from the pupils’ viewpoint) knowledge of cultural or economic importance, and the one learning fills the role of the pupil. In this way (at least) the meaning of *mo-mač-tiýa* differs from the meaning of perfective forms of *mati*, which do, truly enough, contain the idea of inchoation that distinguishes the two stems in imperfective tenses. *o-ki-mat* (past-it-know.perf) means “he found it out”, and there is little or no limit on what sort of thing he found out or by what means or where. *o-mo-mač-ti*, however, means ‘he learned’ or ‘he studied’, with quite strong limitations on what and how and where he learned. Similarly *miktiýa* (die.perf-caus) ‘kill’ (6.1.a-b) involves a quite specialized subcase of dying: *mo-mik-tiýa* ‘commit suicide’ differs from *miki* ‘die’ in retaining many of those specializations (as well as in involving external physical action, etc.).

Yet another difference holding between a reflexive causative and its corresponding simple stem when that stem is transitive, is that the reflexive causative is effectively an intransitive. It cannot have an(other) OP on it because the reflexive marker is an OP. And, since the simple stem is available to code situations where its landmark is construed as specific, the reflexive causative will tend to be used in situations where it

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4 There is a stem *sowāwā* (woman-?) which is used in the phrase *ye sowāwā* ‘he’s already married’ which corresponds to the male verb of marriage, *mo-sowah-tiýa* (refl-woman-caus) ‘he gets married’. It is not clear to me whether *sowāwā* is an intransitive verb or an adjective. [In other dialects it is a nominalizer (or possibly an adjectivizer), forming nouns meaning ‘possessor of’. That meaning fits here perfectly well.] In any case, it does not keep *mo-sowah-tiýa* from being an established unit, with an inchoative meaning directly parallel to that of *mo-nāmik-tiýa*.

5 I am less than satisfied by this explanation; I think the tie-in of force with causation is much more direct than this. Langacker has suggested (personal communication) that causation (and will and perhaps other related concepts) might best be represented as an energy transfer. Such a concept would be most fully instantiated when there was a salient amount of energy in the transaction. This would help explain why Relation B’s probability is linked to that of A (since the energy for its occurrence comes from A) and why the Landmark is prototypically passive or resistant, and why physical action is prototypically involved, and it would directly give the characteristic of force to causation. Strong will (characteristic (xii)) is also characteristically manifested by force. Forcefulness or violence and suddenness are, of course, closely allied concepts.
is not so construed. This will internalize as the expectation that the (sub-)landmark of the reflexive passive will be non-specific or indefinite. Thus in the examples given above, o-ki-mat will refer to the learning of a specific place of information whereas o-mo-mač-ti will refer to learning a non-definite body of information, which cannot be rendered very specific. (The complements that may appear in clauses with mo-mač-tiya seem to be limited to constructions which are not highly specific but indicate a “search domain”, e.g. prepositional phrases with de ‘about’ or “path”-type clauses introduced with interrogative relatives like kēni, ‘how (to…)?’ or ƛī-ka ‘why’.)

In sum, causative constructions change a relatively simple stem to a Type II construal; reflexive constructions of such a causative structure return the construal to more or less the original scope of the simple stem. It is thus unsurprising that the reflexive causatives are sometimes virtually synonymous with the simple stems and thus often lack unit status. There are several sorts of semantic sediment that may remain after going through the contortion of causativizing and then reflexivizing, and these may be useful enough to speakers to motivate them to use the constructions, thus establishing them as grammatical. Among the more important of such pieces of fallout are the imperfectivity (inchoation) of the derived stem, the implication of violence or force, the retention of certain emphases or specializations associated with the basic process in its causativized form, and the intransitivity of the derived stem.6

Causative vs. Applicative Construals and Other Complexities

So far we have considered cases where the less central characteristics of prototypical causation, (vi)-(xv), were violated. Now let us consider some non-prototypical usages of -tiya which contradict some of the more central characteristics of prototypical causation, or which tend towards applicative construals. Some of these cases might still be able to be called causatives; others may not.

First let us consider the stem yōl-ipan-tiya (heart-on-caus) ‘exhort s.o., preach to s.o.’. This stem is, like Ĭš-pan-tiya (6.2.k), built on a complex postposition. In this case the postposition is yōl-ipan(a) (heart-in/on) ‘on/in the heart of’. The trajector of this postposition is viewed as being in the heart (=soul, mind) of the landmark.

Following the pattern of Ĭš-pan-tiya, we would expect the -tiya to make the following changes in the structure provided by yōl-ipan: It would introduce the familiar structure with Relation A causing Relation B, which would be elaborated by yōl-ipan. Relation B would be effectively perfectivized, so that the being on someone’s heart would be construed as beginning at the time of Relation A. The construction would have as Trajector the trajector of Relation A and as Landmark the trajector of Relation B (i.e. the trajector of yōl-ipan). Both Trajector and Landmark would function as e-sites, and yōl-ipan-tiya would mean ‘put s.t. (the Landmark) on people’s/someone’s heart’. But that is not what happens. The conceptual structure presented by the construction yōl-ipan-tiya is that of someone causing things to come to be in the heart of a particular person rather than of causing a particular thing to come to be in the hearts of people. That is, the Landmark of yōl-ipan-tiya corresponds not to the trajector of yōl-ipan, but to its landmark.7 I have diagrammed this construction in 6.3.a.8

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6 Another topic which by rights should be discussed here (but won’t) is the kinds of semantic fallout which make these reflexive causative constructions suitable for their productive use as honorifics (B.3). The combination of near synonymy and nuances such as forcefulness (= power?) and autonomy are probably important in this regard.

7 It is probably not irrelevant that this is one of the cases where Characteristic (xiv) is maintained, i.e. where the landmark of Relation A is the same as the trajector of B. Given that and given the limited range of things that can be put on one’s heart, in contrast with e.g. the extended range of things that can be put before one’s eyes (Ĭš-pan-tiya), it is less surprising that the trajector is passed over in favor of the landmark for selection as the Landmark, the Thing we are most interested in having elaborated.

8 I assume here (and in later examples) a new version of -tiya which is still profile determinant. Of course other analyses are possible and may well be right. The displacement between what is expected (i.e. ‘put s.t. on (people’s) hearts’) and what obtains (i.e. ‘put
63.a. yōlipan-tiya

This then is a case where -tiya is used where Characteristic (v) is violated: it is not the trajector of Relation B that is the Landmark of the composite expression, but rather its landmark. This is an instantiation of 2.4.g, the landmark-as-Landmark Causation schema. It is unusual in that it is a causative; most instantiations of this schema are applicative. This characteristic will appear in other examples in this section; two other cases much like this of Relation A and Relation B can be construed as being of the same type. The exhorter has something on his heart that is why he tries to put it on the hearer’s heart. There thus can be two other analyses of instantiation of 2.4.g, the landmark as Landmark Causion schema. It is unusual in that it is a causative; ‘steal, appropriate, claim squatter’s rights (to s.t.)’: the landmarks rather than the trajectors of 9 are taken as Landmarks.

The situations encoded by yōlipan-tiya are of the causative class mentioned at the end of 2.3 in which Relation A and Relation B can be construed as being of the same type. The exhorter has something on his heart that is why he tries to put it on the hearer’s heart. There thus can be two other analyses of yōlipan-tiya (things on s.o.’s heart’) can be laid at the door of -tiya, which is what I am doing, or at the door of -yōl-ipan, assuming a version of it in which the roles of trajector and landmark are switched, or at the door of the construction as a whole, claiming that we have the normal construals for both component elements, but that neither winds up being profile determinant; the profile specifications are a function of the construction as a whole. (Cf. the similar problems in accounting for noun-tiya constructions in 6.2.b-f, or for the odd out in dry out the dish as opposed to dry out the water (from the dish), Lindner 1981). At some level of salience I expect that all three are true; I think it will be most useful and expeditious for us to assume here however that it is all -tiya’s fault. yōlipan-tiya also has semantic extensions associated with it as a whole, having to do with what sort of thing is put on the Landmark’s heart, the way it is put there, and what sort of relationship holds between the Trajector and the Landmark. We will ignore these things.

9 As mentioned in 2.4 (fn. 4), the LM of -tiya is at some level the trajector of Relation B, since it is the most salient element. The notation I am using, claiming that it is the landmark of B, assumes that speakers are aware of it as a reversal of the expected profiling, that it is trajector much as the subject of a passive is trajector. The notation, then, is a collapsed version of a structure like:

10 These two stems tend strongly to be clausally transitive with respect to the Thing inherited or stolen (the trajectors of the postpositional stems)—see 7.2.
(neither of which is, I judge, likely to be as salient as 6.3.a, but both of which may well exist alongside of it). In one of them yōl-ipan is taken as elaborating both relations A and B, and in the other it elaborates only Relation A. This last would be an applicative construal, an instantiation of the Type III schema in 2.4.f. It is diagrammed in 6.3.b.

Notice that the same reversal as was necessary in Relation B is also necessary in Relation A: its landmark rather than its trajector is chosen as overall Trajector, in violation of Characteristic (iv) (2.3).

A Verb-ṭiya construction which parallels yōl-ipan-ṭiya in a number of ways is ḗn-yewal-ṭiya (base-surround-caus), ‘place s.t. around the base of s.t.’. ‘he places something around the base of it’. This form is based on the stem ḗn-yewalowaw (base-surround) ‘surround s.t. (at the base)’. ḗn-yewalowaw is itself composed of ḗn ‘base’ and yewalowaw ‘surround’. yewalowaw is a notionally perfective process in which the trajector comes to “be” around the landmark in some sense. There are two versions of ḗn-yewalowaw which particularly concern us. In one, the trajector is viewed as “being” around the landmark only through time; “around” is a kind of path which is instantiated by the trajector at no one point in time but which is traversed by it over time. In this sense a man may “surround” a city; “go around” is a better translation than “surround” for these cases. In the other version the trajector comes to be around the landmark at one time; the trajector is usually construed as a plural or mass object, parts of which are distributed around the landmark. With either version, the incorporated noun ḗn ‘base’ specifies the active zone of the landmark, that is, the part of the landmark which is surrounded. It is specified as the part nearest the ground when the landmark is in its canonical position.

11 In this construal, the elaborations would have to be taken as independent of each other in the sense that even though the landmark of A would be in correspondence with the landmark of yōl-ipan and the landmark of B would be so as well, the landmarks of A and B would not be thereby put in correspondence with each other: yōl-ipan-ṭiya is not a reflexive stem. Compare the discussion of 6.3.j.

12 Note the similarity of the semantic specifications of -ṭiya here to those of -a in3.2.g.

13 yewalowaw is certainly complex morphologically. yewa is probably related to the stem in such words as yewa-tika (sit?-dur) ‘be riding seated (upright) (on a horse)’ or k-éwa (it-stand) ‘he stands it up’ (é is phonetically [’ê]). The ē may be a nominalizer, or a vestige of -lo ‘impersonal/passive’, and -owa is probably the verbalizer discussed in Appendix G. Also it may be that -ltiya rather than -ṭiya us added to yewa rather than to yewalowaw; if it were really yewalowaw+tiya one would (mildly) expect the form to be yewalotiyaw instead of yewalotiyaw. The form’s deviance may be a historical result of some of these things. However, I think ḗn-yewalotiyaw is synchronically perceived as an extension of ḗn-yewalowaw, and I will assume that analysis in the following discussion.

14 This canonical position is to be viewed in terms of sitting rather than standing for those Things which permit a distinction: for a human body the seat (“bottom”) is ǐ-ě́n-ko (its-base-place); thus Nahuatl speakers refer to the “bottom (seat) of the hill” rather than the “foot of the mountain”. ḗn-ko and ḗn-λa (base-loc) are used as complex postpositions meaning ‘at the bottom of’ or ‘underneath’.
When this stem is used with -tiya, the resultant stem profiles as Trajector a causer, who causes something to surround the base of something else. The thing surrounding, which is the trajector in čín-yewalow, may be taken as the Landmark of čín-yewal-tiya, giving a normal causative construal, an instantiation of 6.1.e. However, the thing surrounded, the landmark of čín-yewalow, may also be taken as Landmark of čín-yewal-tiya. This construction, like yōl-ipan-tiya in 6.3.a-b, violates Characteristic (v) of prototypical causatives. It is diagrammed in 6.3.c below.

As with yōl-ipan-tiya, however, there is another way to account for the same facts. Remember that there are two versions of yewalow, which differ over whether the trajector is around the landmark at one time or through time. And notice that when one puts something around the base of some landmark, let us say fertilizer around the base of a tree, the normal way to do it is to go around the tree oneself, leaving fertilizer as one goes. This can be viewed as case of the “surrounding through time” construal of yewalow. This, then, is another case where the causing and the resultant action are of the same sort, and the stem can be viewed as designating not the resultant position (of the fertilizer with respect to the tree), but the nature of what the trajector does in causing the resultant position. This construal of čín-yewal-tiya is a type III, or applicative construal (2.4.f); it is diagrammed in 6.3.d.\(^{15}\)

Another complex case is that of the verb stem lāokoliya (give-caus), which is derived from the verb stem used in such forms as ki-lāokoliya (him-give) ‘he gives him (a present)’\(^{16}\). ki-lāokoliya does not mean,}

\(^{15}\) Another possible analysis is to claim this as a case of a transitivity-changing incorporation, much like 4.2.c, of čín onto yewal-tiya (a form I do not have elsewhere attested).

\(^{16}\) lāokoliya is consistently glossed in Spanish as regalar, ‘give as a gift’ as opposed to the more common maka, which translates as dar, ‘give’ (both maka and dar can also mean ‘hit, strike’). lāokoliya is certainly morphologically complex, involving (almost certainly) the unspec ła- and the applicative -tiya. I am not entirely sure of its composition, however, and as it is not terribly
as one might expect, ‘he makes him give it’, but rather ‘he inspires pity in him’. In translation the trajector and landmark are often switched around: thus ni-k-lāōkol-tyia (I-him-give-caus), with a 1 pers sg subject and a 3 pers sg object, is translated by he pities me (Spanish me tiene lástima ‘to me he has pity’), with a 3 pers sg subject and 1 pers sg object. The Spanish le doy lástima ‘I give him pity’, in this case parallel to the Nahuatl form, is also given as a translation.

A couple of possibilities suggest themselves for analyzing this form. One is to claim that what we have here amounts to a violation of Characteristic (iii), which said that if Relation A occurs Relation B must occur as well. One could claim that here Relation A (the relation inspiring pity) occurs, and results in a tendency towards or a desire for Relation B (the giving of a gift), but it is only a tendency and B need not actually occur. This may well be involved.

Another possibility is to claim (paralleling history, for what it’s worth) that lāōkol-tyia means basically not ‘give a gift to s.o., but ‘feel/act graciously/mercifully towards s.o.’, and that the present-day construal is (still) an extension of that sense. Then Relation B is the gracious or merciful attitude, and can be viewed as actually occurring, in accordance with Characteristic (iii). Assuming this second explanation, the structure is as follows. The Trajector, through unspecified means, causes the Landmark to feel gracious or merciful.

However, there is further information which limits this picture. The means the Trajector employs in this causation is always (as far as I know) some fact about him that is not clearly under his control, a stative Relation of misery of which he is the Trajector (e.g. a sickness he is suffering, a disability he is under, some other adverse circumstance). This contradicts Characteristics (vi) and (vii) (A is neither a process nor perfective), (xiii) (A is not a physical action), and, prototypically (xii) (the Trajector is not trying to be piteous and miserable). Note too that in this situation the Landmark must not be very resistant to Relation B, or he will not feel pity (people can and do harden their hearts against pity). Thus (xi) is by no means clearly satisfied, and (ix) (A is sufficient for B) is not satisfied. If the construal is taken whereby (iii) is also contradicted, one gets a notion that this is far from a prototypical causative. Finally, the Trajector is equated with the sub-landmark in Relation B; the Landmark feels not pity in general, but pity towards the Trajector. Thus the Trajector’s role in the process is far from unambiguous. He is the Trajector, but the Relation of which he is trajector is the vague and highly non-prototypical causing Relation, and he also is the landmark of a much more strongly specified Relation, namely that of feeling pity. This makes it easy to see why languages like English and Spanish will construe these situations by verbs taking what is Trajector in Nahuatl as their landmark (object, whether “direct” or “indirect”) and the Nahuatl Landmark as their Trajector (subject).

Another verb which shows a similarly great departure from the prototypical picture of causation is čōk-tyia (cry-caus) ‘mourn s.o.’.17 The difference in meaning between the notions of ‘mourn’ and ‘cry’ is not entirely clear. One possibility, in this particular culture, is that the verb refers to crying to the dead person, since in their ritualized wailing the women address the dead. This would be equivalent to an applicative of the communication variety (see discussion preceding 6.5.f). The crying (which is done by the Trajector) results (presumably) in hearing by the Landmark. This conceptualization is diagrammed in 6.3.e.

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17 čōk-tyia, which is formed from the perfective stem of the same verb, čōka, with -tyia, has the expected meaning ‘cause to cry’. The phonological difference the two stems cannot, as far as I know, be used to predict anything like the difference in meaning that obtains.

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relevant, I will ignore it. Andrews (1975:479) gives the Classical Nahuatl verb laōko-ya ‘to be sad’, with applicative (tē)-laōko-liya ‘to be sad in relation to s.o., i.e. to have mercy on s.o., to feel pity for s.o.,’ and causative (tē)-laōko-ltyia ‘to sadden s.o.’. These forms are more straightforwardly explicable than the Tetelcingo forms.
To this notion of crying to someone would be added, at the level of the composite structure, semantic information specifying what the circumstances are under which the crying takes place (prototypically death of the Landmark) and what the relationship is between the Trajector and Landmark (prototypically familial, otherwise close friendship) and so on.\(^\text{18}\)

This construal does not seem the most likely one to me, since \(\text{ki-}\text{cōkī-tiya}\) is often translated not by the Spanish \(\text{le llora (to/for him he cries)}\) but rather by \(\text{llora por él (he cries for/on account of him)}\). Also the verb is sometimes used of other kinds of bereavement situations, where as far as I know the crying is just crying and not communicative, talking crying. I suggest, then, that another possibility is that the construal is something like the English construal in “cry for him”. What that construal is is a complex question. It is presumably not crying “for the benefit of” the dead (or do we think that they take pleasure in our grief?). Perhaps one element is that the crying is an expression of an inner search “for” the person, a crying “after” or “in search of” him, like a child crying “for” its mother. This concept is very close to the notion expressed above; it involves the intent or desire to communicate, if not the actualization of it. I.e. it differs from 6.3.e in that Characteristic (iii) from 2.3 is violated. Another element, more prominent, I think, in the Spanish \(\text{por}\) than in the English \(\text{for}\), is the element of causation, crying “because of” him (or “because of” some Relation that obtains with respect to him). This idea does show up in certain English expressions such as “I’m so happy for you” (i.e. happy because of something good that has happened to you) or “sorry for you” (i.e. sorry because bad or sorrowful that you are or that has happened to you). Thus we mourn or bemoan situations (our loved one’s death, our own downfall), crying because of them rather than “for” them in the prototypical sense of “for”.\(^\text{19}\) I think this sort of construal is very likely a relatively salient element in \(\text{cōkī-tiya}\). It is diagrammed in 6.3.f.

As with 6.3.e, the picture in 6.3.f would be fleshed out by specifications of the situation in which the mourning takes place, the relationship of the Trajector to the Landmark, and so on. 6.3.f is paralleled by constructions with other causative/applicative suffixes, for instance \(\text{cōkī-} liya\) (cry-applic), which also means ‘mourn s.o.’, and \(\text{wekī-} liya\) (laugh-applic) ’laugh at/because of s.o.’, both of which are discussed in 6.6.

Under either construal, 6.3.e or 6.3.f, \(\text{cōkī-tiya}\) is not a prototypical causative. In 6.3.e there is not clear satisfaction of (iii) (particularly for the agnostics in Tetelcingo). In 6.3.f, the following Characteristics of

\(^{18}\) Another thing that is done “to” or “for” the dead is setting off sky-rockets; the verb \(\text{λa-kepōni-} liya\) (unspec-detone-applic) can be used to designate that situation. I do not know for sure that the intent is to communicate with the dead (I know they believe the dead are aware/affected in some measure by what happens in the funeral period), but in this case the other “for” construals explored below seems less likely.

\(^{19}\) Eugene Časad tells me that in Cora (another Uto-Aztec language) the form \(\text{šaami-ri-n (be.cold/sad-applic/caus-prtcp)}\) means ‘mourn’. The idea of “being sad because of” some Relation that holds with respect to the Landmark seems to fit, but since being sad is not a communicative process, the preceding ideas of “crying to” and “crying after” do not fit well.
prototypical causation are violated: (iv) (the trajector of A is the Landmark rather than the Trajector of the complete expression), (v) (the trajector of B is Trajector rather than Landmark), (xii) (dead men presumably don’t want to make us cry), (xiii) (A is not a physical action), and (xiv) (the Landmark is not clearly a salient landmark of Relation A). The violation of (xii) and (xiii) is probably not irrelevant to the violation of (iv) and (v): if the person who died, the trajector of Relation A, were taken as Trajector of the construction, he would be a quite unprototypical Trajector of a causational situation, non-active, non-volitional, etc.

6.3.f, in the end, is sort of a hybrid between an applicative and a causative. As in an applicative, the stem elaborates the Trajector’s Relation rather than the Landmark’s (the crying is done by the Trajector, not by the Landmark). As in a causative, the caused Relation rather than the causing Relation (B rather than A) is elaborated.

In a few forms -tia comes very close to being a straight applicative. One is the stem te-kal-tiya (stone-throw-caus) ‘stone s.o.’, from the stem kali ‘throw’ that shows up in verbs like ki-ƛah-kali (it-down-throw) ‘he throws it down’. kali is a notionally perfective verb much like mōla (3.1.a), designating an action in which a Trajector (almost always a human) by an arm motion starts a Landmark on a subtrajectory through the air (above the ground). Included in the base for the predicate are notions of preparation to throw (e.g. picking up the Landmark, winding up) and aftermath of throwing (the Landmark accomplishing its sub-trajectory, ending up in contact with some sub-landmark).

Incorporated onto the stem kali is the noun te ‘rock, stone’. This is a direct object incorporation (4.3.a), effectively detransitivizing the stem and tending to imperfectivize it. (This imperfectivizing tendency is counteracted by the use of the perfective stem.) This complex stem is then combined with -tia, and the result is to designate a process of throwing stones as something or someone, who is profiled as the Landmark. This is a Type III extension of scope (2.4.f), the applicative type of extension. -tia then, profiles a causation situation in which Relation A (the causing Relation) is elaborated by the stem, and the caused Relation (B) is left vague. Relation B is then equated with the relation already in the base of kali as resulting from the profiled action of throwing, namely that of the sub-trajector (the rocks) hitting a sub-landmark. That sub-landmark is identified as the Landmark of -tia. Thus the Landmark is a landmark rather than the trajector of Relation B, violating Characteristic (v) but instantiating the pattern of 2.4.g. This, as we have said, is common in applicatives: it will be discussed in section 6.5 (6.5.d).\(^{20}\) Prototypically the Landmark is a human or animal, through the verb may be used of stoning inanimate objects. te-kal-tiya is diagrammed in 6.3.g.

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\(^{20}\) Apart from this violation of Characteristic (v), the causation involved in -tia here is quite canonical. Characteristic (iii) (if A happens, B does), and therefore (ix) as well (A is sufficient for B), may be viewed as violated in cases where the verb is used to designate situations in which no stones actually hit the Landmark. But it would be just as easy to say that Relation B (which is vague anyway) in those cases designates entering into the neighborhood of the Landmark rather than necessarily actually making physical contact with the Landmark.
Another case of a non-prototypical usage of -tiya involves the stem nek-tiya (want-caus) ‘wish s.o. (s.t.)’ as used in the verb ki-nektiya ‘he wishes him (e.g. a Happy New Year)’. neki is a notionally imperfective transitive stem, profiling the trajector’s desire for the landmark. The construction of -tiya with the perfective stem of neki designates the Trajector’s desire that the Landmark have something. Again the stem appears to be elaborating the Trajector’s Relation rather than the Landmark’s. And the Landmark’s Relation (the Landmark having the good year) appears to be the landmark of the Trajector’s Relation (i.e. the thing the Trajector wants). This is rather different from any of the preceding cases: there is apparently no causation involved at all. This “non-causational” construal of nek-tiya is diagrammed in two different ways (exploded and compacted within -tiya) in 6.3.h.

6.3.h. nek-tiya (Non-Causational, Two Views)

Or is there causation going on after all? One possible construal, in the case of the new year, is this: the Trajector wants everybody to have a good year, so that this may result in the Landmark’s benefiting. This is not quite such an easy construal in certain cases where the Landmark is the only one who would have the good thing, as when he is wished a good journey. But perhaps the thing that is wished is that the year or journey may be good, resulting in the Landmark’s benefiting. Instead of wanting the Landmark to have a good year or journey, the Trajector is wanting a good year or journey for him. A possible implementation of this basically applicative construal is diagrammed in 6.3.i below.

6.3.i. nek-tiya (Applicative)

Assuming the analysis in 6.3.i, let us notice that the causation that is going on is not the prototypical causation (which is why I have indicated it with a dashed arrow). There are two Relations, A and B, but it is not totally clear that the probability of A has any direct relation to the probability of B. My wishes about the character of the new year or a friend’s journey are likely to have little effect upon them. Thus Characteristic (ii) (and therefore (iii), (ix), and (x)) is violated. (xi) is also violated (the Landmark wills B rather than opposing it), but (xii) is fulfilled (the Trajector wills it). (xiii) is violated (A is not a physical

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21 The landmark of A, insofar as it is construed Relationally (the good year or journey being or existing) has a more canonical causation Relation to B, as indicated in the diagram.
action), and perhaps (vii), if A is taken to be an imperfective, continuing desire.\[^{22}\] The other Characteristics all seem to be met. But violating (ii) is pretty drastic. Yet I think this may be viewed as a sort of limiting case. As in the prototypical causatives, the Trajector wants B to happen. In those cases there is something the Trajector can do to make B happen, so he does it. In this case, the circumstances of the new year or the friend’s journey are out of his control. If there were anything he could do to assure their being such as would benefit his friend, he presumably would. As there is not, the best he can do is just to wish it.\[^{23}\] Another way to say the same thing is to say that desires are incomplete, and that only to the extent that the desire in Relation A is fulfilled can we expect Relation B to obtain.

One final example is the stem \(\text{ašī}-\text{tiya} \ (\text{arrive-caus})\) ‘arrive with s.t.’ \(\text{asi}\) is discussed in 3.1.(f). In this stem apparently both the Trajector and the Landmark are arriving, and the arrival of the Landmark is (prototypically) caused by the arrival of the Trajector. Thus both Relation A and Relation B within \(-\text{tiya}\) can be construed simultaneously as e-sites for the stem \(\text{asi}\). This construal is diagrammed in 6.3.j. But notice that these must be independent elaborations: their effect is not to identify the person arriving, the Trajector, with the Thing with which he arrives (the Landmark); \(\text{ašī}-\text{tiya}\) is not a reflexive stem (cf. fn. 11). This stem is a sort of hybrid, a causative insofar as the stem elaborates Relation B, and an applicative insofar as it elaborates Relation A.\[^{24}\]

\[^{22}\] Against this possibility is the fact that the stem is the perfective stem, \(\text{nek}\), instead of the imperfective \(\text{neki}\). This perfectivity may be involved in the fact that this verb is usually, as I remember, either used as a performative (“I hereby wish you a Happy New Year”), or used to designate situations where the wish was spoken aloud as a performative.

\[^{23}\] Langacker’s idea of causation and will both essentially involving energy transfers might help with explicating what is going on here. Energy is being transferred to Relation B, but it may well not be enough energy or strategically enough placed to bring B into reality.

\[^{24}\] It is not to be thought that by ending this section at this point I have exhausted the topic. There are many other cases of non-prototypical usages of \(-\text{tiya}\), some rather different from any we have examined. For instance, \(\text{nek}-\text{tiya} \ (\text{want-perf-caus})\) can also mean ‘esteem s.t., value s.t. highly’. \(\text{semilwi}-\text{tiya} \ (\text{all-day-caus})\) means ‘spend all day’ and similarly \(\text{sē}-\text{ših}-\text{tiya} \ (\text{one-year-caus})\) means ‘spend/be a year’; these two stems are not even transitive! What is more, they are paralleled by English \text{temporize} and \(\text{χρονίζω} \ (\text{time-ize})\) ‘delay’ in Koiné Greek (at least), where the normally transitive verbalizers \(-\text{ize}\) and \(-\text{iω}\) are intransitive when used with a time noun. And so forth. But the writing of dissertations, like art and morality, consists largely in drawing the line somewhere. The examples gone into here include those which most seem to illuminate the issues surrounding the difference and similarities between causatives and applicatives.
63.4. aši-tiya
6.4 Summary and Discussion

Schematic Stem-\textit{tiya} Constructions

In 6.2.1-p we summarized the canonical causative usages of \textit{-tiya}. Here we will view the relationship of those schemas to the less prototypical ones we have been examining. The most crucial of those schemas for us here are the Causative-\textit{tiya} construction (6.2.o), and its prototypical instantiation, the (Causative) Relation-\textit{tiya} construction (6.2.n).

If the nature of the causal Relation between A and B in 6.2.o and its sub-schemas is stated loosely enough (e.g. specifying only that Characteristics (i)-(v) need be met), all of the cases surveyed in 6.3 up to 6.3.a (i.e. those dealing with maintaining, facilitating, and reflexivity) can be viewed as elaborations of them. This leaves 6.3.a-j.

Those cases differed from 6.2.n-o in two main ways. One was in having the stem elaborate the causing Relation (A) instead of the caused Relation (B). This is of course the Applicative pattern, as opposed to the Causative. The applicative structures were 6.3.b, d, c, g, and i. They would be united under 6.4.a, the Applicative Relation-\textit{tiya} schema. This schema can be united with applicative Noun-\textit{-tiya} construals such as 6.2.i under an Applicative -\textit{tiya} construction, like 6.4.a in linking the stem with Relation A but like 6.2.o (or 6.2.m) in specifying only that the e-site is a sub-portion (not necessarily a proper sub-portion) of that Relation rather than the Relation as a whole. This structure is given in 6.4.b.

The other main way in which the cases in 6.3.a-j differ from 6.2.c is in not having the trajector of Relation B be the Landmark of the construction. This is the pattern of 2.4.g, the landmark-as-Landmark schema. Following this pattern, in 6.3.a, b, c, d, and g, what we might have expected to be construed as the landmark of B (and what is, in fact the landmark of the stem with which B is put into correspondence in 6.3.a), was chosen as Landmark of \textit{-tiya} and thus of the construction as a whole. (Similarly the landmark of A was chosen as Trajectory in 6.3.b as well.) This pattern is expressed in the schema 6.4.c, the landmark-as-Landmark-\textit{-tiya} construction. The sub-cases of this schema instantiate 6.4.a-b or 6.2.o as well.
Uniting 6.2.o, 6.4.b, and 6.4.c is 6.4.d, a Stem-\textit{tiya} construction schematic for all the constructions we have seen except for 6.3.f and 6.3.h. Schematic to 6.3.f, 6.3.h, and 6.4.d is 6.4.e. Let us examine its specifications.

Phonologically, 6.4.e has a stem on which there is dependent a suffix with the phonological string \textit{tiy} specified in it. The suffix is phonological profile determinant.

The predicate with which the phonological stem is linked may profile a Thing or a Relation: prototypically it is a Relation, indeed an process (verb); i.e. the strongly prototypical 6.2.n and the relatively prototypical (for its subgroup) 6.4.a are both Relational. The suffixal predicate involves the perfective processual Relation of two Relations, which we shall call A and B. It is strongly prototypical for this to be a causal Relation: 6.3.h, where B is the landmark of A, is the only exception. (The causal Relation in many of the other cases deviates to some extent, as we have seen, from prototypical causation).

A Thing within A and a Thing within B are profiled as Trajector and Landmark. Prototypically we can add “respectively” to that statement; in all cases but 6.3.f the Thing in A is Trajector and the Thing in B is Landmark. It is also very strongly prototypical for the Thing so profiled to be the expected trajector of its Relation; 6.3.b (for the Trajector) and the cases subsumed under 6.4.c (for the Landmark) are the exceptions.

Both the Trajector and Landmark are expected to function as e-sites in further constructions: all Stem-\textit{tiya} constructions (at least all that we have examined) are transitive.

There is also an e-site specified in the suffixal predicate, symbolically joined to the phonological e-site and elaborated by the stem predicate. This e-site is within either Relation A or Relation B. Prototypically (i.e. in all the cases subsumed under 6.2.o) it is in Relation B. The e-site may be a proper sub-part of the Relation; prototypically (i.e. in all the cases where the stem is a Relation, 6.2.n and 6.4.a) it rather encompasses the whole Relation.
The suffix is profile determinant. Either the stem or the suffix may be semantically heavier; prototypically (again in all the cases where the stem is a Relation) it is the stem. One final characteristic which I have systematically ignored but which is true of 6.4.e and thus of all these -tiya constructions is that they form Class III stems (B.1).

6.4.f is a schematic hierarchy (to be complemented by 6.2.p and even so incomplete) of these Stem-tiya constructions. Once again let me state that there are other forms with -tiya which may not fit any of these schemas, forcing the construal of some schema even more abstract than 6.4.e to unite them.

6.4.f. Schematic Hierarchy of -tiya Constructions

What, then, is the meaning of -tiya? To the extent that all these different constructions have become internalized to tiya (as I have assumed in the analysis (6.3. fn. 8)) its meaning would be represented by a schematic hierarchy parallel to 6.4.f/6.2.p. The overall schema would be -tiya as represented in 6.4.e, the prototypical schemas would be -tiya as in 6.1.e, 6.2.n, and 6.2.o, and there would be all the other versions with their varying degrees of prototypicality.

This, then, is how I would answer the question¹ of whether there is a single morpheme -tiya or only a collection of homophonous suffixes which are different morphemes with different meanings. The answer is that you can look at it either way. If you want to distinguish between, say, causative and applicative cases of -tiya, you can certainly do so. If you want to talk about the fact that the causative usages in 6.1 are prototypical and such usages or meanings as that of 6.3.f are in a quite different class, you can do so. Similarly, you can claim that there is no English morpheme star, because 5- (or n-)pointed geometrical figures, astral bodies, and movie actors obviously have nothing in common. More to the point, you can

¹ raised to me by David Perlmutter (p.c., cf. Chapter 8).
claim that there is no suffix -ify in English, because causing a person or thing to have a characteristic (e.g. beautify, glorify, simplify) is different from claiming that it has it (vify) or finding out if it has it (verify) or from causing it to be a noun (deify, nullify) or construing it as being in a noun (classify), and so forth. And many of the cases are not totally clear as to what’s happening and must be handled differently from the “regular” cases (e.g. ramify, qualify, mystify, mollify, unify, ratify, etc.) But if you will consider as a single morpheme any case where a consistent cluster of phonological and morphological properties (such as being pronounced [try], following a stem, producing characteristic distortions of that stem, and being in Class III with respect to formation) is linked with a consistent cluster of semantic properties (e.g. those listed above), then -tiya can certainly be considered a unified morpheme.

And if you ever want to talk about historical changes, or people’s intuitions on these matters, you had better be able to do both. If they are only single morphemes, you get hung up on the differences, syntactic and otherwise, between instances of them; if they are only separate morphemes you leave as totally accidental the phonological and semantic similarities between them. The answer is that they are both different (classified under contrasting schemas which express their differences) and the same (united under a single schema which expresses their similarities).

**Stem-tiya Constructions can be Viewed as Incorporational**

It was mentioned in the discussion of 6.2.a that the noun involved could quite well be analyzed as an incorporated noun, with -tiya an incorporating verb. This analysis could also be extended to other Non-Relational Noun-tiya constructions. Adjectives and postpositions can also be incorporated (Appendix E), so the same analysis is available for the other cases of non-verb stems with -tiya, including Adjective-tiya and Postposition-tiya as well as Relational Noun-tiya constructions. And verbs can be incorporated as well (Appendix E), so perhaps all of the Stem-tiya constructions can be viewed as special cases of incorporation.

The main differences between Stem-tiya constructions and prototypical incorporational constructions are: (1) -tiya never occurs independently, and, as a result of this (and as a cause of it as well) (2) -tiya has internalized to it, at both the phonological and semantic poles, the expectation of a stem. That is, -tiya is a suffixal verb, whereas prototypical incorporating verb stems do not always incorporate, because (and with the result that) they are not suffixal.

It will be remembered that some incorporating verb stems, such as piya ‘have’ in the sense ‘guard, take care of (a herd or crop)’ (4.3.h), or miki ‘die’ in the sense ‘suffer’, or namaka ‘sell’, or neki ‘want’ in the desiderative verb-incorporation constructions (E.g.4.i), are apparently on their way to suffix-hood also, and the aspect markers (B.2) can be taken as suffixal verb stems as well. So -tiya and the other causative/applicative are far from alone. Another, related, difference is that prototypically -tiya, being quite schematic, is not the semantic heavy-weight, whereas the typical incorporating verb stem is. This makes -tiya even more prototypically a suffix (instantiating 2.2.d). It also provides a measure of functional explanation for why it is affixal (and thus for why 2.2.d is universally prototypical). It is so schematic as to tend not to be useful by itself; it is only when it is combined with another process that its structure is fleshed out to the level of our prototypical interactions. Thus in English *he caused is deviant as a sentence, and similarly Spanish *hizo ‘he made/caused’. Other verb stems, being less schematic, hold their own when it comes to weight, and they are elaborate enough to be useful by themselves.

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2 It is true that neither cause nor hacer are affixal, but that can be explained (to a degree, not absolutely) by the fact that English and Spanish verbs are not usually expected to be able to stand alone as full sentences, where Nahuatl verbs are. Note as well that since -tiya takes a verb stem (prototypically) rather than a Thing object like cause and hacer, there is no parallel with -tiya to he caused it. The 3 pers sg OP ki does not work, and there is no pro-verb that is used in such a construction.
The relatedness of Stem-\textit{tiya} and Incorporational constructions will hold on many levels. Verb-\textit{tiya} constructions will be linked with Verb Incorporations such as E.f-i under a schema given here as 6.4.g.

Under this schema the Verb-\textit{tiya} constructions will be much more strongly prototypical than the incorporations. Non-Relational Noun-\textit{tiya} constructions already instantiate the Noun Incorporation construction 4.3.c; Stative Relation-\textit{tiya} constructions will be linked with Stative Relation Incorporation constructions of various ilks, and so on. And at the top of the hierarchy, 6.4.e, the Stem-\textit{tiya} construction, is an instantiation of 4.3.f, the Stem-Verb Incorporation schema. Also, for those sub-versions of verb-stems like \textit{miki} ‘die’, \textit{neki} ‘want’, \textit{piya} ‘take care of, herd’, or \textit{namaka} ‘sell’, which expect an incorporated stem preceding them, and thus tend toward suffixality, there will be generalizations uniting them with the similarly suffixal N-\textit{tiya} and Stem-\textit{tiya} constructions.
6.5 Applicative -\textit{liya}

The suffix \textit{-liya} is probably even more common than \textit{-tiya}.\footnote{There are considerably fewer examples of \textit{-liya} on non-honorific stems in Brewer and Brewer 1962 than of \textit{-tiya} (about 150 vs. about 250), but it is used more extensively on honorifics, occurring with most transitive stems.} It is prototypically an applicative, though, like \textit{-tiya}, it has a wide range of meanings. In this section I will concentrate on the applicative usages; the others are treated briefly in 6.6. Having made use of the term “applicative” previously (e.g. in 6.3-4), it is incumbent on me to give some sort of definition of it. Applicatives, according to Carochi (1655:466), serve to designate an “order[ing of] the action of the verb towards another person or thing, connecting it to him (attribuyendofe)la by way of damage or of benefit, taking it off him or putting it on him, or relating it to him (refiriendofela) in any way whatever, as will be understood by the examples.”\footnote{Carochi’s definition is an expansion of Rincón’s (1595:45); Rincón is apparently the first Aztecanist to use the term. Rémi Siméon.} Let us follow Carochi’s example and proceed to some examples. We will pay particular attention to the four notions Carochi suggests as commonly occurring in applicatives, namely benefactivity, adversativity or detrimentality, motion towards, and motion away, and how they are integrated with the meaning of \textit{-liya}.

Applicatives in Which the Landmark “Has” Something Valuable

As a simple case of an applicative \textit{-liya} construction with a benefactive slant, let us take \textit{teši-liya} (grind-applic) ‘grind corn for s.o.’, which involves the stem \textit{tesi} ‘grind corn’ and \textit{-liya}.ootnote{\textit{-liya} is, like \textit{-tiya}, composite. The \textit{-y} and the \textit{-a} are pretty certainly the same morphological pieces in both morphemes. Once again I will refer to the suffix by the “citation” form in which it is most familiar to Aztecanists, \textit{-ya}, but will actually deal in the examples with the notionally more basic perfective allomorph \textit{ly}, which does not have the imperfectivizing \textit{-a} on it.} The composite stem appears in \textit{kt-eši-liya} ‘she grinds corn for her’. \textit{tesi} is an intransitive verb which can be taken as either a notional imperfective or a notional perfective. The imperfective construal profiles the repetitive process of a person (the trajector, usually a woman) grinding corn with a metlapil on a metate. (It also can be used to code other kinds of grinding, but we will assume this one, which is prototypical.) In the notionally perfective construal, which was diagrammed in 3.1.6, the base includes more of the prototypical scene: a woman brings some prepared corn (\textit{neš-tamal-i, ash-tamale-abs}) to the metate, sits down and grinds it until it is all ground and she

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1. The suffix \textit{liya} is a second object marker like the prefixal OP’s, corresponding “roughly” (and somewhat inexplicably, to me) “to the English indirect object”. — the fact that it is the prefixal OP in applicative verbs which agrees with the English indirect object. In glosses in texts Pittman often links -\textit{li} with the direct object: e.g. p.60, sentence 17, \textit{ši-nēč(kiš-t)li} (\textit{impv-me-(emerge-caus)-appli}) “pull it out from/for me” is glossed “impa-me(pull)it”. Brewer and Brewer (1968:262) consider -\textit{li} and its allomorphs -\textit{lti}. -\textit{lti}, etc., as the “referential” suffix (Robinson and Sischo (1969:54, 63 use the same term). They explain that its use allows a verb to appear in clauses which contain an indirect object, and causes the verb’s OP to correspond to the indirect object rather than the direct object. Bartholomew and Mason (1980:201) term “-\textit{lia} (or perhaps -\textit{ollia})” a “benefactive”, though the range of meanings they give in the glosses goes beyond that meaning, including action “to the advantage or disadvantage of a certain person” or cases where “one of the complements of the verb is the possession of that person”. I have no clear examples in TN of this last construal; it is reminiscent of “dative possessors” in Romance and is common among applicative-type forms in other languages; e.g. \textit{afy} in Sierra Popoluca (Lind 1964), where \textit{ay-koc-afy} (1-hit-applic) translates ‘I hit it for him, I hit his thing’, or \textit{ɪ - y} in Chamorro (Craín 1979, Gibson 1980).

2. \textit{-liya} conditions a number of the same phonological changes as \textit{-tiya} in the stems on which it appears. It almost always causes a final \textit{a} to change to \textit{i}, which may be connected with some sort of detransitivization or deactivation (A.1, cf. 3.2). It often causes palatalization (A.2), as here: this may have been historically associated with the particular \textit{i} involved (i.e. the \textit{i} in \textit{tesi} and the \textit{i} in \textit{teši} may have been historically different ‘s). It does not condition any truncation (A.5) as \textit{-tiya} does, nor does it condition vowel tensing (A.3). I will ignore these matters.
has a container (usually a bucket) of *teš-ƛi* (grind.perf-abs) ‘dough’ ready to make tortillas or tamales or whatever. The predicate *tesi* designates (profiles) the grinding episode in such a scene, including the beginning and finishing of the grinding. The profiled episode, together with the resultant possession of the *teš-ƛi*, is diagrammed as part of 6.5.a (with the phonological shape *teši*).

![Diagram of *teši-liya*](image)

**6.5.a. teš-lyiya**

In the most prototypical cases the same person brings and grinds the corn and carries the tortilla dough off, but this is not central to the meaning. Often, for example, a group of women will work together, and there might be one bringing the corn, another grinding, and a third taking the tortilla dough off for further processing. *tesi* would still be appropriate to describe what the second woman does. Note as well that the Relation between adjacent phases of the basal process (particularly between the grinding and the having) is not far from a causative Relation; all the characteristics given in 6.3 for prototypical causation are present except (iv) (the trajector of the caused Relation B, taking the tortilla dough, is not taken as the Landmark of the whole process), (xiii) (both trajectors are prototypically the same entity), (xi) (the trajector of B is in favor of B), and perhaps (ix) (A, the grinding, is not strictly sufficient for B, the taking, though it is practically).

In the stem *teš-lyiya* the composite structure is like that of *tesi*, except that the person who gets the tortilla dough in the end is profiled as a Landmark e-site, and the temporal profile is extended to include the time of the taking. The contribution of *-liya* to this structure is as follows: it involves a causal relationship of two Relations. The trajector of causing Relation (Relation A) is, as we might expect, the Trajector of *-liya*, and the trajector of the caused Relation (Relation B) is the Landmark of *-liya*. *-liya* is profile determinant for the whole construction, and therefore its Trajector and Landmark are those of the construction as a whole; however, the stem, *tesi*, is the heavier of the two elements: most of the specifications of *teš-lyiya* come from it. Both the Trajector and the Landmark function as e-sites; *-liya* produces a transitive stem. Thus far, the structure is like the prototypical causative structure of *-tyiya* (6.1.e). They differ in that Relation A (the causing Relation), rather than Relation B, within *-tyiya*, functions as an e-site, being elaborated by the verb stem. In the construction, Relation B is integrated with a Relation already prominent within the base of the verb stem, namely that of having the tortilla dough that results from the process of grinding; thus Relation B involves coming to possession of something valuable. Phonologically *-liya*, like *-tyiya*, is suffixal; 6.5.a is an instantiation of 2.2.d, perhaps the most prototypical of stem-affix constructions. The similarities between
this representation of -liya and the version of -tiya given in 6.4.a will be obvious; compare also the applicative -a construction in 3.2.g.

Many other verb-šīpēwi-liya constructions follow the same pattern. Among them is šīpēwi-liya (peel-applic) ‘peel (it) for s.o.’. The non-applicative form is the transitive šīpēwa ‘peel s.t.’, a notionally perfective stem designating the process of peeling something, prototypically a fruit. In its base is also a notion of someone eating the peeled fruit, prototypically the same one who peeled it but not necessarily so. The person peeling (trajector) and the thing peeled (landmark) are both specified as e-sites for further construction. The stem change from šīpēwa to šīpēwi may mark an intransitivization of the stem, making the landmark e-site no longer be an e-site (cf. the similar change noted before -tiya in 6.1.g). The composite structure of šīpēwi-liya is like that of šīpēwi (assuming intransitivity there), except that the person getting the fruit (and presumably eating it) in the end is profiled as a Landmark e-site. It is not hard to see how this is quite exactly parallel to the case of teši-liya. Other examples include the following stems:

<table>
<thead>
<tr>
<th>kāwa</th>
<th>‘leave s.t.’</th>
<th>kāwi-liya</th>
<th>‘leave s.o. (s.t.)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>aši-liya</td>
<td>‘increase s.t. (usu. wages)’</td>
<td>aši-li-liya</td>
<td>‘increase (s.t., usu. wages) for s.o.’</td>
</tr>
<tr>
<td>oh-owa</td>
<td>‘shell s.t. (corn)’</td>
<td>oh-wi-liya</td>
<td>‘shell (corn) for s.o.’</td>
</tr>
<tr>
<td>ā-saka</td>
<td>‘cart water’</td>
<td>ā-saki-liya</td>
<td>‘cart water for s.o.’</td>
</tr>
<tr>
<td>ŋa-kʷa-l-čiwa</td>
<td>‘fix a meal’</td>
<td>ŋa-kʷa-l-čiwi-liya</td>
<td>‘fix s.o. a meal’</td>
</tr>
</tbody>
</table>

| ŋa-kʷa-l-čiwa | ‘fix a meal’ | ŋa-kʷa-l-čiwi-liya | ‘fix s.o. a meal’ |

Non-Benefactive Cases of Having

In all these cases Relation B is equated with a kind of “having” Relation, and usually the landmark of B (the Thing the Landmark comes to have) is of such a nature as to be beneficial to the Landmark. To the extent that such is the case, we will have a kind of benefactive applicative. However, such need not be the case: a person could leave another (kāwi-liya) with a lot of unpaid debts instead of a lot of money, or he could increase (aši-li-liya) his difficulties instead of his wages. Other cases involve a Landmark that neither benefits nor suffers by “having” the landmark. For instance, ŋa-kʷa-l-čiwa (ground-vr-applic) means ‘put (s.t.) on s.t./s.o.’, (cf. ŋa-kʷa-l-čiwi ‘put, place s.t.’) and it could perfectly well refer to putting trash on a table. The table does not thereby control the trash, nor clearly benefit or suffer from having it on it. The trash is not valuable (or worthless, for that matter) to the table; the table “has” the trash only in a very passive sense; it “has it on it” rather than possessing it. When used of a person, again the thing put on him may be either a willingly accepted valuable thing (the verb can be used of clothing), or a burdensome load. But in either case the Relation of contact specified by ŋa-kʷa-l-čiwa is accomplished with respect to the Landmark. I have diagrammed

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5 Notice that the “causation” involved between Relation A (peeling) and Relation B (having and eating) is not entirely prototypical; one could have and eat a fruit without its being peeled, so A is not strictly necessary for B (Characteristic (ix) in 2.3) and the Landmark is presumably in favor of having and eating the fruit (violating Characteristic (xi)). But it is still clearly in the same ballpark with prototypical causatives. This sort of thing will be true in many of the following examples, but I will treat all the cases the same, as involving some sort of causation, be it prototypical or not.

6 The ō/o alternation in the stem is an example of Lowering (A.10).
this in 6.5.b (ignoring the internal composition of λâli-lya and assuming the case of a person putting something on a table).

A couple of other things should be pointed out which are exemplified in 6.5.b and in some of the other examples we have been seeing. One is that, like -tiya, -liya sometimes transitivizes an intransitive verb (as in 6.5.a, cf. mik-tiya, 6.1.a) and sometimes changes the transitivity of an already transitive verb (as here—cf. mač-tiya, 6.1.b). This is, in both cases, a natural consequence of the fact that the suffix is the profile determinant in the construction, and imposes its transitive profile on the structure as a whole; no special statement needs to be made to the effect that sometimes it is a transitivizer and sometimes not.

The landmark-as-Landmark Construction

Also notice that in 6.5.b the entity chosen as Landmark of -liya and therefore of the composite structure is not notionally the trajector of Relation B’, the Relation within λâli with which Relation B in -liya corresponds. In B’ the Thing put on the table moves with respect to the table rather than vice versa, and thus it, and not the table, would more naturally be construed as the trajector (in fact, it is so marked in the diagram) with the table as the landmark. Yet in the composite structure the table is selected to be more prominent. To put it another way, Relation B reverses the natural profiling of the relation elaborating it, making ki-λâli-liya mean (assuming the table, etc.) ‘he causes the table to have something put on it’ rather than the expected ‘he causes something to be put on the table’. This kind of skewing was characterized in 2.4.g, the landmark-as-Landmark construction, and is, we have claimed, very common in applicatives. It appeared in the non-applicative 6.3.a and c as well as in the applicative 6.3.b, d, and g. Perhaps it would be worthwhile to discuss here why it should occur.

A couple of factors may be important for this reversal. One is the fact that we are dealing with an applicative formed on a transitive verb stem, in which the natural trajector of Relation B is relegated to secondary landmark status. If one wants to single that natural trajector out, profiling it as Landmark, he can use the simple stem. For instance, if you want to say ‘he causes it to be put on the table’, you can simply say ki-λâl-lya i-pa mësa (it-ground-vr its-on table) ‘he puts it on the table’. The tendency of synonymous forms to specialize to different meanings would make λâl-i-liya avoid construal whereby it would be synonymous with λâl-lya. If you want to talk about the Thing thrown (6.3.g, or the examples discussed after 6.5.d) as Landmark, you use a simple stem (lah)-kali or tiļani or mōla, without an applicative; if you want to talk about the Thing it is thrown at, you use the applicatives. The fact that this is a typical pattern for applicatives of transitive verbs but not clearly so for intransitive verbs is perhaps evidence that this conjecture is on the

7 The “Chômeur Law” of Relational Grammar (Perlmutter and Postal 1983) is probably to be related to considerations of this sort: if a Thing is Landmark in a basic stem, it is unlikely that it will be displaced by another Landmark and then reinstated; people would simply use the simple stem instead.
right track. Note also that where a stem already takes as Landmark an entity naturally construable as the landmark rather than the trajector of B, use of \textit{liya} may realign things in the more natural way, with the natural trajector of B taken as Landmark. 6.5.g is an example of this. Apparently, then, \textit{-liya} is not choosy about which participant in Relation B it picks out as Landmark, as long as it isn’t the same Landmark that the non-applicative stem profiles.

Another factor that is likely important has to do with the intention of the Trajector. The point may be a bit clearer if we hark back to example in 6.3.g, which involved throwing stones at someone/something. When one simply throws a stone his intention is that the stone be launched on its sub-trajectory. But when he throws stones at someone, his intention is not so much that the stones move as that the person get hit, or at least scared. The moving of the stones is but a means to that end. It is not the case that the Trajector wants the stones to hit something, and the person is handy; it is more that he wants to hurt the person and the stones are handy. Thus, a construal whereby the throwing caused the stones’ hitting (as opposed to the person’s getting hit) in Relation B of the applicative would violate Characteristic (xii) of causation, or at least would instantiate it only indirectly. However, construing Relation B as involving the person’s getting hit will permit the causation involved to be prototypical in this respect. Perhaps another way to talk about the same thing is to say that it is easy in a case like this to view the stones and their movement as not really separate from the Trajector, as his instruments or as functional extensions of his being in accomplishing his purpose of hitting the other person. Similarly the implication of 6.5.b is not that the Trajector wanted a place for his groceries and therefore picked the table, but that he directly wanted something to go on the table.

A third factor might be animacy. There is a strong tendency (i.e. it is in some measure prototypical) for the Landmarks of applicative verbs to be human or at least animate. The structure of applicatives involves widening the profile of a verb to include some Relation which results from the accomplishment of the verb. If one of the participants in that Relation is a human, it is natural for us to view him as the most salient participant. The most salient participant in any Relation is, by definition, the trajector. Thus there is a strong tendency for a human to be construed, regardless of other considerations, as the trajector of any Relation in which he is a participant.

In other words, the gist of the last two factors is that it is often less than clear that the “natural” construal of Relation B really is contradicted by the final choice of Landmark.

With regard to all of these factors it should be remembered that there is no explicit pre-existent profiling of the resultant Relation within the stem. We are not dealing with a case of explicit reversal of the figure-ground distinction (as we were in e.g. 6.3.a) or of fading the figure out of the picture. Rather it is a case of imposing a somewhat unexpected figure-ground structuring on unstructured raw material.

A final factor that will come into play after the others have produced a few cases like 6.3.g or 6.5.b is simply sanctioning. Once the pattern (2.4.g) has been established, it can generalize, even at the expense of other considerations.

### The Landmark-switching Applicative Construal

In 6.5.b Relation B, the caused Relation within \textit{-liya}, was put in correspondence with B', a non-profiled state within \textit{ƛāliya}. That is not the only possible construal of this form. B"', the final Relation within A', the profiled portion of \textit{ƛāliya}, contains a situation essentially like B', but with the Trajector still in the picture, though no longer actively involved. It is not totally clear whether the final state of the (perfective) process \textit{ƛāliya} looks like B"': it may have the specifications rather of B'. In other words, the profiled portion of the notion \textit{PLACE} may end not when the Trajector ceases his active involvement but when the Landmark reaches its final resting place.\footnote{The fact that \textit{ƛāl-ya} is verbalized from \textit{ƛāl} ‘ground, earth, loc?’ seems to favor this second construal.} Prototypically the two events will be nearly simultaneous, of course; there is only a...
very slight difference in scope involved. The construal of lesser scope was represented in 6.5.b; the version with higher scope is diagrammed in 6.5.c.

![Diagram](image-url)

**6.5.c. ƛāli-liya** (Landmark-Switching Construal)

Although the difference in terms of scope is minimal, it permits a very different analysis of the relationship of the stem ƛāli and the suffix -liya. Relation B within -liya can be construed as corresponding, not to the unprofiled B', but to the profiled B"'. This makes the e-site shift from just Relation A to the whole semantic structure of -liya: it is the entire A-causing-B structure that corresponds to and is elaborated by the profile of ƛāliya. -liya is no longer performing a Type III expansion of the scope of the stem’s profile; the relevant expansion, we are claiming, is part of the stem itself. Thus the only inconsistency between the profiles of ƛāliya and -liya is the landmark-as-Landmark specification of -liya; all -liya does is change which entity is given Landmark status. This type of construal I am calling a Landmark-Switching Applicative.

Note that even when ƛāli is construed as in 6.5.c, the construal that takes A' as corresponding to A and B' as corresponding to B is still possible. In this, as in other cases where a Landmark-Switching Applicative Construal is possible, the more normal applicative construal is viable alternative. Note as well that in many cases the Landmark-Switching Construal is quite difficult: I do not think that the scope of e.g. tesi is likely to be expanded to include the acquiring of the ground corn by another: the expansion in teši-liya is strongly associated with -liya rather than with tesi.

However, there are some cases where Landmark-switching seems to be the only thing that is clearly going on. The stem ihti-liya (see applic-applic) ‘notice (s.t.) in/w.r.t. s.o.’ is a case in point. This form is the applicative of ihtii-liya ‘notice s.t.’, and it is not clear that there is any extension of the scope to include a Relation resultant from the seeing or noticing. (Perhaps there is; you might construe this as meaning that there is some sort of credit or blame accruing to the Landmark from the seeing.) Assuming there is none, the applicative in ihti-liya again is not accomplishing a Type III extension, but is merely changing Landmarks. And in this case it is not even clear that the stem ihti-liya has the familiar A-causing-B configuration: if it does not, then -liya apparently does not either. This construal is diagrammed in 6.5.d.
6.5.d. ihiti-liya
(Landmark-Switching Construal)

More Examples; “to” and “from” Construals

Getting back to examples, there are many cases parallel to these. Very similar in meaning to 6.3.g, but without the incorporated noun, is tišani-liya (send/throw-applic) ‘throw (s.t.) to s.o.’. The Trajector manually launches a sub-landmark on a sub-trajectory through the air, whose destination is prototypically a person. The person or Thing to which the other Thing is thrown is construed as the trajector of Relation B and thus as the Landmark of -liya, even though it also functions as a landmark for the calculation of the path of the thing thrown. The throwing designated is often an underhand or push-shot chucking or tossing, the point being to deliver the thrown object intact to its destination.

The thrown sub-trajector in tišani-liya (the Landmark in tišani) is usually a good thing (a ball or something edible, a tool, etc.), giving the verb a benefactive flavor, but it need not be; it could be a piece of poisoned fruit, or, I suppose, a grenade. When it is not one is tempted to translate ‘he throws it at him’, though ‘throw at’, with its implication of violent motion, is usually better represented by ki-mōči-liya (hurl-applic). In this stem the thing thrown is rarely beneficial, though it may not be dangerous. Also, for mōči-liya the achieved state (Relation B, the “having”) need not be one of contact but may be one of proximity, in contrast, I believe, with tišani-liya, but in parallel with te-kal-tiya (6.3.g). In ā-tēki-liya (water-pour-applic) ‘pour water on s.t./s.o.’ the thing poured is, of course, water. It if is poured on a plant (a prototypical usage) it is beneficial; but if it is poured on a person it may not be so. In both cases the “having” involved is, like that of 6.5.c, a rather passive sort; this again can be construed as a landmark-as-Landmark case. Two other very common examples are wal-iki-liya (hither-be-applic; cf. wal-ika ‘bring s.t.’) ‘bring (s.t.) to/for s.o.’ (where the “for” can be paraphrased as “in order to give to” but not as “in place of” or “for the benefit of”). Parallel to this stem is its counterpart wiki-liya (it-carry-applic) ‘he takes it to/for him’. In this case the “for” can be taken to mean “for his benefit” as well as “for him to have”; one can use the word to code a situation like taking out the garbage, where the taking carries the thing taken away from the Landmark rather than to him; the form ši-neč-wiki-li (impv-me-carry-applic) can be taken to mean either ‘take it to me (when I get there)’, or ‘take it away (from here) for me’.

This last example provides a nice bridge from the previous cases, where the resulting Relation (B) is of the sort we translate as “on” or “to”, to cases where that Relation is a “from” or an “off of” Relation. These cases are most common (naturally enough) where there is a prominent “from” relation in the base of the

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9 Perhaps more basic than the notion of throwing in this verb is the notion of sending. This particular version involves sending by means of throwing or tossing; two other versions involving sending without throwing are discussed later, and diagrammed in 6.5.f-g. It is clear that all these cases can be united under a single schema.

10 With the unspecified OP la-, mōči-liya often means ‘shoot at s.o./s.t.’; cf. 4.2.b-c.
stem. In 6.1 we saw the stem *kiš-ti-lyā* (emerge-caus) ‘take/drive/put s.t. out’. The Thing from within which the Landmark of this verb is caused to emerge is a rather prominent sub-landmark within the verb and it should not be surprising that the applicative form, *ki-kiš-ti-lyā*, means ‘he takes (it/s.t.) out of it’, with the OP marking the Thing out of which the other Thing (the Landmark of *kiš-ti-lyā* and the sub-landmark of *kiš-ti-lyā*) is taken (cf. *nēc-kiš-ti-lyā* ‘he takes it out of/away from me’). A diagram of what I take to be the semantics of this verb is given in 6.5.e.\(^\text{11}\) 6.5.e is given in a “Landmark Switching” Applicative construal like that in 6.5.c, which I feel is probably the most natural construal in this case. Note however, that a straight (Landmark-as-Landmark) Applicative construal, parallel to 6.5.b, is possible, in which only Relation A in -lyā corresponds to the profiled process, with Relation B corresponding to B”, a non-profiled continuance of the OUT Relation caused by A’ causing A”.

Many other verbs have a prominent “from” landmark, and their applicatives receive a similar construal. A few examples follow.

<table>
<thead>
<tr>
<th><em>kʷi</em></th>
<th>‘grasp, snatch s.t.’</th>
<th><em>kʷi-lyā</em></th>
<th>‘grab, snatch (s.t.) from s.o.’</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>tepēwa</em></td>
<td>knock s.t. down’</td>
<td><em>tepēi-lyā</em></td>
<td>‘knock (s.t.) down/ from s.t.’</td>
</tr>
<tr>
<td><em>λa-pāčka</em></td>
<td>‘do the milking’</td>
<td><em>λa-pāčki-lyā</em></td>
<td>‘milk s.t. (usu. a cow)’</td>
</tr>
<tr>
<td><em>λa-ččēki</em></td>
<td>‘steal, be a thief’</td>
<td><em>λa-ččēki-lyā</em></td>
<td>‘steal from s.o.’</td>
</tr>
<tr>
<td><em>kowa</em></td>
<td>‘buy s.t.’</td>
<td><em>kōwi-lyā</em>(^\text{12})</td>
<td>‘buy (s.t.) from s.o.’</td>
</tr>
<tr>
<td><em>temō-wi-lyā</em></td>
<td>‘unload (s.t.)’</td>
<td><em>temō-wi-lyā</em></td>
<td>‘unload (s.t.) from s.t.’</td>
</tr>
</tbody>
</table>

The taking out/away/from is probably most commonly detrimental, but it may be beneficial, as in buying or milking, or taking a mote out of your brother’s eye, or in (to use a verbalized noun form)

\(^{11}\) Relation B in this stem can also be taken as one of benefit: *ši-nēc-kiš-ti-li* (impv-me-emerge-caus-applic) can be used to mean ‘put/get/drive it out (of e.g. the house) for me.’ Some usages probably involve both construals, e.g. taking a splinter out from a person’s hand.

\(^{12}\) The ö/o alteration in the stem is an example of Lowering (A, 10).
delousing a friend (atemi-liya (louse-applic) ‘delouse s.o.’). A nice example contrasts the two cases: in two neighboring lines in a text (Pittman 1954:60, lines 17, 19) the donkey asks the mountain-lion to take a nail out of his hoof (kiš-ti-liya) and then knocks his teeth out of him (tepēwi-liya) for his pains.

Non-Possessing Affective Applicative

wiki-liya, it was noted above, can be construed to mean ‘carry it away for s.o.’ in the sense ‘for s.o.’s benefit’. This differs from the kind of benefitting which involves the coming into possession of some Thing beneficial, as in 6.5.a; rather than that Thing within the stem bearing the benefit, it is the accomplishment of the process designated by the stem as a whole that is beneficial to the Landmark. This is a very common type of construal: in fact a good many of the other stems we have been examining can be so construed. Often the benefit is specifically that the Landmark is freed from a responsibility to achieve the same process; this amounts to a kind of “in place of” construal. (Notice how English for codes the same two kinds of notions.) Thus teši-liya can have the construal diagrammed in 6.5.a, but it can also mean ‘grind (corn) in place of s.o., for s.o. so that she won’t have to’. ā-saki-liya (water-cart-applic) can mean ‘cart water for s.o., so that he will have it’, or ‘cart water for s.o., so that he will not have to’, or even less specifically ‘cart water for s.o., who wants it done’.

There are dozens of other examples: some are listed below.

<table>
<thead>
<tr>
<th>posōna</th>
<th>‘boil s.t.’</th>
<th>posōni-liya</th>
<th>‘boil (s.t.) for s.o.’</th>
</tr>
</thead>
<tbody>
<tr>
<td>boil</td>
<td></td>
<td>boil-applic</td>
<td></td>
</tr>
<tr>
<td>čiwa</td>
<td>‘do s.t.’</td>
<td>čiwi-liya</td>
<td>‘do (s.t.) for s.o.’</td>
</tr>
<tr>
<td>do</td>
<td></td>
<td>do-applic</td>
<td></td>
</tr>
<tr>
<td>yek-λāl-liya</td>
<td>‘fix s.t.’</td>
<td>yek-λāl-i-liya</td>
<td>‘fix (s.t.) for s.o.’</td>
</tr>
<tr>
<td>well-ground-vr</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>čopēli-liya</td>
<td>‘sweeten s.t.’</td>
<td>čopēli-li-liya</td>
<td>‘sweeten (s.t.) for s.o.’</td>
</tr>
<tr>
<td>sweet-vr</td>
<td></td>
<td>sweet-vr-applic</td>
<td></td>
</tr>
<tr>
<td>šāl-wiya</td>
<td>‘put sand on s.t.’</td>
<td>šāl-wi-liya</td>
<td>‘put sand on (s.t.) for s.o.’</td>
</tr>
<tr>
<td>sand-vr</td>
<td></td>
<td>sand-vr-applic</td>
<td></td>
</tr>
<tr>
<td>λāwīl-liya</td>
<td>‘illuminate s.t.’</td>
<td>λāwīl-li-liya</td>
<td>‘illuminate (s.t.) for s.o.’</td>
</tr>
<tr>
<td>light-vr s.o.’</td>
<td></td>
<td>light-vr-applic</td>
<td></td>
</tr>
</tbody>
</table>

There also are “malefactive” applicatives of this sort, where the accomplishment of Relation A affects the Landmark adversely rather than beneficially, though perhaps they are not so common as the benefactive ones. For instance:

| la-nēm-pol-wiya | ‘ruin parts, aspects of s.t., wreak havoc on s.t.’ | la-nēm-pol-wi-liya | ‘spoil (s.t.) for s.o.’ |
| unspec-in.vain-lose-applic | | unspec-in.vain-lose-applic-applic | |
| ēn-kiš-ti-yiya | ‘lower s.t. (e.g. wages)’ | ēn-kiš-ti-liya | ‘lower (s.t., usu. wages) on s.o.’ |
| base-emerge-caus | | base-emerge-caus-applic | |
| la- látiya | ‘burn s.t.’ | la-lāti-liya | ‘burn oil so that s.o. will suffer (a kind of hexing)’ |
| rdp-burn | | rdp-burn-applic | |


And often, of course, both benefit and detriment may be caused at once, leaving one wondering which is the stronger:

<table>
<thead>
<tr>
<th>to-tōn-iya</th>
<th>mo-kʷā-to-tōn-i-liya</th>
<th>'study' (lit. 'heat your head up on yourself')</th>
</tr>
</thead>
<tbody>
<tr>
<td>rdp-heat-caus</td>
<td>refl-head-rdp-heat-caus-applic</td>
<td></td>
</tr>
</tbody>
</table>

In other words, there will have to be a schematic construal of -liya which means ‘affect the Landmark’ rather than specifically ‘benefit the Landmark’ or ‘hurt the Landmark’.

The moral to be drawn from all of this, then, is that, as Carochi said the examples would point out, neither detriment nor benefit, going towards nor going away from, is a necessary component of the situation coded by applicatives. This is not to say that these ideas are not salient; they are likely prominent in some salient sub-versions of the predicate -liya, but are not there in the most schematic versions, and they will be neutralized in the characterization of many forms. And, as Carochi implied, they do not exhaust the list of Relations that may correspond to Relation B; we will see some other kinds below.

With all these different possible Relations around, it is not surprising that there is some arbitrariness associated with which one gets conventionalized as the meaning of a particular construction. For instance, it would seem reasonable enough that kōw-liya (buy-applic) should mean ‘buy (s.t.) for s.o.’, following the pattern of 6.5.a and so on, but it rather means ‘buy (s.t.) from s.o.’ Another fact to be stated, with no particular explanation.\(^\text{13}\) Or ƛa-pāk̑i-liya might well mean ‘do the milking for s.o.’:\(^\text{14}\) there is no a priori reason that we could give to predict that instead of the Landmark coding the beneficiary it codes the source. And so forth.

**“Communication” Applicatives**

One large group of applicative verbs has to do with communication.\(^\text{15}\) Some examples are given below.

<table>
<thead>
<tr>
<th>powa</th>
<th>‘tell, count, recount’</th>
<th>pōwi-liya(^\text{16})</th>
<th>‘tell s.o., recount to s.o.’</th>
</tr>
</thead>
<tbody>
<tr>
<td>tell</td>
<td></td>
<td>tell-applic</td>
<td></td>
</tr>
<tr>
<td>ƛahēi</td>
<td>‘shout, yell’</td>
<td>ƛahēi-liya shout-applic</td>
<td>‘shout to s.o.’</td>
</tr>
<tr>
<td>rdp-ask</td>
<td>‘ask s.t.’</td>
<td>ƛah-ƛani-liya rdp-ask-applic</td>
<td>‘ask s.o. (s.t.)’</td>
</tr>
</tbody>
</table>

\(^\text{13}\) Actually, some degree of historical explanation might be available in this particular case, in that kōw-iya, using another applicative suffix (Appendix G), means ‘buy (s.t.) for s.o.’, and it is probable that -iya is historically older than -liya. But then there is no particular explanation why kōw-iya doesn’t (or didn’t) mean ‘buy s.t. from s.o.’. Also there are pairs in which both -iya and -liya have the same meaning: e.g. ƛaśḻw-iya and ƛaśḻw̱i-liya both mean pretty much ‘pay s.o. (his wages)’ (ƛaśḻw̱wa is ‘pay s.t. (price, money)’). Similarly, ƛa-h-ƛani-liya (rdp-ask-applic) and ƛa-h-ƛani-liya can both mean ‘ask s.o. (a question)’. (These two verbs contrast in other usages.)

\(^\text{14}\) In fact it may well bear such a construal: I have no examples of it, but that does not prove there are none or that people would not so construe it if it suited them.

\(^\text{15}\) The most common of these applicative communication verbs is l-wiya (say-applic) ‘tell s.o. (s.t.),’ say to s.o.,’ which uses the presumably older applicative form -wiya, in a construal like 6.5.h. The stem on which it is built is not common; I do not believe I have ever heard it in present tense, though it does occur in preterite and subjunctive (e.g. o-k-ili (past-him-say) ‘he said to him’, or ši-nēč-ili (impv-me-say) ‘tell me, say it to me’). Andrews (1965:106) posits such a verb as a hypothetical historical form in Classical Nahuatl, but apparently has no overt forms in which it appears. Burnham (personal communication) tells me it occurs in Orizaba Nahuatl. It looks suspiciously like this verb may be nothing more than the applicative -liya with no stem before it all. More ammunition for the idea (6.4) that these suffixes are verb stems rather than just suffixes!

\(^\text{16}\) The ō/o alternation in the stem is an example of Lowering (A.10).
These cases are probably to be taken as instances of a well-established variation on the “to” theme, where the resultant Relation B is that of the message going “to” the Landmark. I expect that there is a fairly salient version of -liya with those specifications internalized to it.

Other Applicatives

tišani-liya (send/throw-applic) occurs in several versions, and those versions differ in how the applicative suffix interfaces with the stem tišani. One version we have already seen: it means ‘throw (s.t.) to s.o.’ (see the discussion following 6.5.d; the meaning is very similar to that of 6.3.g). A second version means ‘send (s.t.) to s.o.’. In this version the Trajector sends the sub-landmark (Landmark of tišani) on a sub-trajectory to a Thing (almost always a person). Almost always the sub-landmark is helped on its way by a messenger, a person who acts as a sub-trajector, keeping the sub-landmark on its trajectory. In this version of the stem tišani-liya, the person to whom the sub-landmark comes in the end is profiled as the Landmark of the whole construction: the Relation in which he receives and/or has the sub-landmark in the end is equated with Relation B within -liya. This is clearly another case of a Verb-liya construction with a “to” kind of meaning. A prototypical version of this verb stem is diagrammed in 6.5.f.

![Diagram of tišani-liya](image)

6.5.f. tišani-liya(Sending-to-LM)

Another kind of resultant Relation shows in yet another version of tišani-liya: ‘send (s.t.) with s.o.’ Here the Landmark is not the goal of the sending, but the means of the sending, the sub-trajector mentioned above who keeps the sub-landmark on its trajectory. This person is a very salient sub-landmark within this

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17 The interpretation of this particular case might include a number of things besides or other than the notion of trying to communicate required here; cf. the discussion in 6.3.e-f of tōki-liya (cry-caus?/applic)‘mourn s.o.’. The stem can also be used to designate firing a gun at something (e.g. a rabbit), “banging (away) at him”. Cf. also for this last case, where the detonation is intended to cause physical damage, kʷepōni-liya ‘clobber s.o., hit s.o. hard’.

18 Another construal of this stem, ‘laugh at s.o.’, is discussed in 6.6.
structure and thus it is natural for the Relation involving him to be picked to correspond with Relation B in -liya, making him the Landmark. This construal is diagrammed in 6.5.g. As in 6.5.e, I feel that a Landmark-switching analysis is probably the most salient, though a straight applicative construal is again possible, taking the profiled portion of tîlanî (Relation A') as elaborating only Relation A within -liya, with Relation B corresponding to B' rather than to B'. Notice that under either analysis the change of the Landmark from the Thing sent to the messenger involves a restoral rather than a controversion of the “natural” trajector/landmark alignment.

6.5.g. tîlanî-liya (Sending-with-LM)

Another type of applicative construal, closely allied with the landmark-switching construal, is exemplified by the stem mîni-liya (sting-applic) ‘inject s.o. (with s.t.)’ mîni alone can mean ‘sting s.o.’, as insects do, or ‘give s.o. an injection’; mîni-liya specializes to the second construal. The applicative structure has the same Trajector and Landmark and scope as the non-applicative stem; the difference in meaning is an upgrading of the salience of the substance injected, to become the most salient secondary landmark. The verb tends towards clausal transitivity (7.2) with respect to that landmark: unless the substance is already quite clear from the context, it will be specified by a secondary object in the clause. I have diagrammed mîni-liya in 6.5.h, with the salience of the sub-landmark indicated by a lighter boldfacing than that of profiling the Trajector and Landmark.

6.5.h. mîni-liya

Two examples mentioned previously which can be analyzed similarly are ɬa-pâ̄ki-liya (unspec-squeeze-applic) ‘milk s.t. (cow/goat)’ and (i)l-wiya (tell-applic) ‘tell s.o. (s.t.)’ (fn. 15).

In other applicative constructions it is hard to pin down what Relation B exactly is. In wîki-liya (carry-applic) ‘owe s.o. (s.t.)’, for instance, what is the Relation involving the creditor which results from the carrying? What is in fact carried? (Note ɬa-wîki-liya (unspec-carry-applic) ‘owe s.o.’ vs. tê-wîki-liya (unspec.hum-carry-applic) ‘owe s.t. (usu. a particular quantity of money) to people’.) Some other examples follow:

<table>
<thead>
<tr>
<th>kokowa</th>
<th>‘hurt s.o./s.t.’</th>
<th>koko-liya</th>
<th>‘nurse bitterness / vengefulness towards s.o.’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ɬama</td>
<td>‘hunt s.t.’</td>
<td>ɬah-ɬamâ-liya</td>
<td>‘hunt (s.t., namely lice) on s.o.,'</td>
</tr>
</tbody>
</table>
In *koko-liya*, does the Trajector hurt inside because of or with respect to the Landmark (*kokō-k* (hurt-adj) means ‘picante, hot (like chiles)’, which might be used metaphorically like our *bitter*), or do he (want to) hurt the Landmark, or do hurting with respect to the Landmark, or some mixture of these construals? In *lah-łämā-liya* is the Landmark the location of the hunting, or the beneficiary, or (more likely) both? Or perhaps the source of the game (a “from” construal) as well? In *kʷepōni-liya* does the Trajector explode onto the Landmark, or make the Landmark explode, or what? And so forth. In a number of cases the Relation is either vague enough or extensive enough that ‘with respect to’ seems to be the best translation: e.g. *ihti-liya* might be translatable literally as ‘see with respect to s.t.’ Though I am not sure how even that adds up to notice s.t.’.

**Summary**

In general, then, Carochi was right: any prominent Relation from the base of the stem seems to be fair game for construal as Relation B. There doubtless are fairly salient sub-schemas of *-liya* which specify a “benefactive” or an “adversative” Relation, or “to”, “from”, “on”, “off”, “communicating to”, and similar Relations, but such schemas will be united to each other and to the cases that do not fit them by other schemas which will simply refrain from specifying the nature of Relation B. One of these schemas would be a straight applicative schema, in which the stem elaborates Relation A within *-liya*. It is given below as 6.5.i; it subsumes 6.5.a and many other stems.

<table>
<thead>
<tr>
<th>Hunt</th>
<th></th>
<th>Delouse s.o.</th>
</tr>
</thead>
<tbody>
<tr>
<td>tēmowa</td>
<td>‘search for s.t.’</td>
<td>ƛa-tēmo-liya</td>
</tr>
<tr>
<td>seek</td>
<td></td>
<td>close-applic</td>
</tr>
<tr>
<td>ƛa-čiwa</td>
<td>‘shut s.t.’</td>
<td>ƛa-či-liya</td>
</tr>
<tr>
<td>close</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>‘look around, be awake’</td>
<td>ƛa-či-liya</td>
</tr>
<tr>
<td>unspec-await</td>
<td></td>
<td>see-applic</td>
</tr>
<tr>
<td>ihta</td>
<td>‘see s.o./s.t.’</td>
<td>ihti-liya</td>
</tr>
<tr>
<td>see</td>
<td></td>
<td></td>
</tr>
<tr>
<td>kʷepōni</td>
<td>‘explode’</td>
<td>kʷepōni-liya</td>
</tr>
<tr>
<td>explode</td>
<td></td>
<td>explore-applic</td>
</tr>
</tbody>
</table>

![Diagram](https://via.placeholder.com/150)

**Diagram**

6.5.i. Applicative,-liya

6.5.j. lm-as-LM,-liya

6.5.k. Applicative,-liya
Sister to it is a schema in which the Landmark is the Thing that would a priori be expected to be landmark rather than trajector of Relation B. This is the landmark-as-Landmark Applicative -liya construction, which subsumes 6.5.b-c, e-g, and many other stems: it is diagrammed in 6.5.j.

In 6.5.k is given the Applicative -liya Construction which is schematic for 6.5.i-j. 6.5.l represents the Landmark-switching -liya Construction, in which the whole structure of -liya is elaborated by the stem. Instantiations of this schema include 6.5.c, e, and g. All of these forms are analyzable in terms of 6.5.i or 6.5.j as well as 6.5.l. 6.5.m neutralizes the distinction between 6.5.j and 6.5.l, specifying only that the Landmark is changed from what would be expected, but not specifying whether all of -liya or only Relation A functions as an e-site. 6.5.n is a schema uniting 6.5.k and 6.5.m. It also is schematic for 6.5.h and similar construals; thus it subsumes all the construals we have diagrammed. The schematicity Relations among these schemas are charted in 6.5.o.

6.5.o. Schematic Hierarchy of -liya Constructions
6.6. Other Usages of -\textit{liya}

-\textit{liya} has other usages besides the prototypical applicative ones we have seen, most of which parallel the usages of -\textit{tiya} in 6.1. I do not intend to go into them in great depth: in most cases I will simply present some examples, leaving it to the reader to perceive the parallels with the relevant -\textit{tiya} constructions.

Examples of causative -\textit{liya} include those listed below. It is the usual causative for stems ending in the inchoatives \textit{-ti(ya)} or \textit{-iya} (Appendix G).

<table>
<thead>
<tr>
<th>\textit{λāka}-\textit{ti}</th>
<th>\textit{man-inchoa}</th>
<th>‘be born’</th>
<th>\textit{λāka}-\textit{ti-\textit{liya}}</th>
<th>\textit{man-inchoa-applic}</th>
<th>‘give birth to s.o.’</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{m-ēwa}</td>
<td>refl-stand</td>
<td>‘arise’</td>
<td>\textit{ki-mēwi-\textit{liya}}</td>
<td>it-stand-applic</td>
<td>‘raise it’</td>
</tr>
<tr>
<td>\textit{λa-\textit{či}-\textit{ni}}</td>
<td>\textit{unspec-ring}</td>
<td>‘(bell) ring’</td>
<td>\textit{λa-\textit{či}-\textit{ni-\textit{liya}}}</td>
<td>\textit{unspec-ring-applic}</td>
<td>‘ring s.t. (bell)’</td>
</tr>
<tr>
<td>\textit{yek-\textit{tēmi}}</td>
<td>\textit{well-be.full}</td>
<td>‘be good and full’</td>
<td>\textit{yek-\textit{tēmi-\textit{liya}}}</td>
<td>\textit{well-be.full-applic}</td>
<td>‘pack s.t. full, heap (stuff) up in s.t.’</td>
</tr>
<tr>
<td>\textit{wē-weh-\textit{ti}}</td>
<td>\textit{rdp-big-inchoa}</td>
<td>‘become old’</td>
<td>\textit{wē-weh-\textit{ti-\textit{liya}}}</td>
<td>\textit{rdp-big-inchoa-applic}</td>
<td>‘age s.t.’</td>
</tr>
<tr>
<td>\textit{ayi}</td>
<td>\textit{do}</td>
<td>‘be busy, do something’</td>
<td>\textit{āi-\textit{\textit{liya}}}</td>
<td>\textit{do-applic}</td>
<td>‘use s.t.’</td>
</tr>
</tbody>
</table>

In all these cases -\textit{liya} is used on an intransitive stem, with a semantic value closely approaching that of -\textit{tiya} in 6.1.d-e. I do not have any examples of -\textit{liya} used as a causative with transitive verb stems. The last example above (\textit{āi-\textit{\textit{liya}}}) is interesting in that it can be construed either as a causative (make the Landmark do something, occupy it) or as an applicative with a “with” sense (do something with the Landmark), or, very likely, as both, in a construction parallel with 6.3.j.

A particularly interesting case is that of \textit{wē-\textit{\textit{čki-\textit{liya}}} (laugh-applic)} ‘laugh at s.o.’ It can be construed as a straight applicative of the “malefactive” variety (the Trajector laughs, with results detrimental to the Landmark), but it can also be construed as meaning ‘laugh because of s.o.’. This is another of those

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1 I continue to gloss -\textit{tiya} as ‘applic’ for consistency’s sake; I do not mean that it is in these usages functioning as an applicative, but am merely using “applic” as a convenient handle for the morpheme, since it is the prototypical usage.

2 \textit{yek-\textit{tēmi-\textit{liya}} might possibly be construed as derived from \textit{yek-\textit{tēmi-\textit{ma}}} ‘pour out s.t. (dry)’, cf. \textit{\textit{tēmi-\textit{liya}} ‘pour (s.t. dry) into s.t.’

3 Sullivan (1976:216-218) considers this stem (in Classical Nahuatl) to be an example of “an action motivated by someone”; she lists this (along with benefaction and privation) as one of three meanings of applicatives. The fact that it is translated by Spanish reirren de (laugh from/of) may be taken as supporting this analysis, though Spanish has no parallel to our laugh at which could have been used. I do not know if the verb is used with inanimate (and thus presumably unaffected) Landmarks; if it could not be that would favor the “malefactive” applicative construal. The form ṯ-\textit{ka wē-\textit{\textit{čka}}} (his-with rdp-laugh) ‘laugh at, make fun of
situations where the Landmark is both causally and resultatively involved with the action designated by the predicate, and thus can be construed in two ways. The “laugh because of the Landmark” construal is directly parallel to the “cry because of the Landmark” construal of čōkītya in 6.3.f. This is, as previously noted, a kind of hybrid causative/applicative construal in that the stem elaborates the Trajector’s Relation, as is typical for applicatives, but that Relation is Relation B rather than Relation A, thus following the typical pattern for causatives. It violates Characteristics (iv) and (v) of canonical causation (2.3). Similar construals are likely for čōkītya ‘mourn, bewail s.o.’, which is virtually synonymous with čōkītya, and perhaps ľa-kʷepōni-tya (unspec-detontate-applic) ‘set off skyrockets for s.o. (a dead person)’.

-liya is often used as a causative verbalizer with adjectives, in a construal just like that of -tiya in its parallel usage (6.2.j). Examples are given below.

| wēyi | ‘big’ | wēyi-lyia | ‘enlarge, magnify s.t.’ |
| mā-kʷah-tiyā | ‘tired (in the hands)’ | mā-kʷah-tya | ‘tire s.o.’s hands’ |
| poyi-κ | ‘salty’ | poyi-lyia | ‘salt s.t.’ |
| yemān-ki | ‘soft, flexible’ | yemān-tyia | ‘soften s.t.’ |
| sē-κ | ‘it is cold’ | mo-κe-κ-tyia | ‘it becomes cold’ |
| yek-tya | ‘perfect, morally upright’ | yek-tya | ‘perfect s.t.’ |
| pič-κ | ‘ugly, dangerous’ | pič-tyia | ‘uglify s.t.’ |
| c̸ač-κ | ‘deaf (man)’ | c̸ač-tyia | ‘deafen s.o.’ |
| lōkoh-κ | ‘crazy’ | lōkoh-tyia | ‘drive s.o. crazy’ |

Sometimes extra morphological pieces pop up (e.g. the i in ‘soften s.t.’ above or the ti in ‘deafen s.o.’). Many of these cases were probably historically causatives of inchoative verbs — in fact they may still be analyzable as such in some cases —, and these pieces are relics of those constructions. The -k I have glossed ‘connector’ in adjectives was likely historically an inchoative verbalizer, with the -ti a participial ending; yek-tya would thus have meant not so much ‘perfect’ as ‘perfected’.

There is one applicative verbalization of an adjective by -lyia that I know of: čikāwi-lyia (strong-applic) means ‘work hard(er) at s.t., light into s.t. (a job)’. Here the stem is identified not with Relation B in -lyia but

s.o.’ is used to designate more strongly offensive, directed laughter; wečki-lyia, as we saw earlier, sometimes means ‘laugh with, to s.o.’, a “communication” type of applicative.
with Relation A; the Trajector is or becomes strong with respect to the Landmark (the work), rather than making the Landmark strong. This construal is diagrammed in 6.6.a.4

![Diagram of Tetelcingo Nahuatl Transitivity and Space Grammar](Image)

6.6.a. čikāwi-liya

It is something of a mystery to me why such a strongly applicative morpheme as -liya should be almost always used as a causative verbalizer rather than an applicative. This is paralleled, however, by (at least) the Germanic prefix be-, which is prototypically an applicative on verbs but almost always functions as a causative verbalizer with adjectives. This case will be discussed in 6.7.

The noun-verbalizing construction atemi-liya (louse-applicative) ‘de-louse s.o.’ can be construed in a number of ways. It can be taken as a non-Relational Applicative Noun-liya construction, parallel with 6.2.i, in which the lice are taken as the landmark as Relation A; the Trajector does something to lice, which affects the Landmark. Similarly it can be given a Relational Applicative Noun-liya construction, in which the Relation of picking lice, already prominent in the base of atemi, is elevated to profiled status. It would be just like the Relational Causative Noun-tiya constructions (6.2.e and its instantiations) except that the e-site in the suffix would be Relation A instead of Relation B. Another possibility is to construe the noun non-Relationally as the landmark of Relation B, i.e. take the construction as parallel to 6.2.b; the Trajector does something (unspecified) with the result that the Landmark bears a Relation (of not having rather than of having as in 6.2.b) to lice.5 And, as usual, more than one of the above may be construed at once. One case where the construal is more clearly applicable, if the stem mawi ‘fear’ is taken as nominal rather than verbal, is the stem mawi-liya ‘fear s.o., have respect/fear for s.o.’. -liya, by the way, in only rarely used as a noun verbalizer.

Finally, there is one case of -liya occurring on an intransitive verb stem which is itself intransitive; the only such case I know of. What the semantic contribution of -liya is to the form is problematical as well. asi (3.1.f) often means ‘be enough, stretch to be sufficient’; the more basic sense seems to be ‘reach, arrive’. The stem as̆-liya also means ‘be sufficient, be enough’.

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4 In some ways the construal is reminiscent of English be-labor. It could also be analyzed as an applicative of the verb stem čikāwi (cf. 3.2.g), with a different meaning (‘work strongly’ rather than the elsewhere attested ‘be tough’). I do not know which construal is more likely to be salient.

5 Notice in regard to Relation B being ‘not have’ that the English prefix be- when used as a noun verbalizer typically means ‘give N to s.o., put N on s.t.’, as in be-fog, be-dew, be-night, be-freckle, be-spectacle, be-ribbon, etc., but then there is be-head.
-liya, then, besides its prototypical use as an applicative suffix on verbs, is also used fairly extensively as a causative on verbs and as a causative verbalizer on adjectives. In at least one case it is an applicative verbalizer on an adjective stem. In a few verbal suffix usages it seems to parallel the hybrid causative/applicative structure of čōkī-liya (cry-caus) ‘mourn s.o.’ (6.3.f), a “Verb because of the Landmark” construction. A few noun-verbalizing construals also exist, and there is even one form in which the stem-liya construction is intransitive.
6.7 Discussion

The Relationships of Causatives to Applicatives

For -tiya and -liya and each of the suffixes in Appendix G there will be a schematic hierarchy similar to 6.5.o or 6.2.p, representing the different usages with which each suffix is associated, in their varying degrees of prototypicality. Then there will be a hierarchy of schemas neutralizing the phonological differences among the various affixes, again differing in prototypicality. Perhaps the most prototypical of these schemas would be (1) a Causative schema, of which 6.1.e and a Causative -liya constructions would be prototypical instantiations, and (2) two applicative schemas. One would be a straight Applicative schema, of which 6.5.i and an Applicative -liya construction would be prototypical instances, and the other would be a landmark-applicative construction, with 6.5.j and others as prototypical elaborations. These constructions I have diagrammed as 6.7.a-c. 6.7.b-c are of course the prototypical sub-cases of an Applicative Schema, 6.7.d, which neutralizes their differences, and has 6.5.k as one prototypical instantiation.

![Diagram of Causative and Applicative Constructions]

**6.7.a. Causative**

**6.7.b. Applicative**

**6.7.c. lm-as-LM Applicative**

At this point I believe we can consider profitably some answers to the complex question of how causatives and applicatives are related, of why the same suffixes in case after case have come to have both of these usages (along with verbalizing usages).

![Diagram of Applicative and Causative/Applicative Constructions]

**6.7.d. Applicative**

**6.7.e. Causative/Applicative**

The first answer is that the two kinds of constructions have quite a lot of semantic material in common. In both cases the suffix has the same basal Function Assembly, the familiar perfective A-causing-B construction with the trajector of A as overall Trajector, and a prominent participant in B as Landmark. In
fact for the causatives and a salient sub-group of applicatives (cases of 6.7.b) it is the trajector of Relation B which is chosen as Landmark. Both suffixes are transitive, and both are profile determinant.

The only difference between 6.7.a and 6.7.b is whether the stem elaborates Relation A or Relation B, i.e. whether a Type II or a Type III extension of scope (2.4.e-f) is carried out on that stem, and the only other difference between 6.7.a and 6.7.d is whether or not the Landmark is specified to be the (expected) trajector of Relation B. Thus schemas subsuming 6.7.a-b and 6.7.a and 6.7.d can easily be extracted. The second of these is diagrammed in 6.7.e. Noting the ease with which 6.7.e can be extracted from 6.7.a and d and its minimal distance from them is equivalent to pointing out that the semantic shift involved in going from one to the other is slight. And, once both causative and applicative usages are established for a suffix, it will have a more or less salient schematic version corresponding to 6.7.e as well as more elaborate versions corresponding to 6.7.a and 6.7.d.

But even that slight shift from a causative (perhaps via a causative/applicative schema) to an applicative need not be made in one step. There are a number of ways in which the prototypical causative schema can be seen fading through more or less non-prototypical versions into applicative types of construals. One difference between the two, in fact the only difference between causatives and one prototypical group of applicatives (6.7.b) was the Type III/Type II distinction, the question of whether the stem elaborates Relation A (the causing Relation, the Trajector’s Relation) in the suffix, or Relation B (the caused Relation, the Landmark’s Relation).

We have seen construals in which the e-site is dissociated in one way or another from those Relations. In Landmark-switching construals such as 6.5.b, e and f the e-site is expanded to take in the whole suffix, including both Relation A and Relation B, and not favoring one against the other. In non-Relational Noun-Causative construals such as 6.2.b the e-site is reduced to only a sub-portion of Relation B, similarly in non-Relational Noun-Applicative construals (e.g. 6.2.i) only a sub-portion of Relation A is elaborated by the stem. Thus, although the stem is still associated with A or B, it is so associated only indirectly, as a sub-part of that Relation rather than as identical to it. Thus in such non-prototypical construals the e-site is less strongly tied down to Relation A or Relation B: variation along this parameter of separation is independently observable, and it is thus less surprising that an e-site should be dissociated from one Relation and associated with the other.

Probably more important is the fact that, since it is not explicitly stated what Relation A and Relation B are, different construals are often possible for the same case. For instance, where the e-site is only the sub-landmark of one Relation rather than the whole Relation, that landmark will often figure in the other Relation as well, allowing simultaneous analyses in which both instances figure as e-sites. In *kamišah-tiya* (shirt-caus) ‘put on s.o.’s shirt on’, the shirt may be more salient in its Relation as manipulated by the Trajector, thus as a sub-landmark of Relation A, or in its Relation of coming to be on the Landmark, thus as a part of Relation B, or both may be kept in mind at once. Similarly we claimed that 6.2.i has a sister analysis in which the field of vision is construed as figuring more saliently in Relation B than in Relation A, and both analyses are posited as coexistent.

And, as a result of the multiplicity of causal Relations and the ambiguity inherent in cases where the cause and result are of the same sort, this type of multiple analysis situation is, we have seen, common even when the whole Relation A or B, as in the prototypical cases, functions as an e-site. When the Trajector’s arrival coincides with and causes the Landmark’s (6.3.j), it is likely that the stem *asi* ‘arrive’ is taken as elaborating both what the Trajector does and what happens to the Landmark. 6.3.a-b and c-d were further examples; many more were discussed though not diagrammed. What this means is that in effect the same construction is often both a causative and an applicative, and switching from one construal to the other is simply a matter of increasing and decreasing of salience.

Yet another kind of halfway case, representing a smaller step by which a causative could start to become an applicative or vice versa, is the one in which Characteristics (iv) and (v) of canonical causation (2.3) are violated, where the stem elaborates the Trajector’s Relation, as in an applicative, but that Relation is the
caused Relation B, as in a causative. 6.3.f was such a construal, and other cases were discussed; typically the construal coexisted with a more canonical construal of the same structure.

These connections we have discussed between causatives and applicatives may be charted as in 6.7.f.

### 6.7.f Construals intermediate Between Causatives and Applicatives

All of these hybridizations or halfway cases lessen the surprisingness of a morpheme’s having both Relation A and Relation B as e-sites in different versions, of having one version instantiate 6.7.a and another 6.7.b. The other difference between 6.7.a and 6.7.d is the specification or lack of such that the Landmark is the (expected) trajector of Relation a rather than its landmark. The first observation to make relative to this is of course that not all applicatives differ from causatives in this: 6.7.b is quite canonical. And even for the (also prototypical) case of 6.7.c, often there is less of a difference than there may seem. In many cases there are not strong expectations as to which of two Things involved in a Relation B will be trajector. When a missile strikes a target (as in 6.3.g, etc.) there is some expectation that the missile rather than the target will be trajector (since it is moving with respect to the target), but it is not a very strong expectation; disparities in size, perceptibility, animacy, the intention of the person sending the missile, etc., may make the target an equally natural choice for trajector (figure). Similarly when a person hears a message, one would expect the hearer rather than the message to be construed as trajector, but the other construal is also easily made. No specific, pre-existent figure/ground alignment is being reversed. Thus there is no hard and fast line between cases of 6.7.b and of 6.7.c. This, by the way, is doubtless an important part of the explanation for why it is applicatives and not causatives that typically make the landmark-as-Landmark switch—in causatives the Landmark’s Relation (Relation B) is in correspondence with the stem, and thus to make the landmark-to-Landmark switch would be to reverse an established, specified trajector/landmark alignment.

But there are even cases of such landmark-to-Landmark switching in causatives, as we saw in 6.3.a and 6.3.c. This then is another halfway or hybrid case in which non-prototypical causatives exhibit a trait associated with applicatives. This can be diagrammed as in 6.7.g below. (Ellipses are used in representing 6.7.b-c to facilitate representation of the fact that they are overlapping categories, not to deny them unit status.)
6.7.g. Variations in Choice of Landmark

The Verbalizing Construals: Their Relation to the Causative/Applicative Issue

Another unsurprising thing is that the same suffixes that have meanings in the Causative-Applicative range should also have the verbalizing usages they do. Particularly with adjectives or postpositions the only difference in meaning between a verbalizer and a causative or applicative is despecifying the processuality of the Relation which functions as an e-site. The same is true of verbalizers of Relationally construed nouns. For non-Relationally construed nouns, the shift is, as mentioned above, from having the whole Relation as e-site to having just one Thing in that Relation function as e-site. And even that shift is cushioned by having in virtually every case the possibility of both construals at once, so that the shift from one to the other is a gradual one, a matter of degree.

Two related questions which rather puzzle me are why -liya is a causative rather than an applicative verbalizer for adjectives, and why it rather than -tiya is the suffix usually used for that function. Since -tiya is the prototypical causative, and since the prototypical meaning of -liya is ‘applicative’, I would have expected that -tiya would be used to causatively verbalize adjectives and that when -liya was used it would verbalize adjectives applicatively. Why -tiya is not used I have little idea. Why, given that -liya is used, it functions as a causative, may have to do with a kind of natural skewing of adjectival relationships: they are more likely to be saliently caused than saliently causal. Causing bigness or littleness or redness is easier to construe than is bigness or littleness or redness causing something else. The reason is doubtless related to some aspect of the nature of causation. Characteristics (vi) and (vii) (the processuality and perfectivity of A and B and particularly of the causative Relationship between them) (xiii) (Relation A is a physical action) and others from the list in 2.3 are germane.

This is not to claim, of course, that there can not be or are not applicative-type verbalizations as well; we have seen some in e.g. 6.2.i, and 6.6.a; German be-meister-n (be-master(N)-infinitive) ‘master s.t.’ and be-mutter-n (be-mother-infinitive) ‘mother s.o.’ and (perhaps) English be-friend are further examples. But they are not common, especially with adjectives.

The Germanic prefix be-, just mentioned above, provides a number of interesting parallels. (It tends toward archiaicness in English, but is quite productive in German.) Typically it is an applicative on verb stems: be-wait, ‘wait for s.o.’, be-reave meant ‘reave (s.t.) away from s.o.’, be-spatter/smear/daub/sprinkle ‘spatter/smear/daub/sprinkle (s.t.) on s.t.’ be-bauen ein Grund-stück mit Häusern (be-build a ground-piece with houses) ‘build houses on a piece of land’, eine Wander-gruppe be-kochen (a travel-group be-cook) ‘cook for/feed a group of travellers’, be-wohnen ein Haus (be-live a house) ‘live in a house’ (German exx. from Hammer 1977 and Grebe 1973). There is, as we might expect, a contingent of examples which can be taken either as causatives or as applicative: is be-atmen (be-breathe) ‘perform artificial respiration on s.o.’ to be taken as ‘breathe for/into s.o.’ or is it ‘(try to) cause s.o. to breathe’? (For that matter is it be-atm-en (be-breath-infinitive) ‘give breath to s.o.’?) Is English be-lie ‘give the lie to s.t.’ or is it ‘cause s.t. to (be seen to
have told a) lie’? It can also be taken to mean ‘lie about s.t., give a false impression of s.t.’. However, clearly causative constructions of *be-* and a verb stem are hard to come by, especially in German. But when used as an adjective (or noun) verbalizer, as it frequently is, *be-* (usually) acts as a causative: *be-little, be-fool, be-calm, be-mire, be-foul, be-frei-en* (be-free-ininitive) ‘free s.o.’, *be-taüb-en* (be-deaf numb-ininitive) ‘benumb, deafen s.o.’, *be-rausch-en* (be-drunkenness-ininitive) ‘intoxicate s.o.’, etc. Apparently here as well the most natural way to verbalize adjectives and nouns is to causativize them.

Given that this switch from verb+applicative to adjective or noun+causative is natural, as it seems to be, we have here yet another link between causatives and applicatives. Note in particular that often it is difficult to determine whether a Nahuatl stem is basically adjectival/nominal or verbal. If it was taken as adjectival and given a causative verbalization and later begins to be construed as verbal, you will have a fledging verb causative usage. This, for instance, seems to be happening in a few cases with *-liya*: e.g. *yemāni-liya* ‘soften s.t.’ can be taken either (*soft-applic*) ‘cause to be soft’, the adjective-causative construal, or as (*soft-applic*) ‘cause to soften’, a verb-causative construal. Similarly in German most of the few apparent cases of *be-* as a causative of verbs can be taken as verbalizations of a cognate noun or adjective: e.g. *be-end-en* ‘finish s.t.’ can be parsed as (*be-end(V)) or as (*be-end(N)-ininitive*) ‘give s.t. an end’, or *be-glück-en* ‘make s.o. happy’ can be parsed as (*be-be.happy) or as (*be-happiness-ininitive*) ‘give s.o. happiness’. Thus the causativizing of adjectives and nouns can prove a back door into causativizing verbs.

**Applicatives and Related Structures Such as Indirect Objects**

Finally, it would be good to say at least something about the relationship of applicatives to the kinds of structures that are commonly used to translate them, verbs constructed with indirect objects, or with prepositions and their objects, and such like.

As we have seen, there are a number of factors in the meaning of applicatives. Perhaps the main one is that they usually involve a Type III extension of the scope of the predicate, to include some resultant Relation. There are a number of kinds of constructions which also code such resultant Relations, though they differ in a number of ways. For instance in translating *teši-liya* as ‘grind (corn) for s.o.’ we are using the prepositional construction *for s.o.* to code the meaning of the applicative. It does introduce into the conceptual scene provided by the verb *grind* (which is somewhat comparable to that of *tesi*) a resultant Relation, gives a good idea of its meaning, and permits specification of who is the person involved in that Relation. But it differs from the applicative in that *for s.o.* is not profile determinant, as *-liya* is, in that it is not suffixal, in that the person involved is construed as the landmark (object) of a stative Relation whose trajector is the verb, and that it is not construed as the Landmark of the verb. The effect of such usage will tend to be a Type III expansion of the scope of the verb to include the resultant Relation (and thus to depend on the prepositional phrase, to have it as a complement); cf. the discussion of *jump* in 2.4. But there is no explicit coding of such an extension, indeed no need for it to happen at all.\(^1\)

This structure is, then, a good translation, as such things go, but it does not mean the same thing as *teši-liya*.

Another possible translation would be *grind s.o. some corn*, a “Dative Movement” structure. Here the person involved is construed as a landmark (arguably the Landmark) of the verb, and there is no preposition coding a stative Relation involved. However, I would claim that there is a stative Relation involved here, namely the Relation of *s.o.* to *some corn*. Such “Dative Movement” constructions should be put into a paradigm with such constructions as *run s.o. down, turn s.t. over, bring s.t. here*, etc., where *s.o. some corn* can be

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1. The main difference between applicatives and “indirect object” or “dative movement” structures is, in a nutshell, that applicatives do something to the verb (expand the scope on the Type III pattern), with a concomitant change of direct object, while the other structures do something to the arguments, with (often) a concomitant change (a Type III expansion) of the verb.
seen, like *s.o. down*, to describe a Relation which results from the action of the verb and involves the Landmark of the verb as a salient participant though not the Trajector. This immediately involves us in verb-particle constructions, where (among other things) the verb has come to depend on the preposition. These also are germane in that they can accomplish a Type III extension. E.g. when you *shut s.o. up (in jail)*, you do shutting which results in something happening to the Landmark. You expand the scope of *shut* from just what is done to the door to what effects that has.

The two types of constructions above, those with an object of a preposition such as *for* and those with a verbal object which enters into a Relation with another object or particle, are those usually considered to be “indirect objects” in English. Other languages (e.g. Spanish) have dative pronouns which are also often termed “indirect objects”. These in somewhat parallel ways expand the conceptual structure designated by the verb to include a resultant Relation, designating themselves a salient participant in that Relation. They are in general better translations of applicatives than are the English constructions in that they are more vague: a Verb-*le* construction in Spanish tells me little more about the nature of the resultant Relation than does -*liya*. It can be benefactive (*dar-le* ‘give him’) or malefactive (*tirar-le* ‘shoot him’), an “on” or “to” Relation (*mandar-le* ‘send him’) or a “from” Relation (*quitar-le* ‘take away from him’). However, they too differ from applicative constructions in that they do not explicitly expand the scope of the verb, and that the suffix, since it designates a Thing, is not profile determinant. Again, it is a good way to translate, but it is not the same thing.
CHAPTER VII
Larger Constructions and Clausal Transitivity

In the first section of this chapter (7.1) is provided a very sketchy treatment of constructions larger than the stems with which we have been mostly concerned, particularly nominals and verbals and the clauses that are built out of them. There are some manifestations of transitivity at the clausal level of organization in TN (which is the main level for such phenomena in English and other languages), though it is not nearly so important as the transitivity relations between verb stems and OP’s; this is discussed in 7.2.

7.1 Nominals, Verbals, and Clauses

Nominals

Nominals were characterized in 1.5 as epistemically grounded Things. Thus pronouns are nominals, since they are by definition epistemically grounded. Most nouns are not of themselves epistemically grounded, requiring further construction to achieve grounding. (The highly specific nouns such as proper names are an exception, as discussed in D.2.) Thus e.g. the noun stem sowā ‘woman’ is ungrounded.1

The most common types of grounding constructions are construction with one of the non-personal pronouns (or adjectives, whichever they are) discussed in D.1 (e.g. in-ð sowā-ƛ (dem-dist woman-abs) ‘that woman’ is grounded), construction with a possessive pronoun (thus e.g. no-sowā (my-woman) ‘my wife’ is grounded), and construction with an SP after the patterns of F.2.x or F.2.y (thus e.g. ti-sowā-ƛ (you-woman-abs) ‘you (being a) woman’ is grounded). Pluralization, when it codes a generic construal, may also accomplish grounding (sowā-me (woman-pl) ‘women’ is grounded if it means ‘all women’). Many nouns function apparently alone (with an absolutive if they take one) as definite (or at least specific) nominals (e.g. sowā-ƛ can mean ‘the woman’); it can be claimed in these cases that they are in construction with the 3 pers SP ø2.

Nominals may be quite complex, they often are composed of a noun and one or more modifiers which may themselves be quite complex (e.g. in-ð łąka-ƛ arə wè-wen-əti ɬi mo-ka ɬa-htow-ya (dem-dist man-abs very rdp-big-dim/hon which your-with unspec-say-impf) ‘that very old man who was saying things about you’ is a nominal). Sometimes a nominal may be composed of an appositive-like combination of two nominals (e.g. naha ni-presidente (1 1-president) ‘I, the president,’ and łąka-ƛ počteka-ƛ (man-abs merchant-abs) ‘merchant

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1 I give the naked stem rather than the citation form with the absolutive suffix, sowā-ƛ, because of uncertainty as to the relation of the absolutive to epistemic grounding. The absolutive never appears on ungrounded nouns, so I would expect by internalization that the grounding is at least part of its meaning, and, as it seems to have precious little meaning else, perhaps the whole of it. A noun alone with an absolutive often functions as a nominal (see below), but the grounding in those cases could also be attributed, as I do in the text, to construction with the phonologically null 3 pers SP.

2 Supporting this idea is the fact that for many speakers when modifiers, especially unusual or cumbersome modifiers, are present the noun must be grounded by an explicit pronoun (adjective) from among those in D.2; construction with an SP and the standing alone which I am analyzing as construction with a 3 pers SP are unacceptable. Thus e.g. in-ð sowā-ƛ li ti-ki-hta-ƛ (dem-dist woman-abs which you-her-see-pret.sg) ‘the (lit. that) woman that you saw’, or sen-te łąka-ƛ čikak-ti-k (one-num man-abs strong-conn-adj) ‘a strong man’ are fine, but ni-sowā-ƛ li ti-ki-hta-ƛ I (being the) woman that you saw’, sowā-ƛ li ti-ki-hta-ƛ ‘the woman that you saw’, ti-ń-loka-ƛ čikak-ti-k ‘you (being the) strong man’, and łąka-ƛ čikak-ti-k ‘the strong man’ are all very questionable or bad. This is pretty clearly related to the fact discussed in D.2 that personal pronouns resist being modified. The fact that the prefix-less noun behaves the same way as the SP-Noun fits in well with the construal of it as being a ø-SP-Noun construction.
man’ are both nominals). All nominals, however, regardless of their internal structure, will, in their composite structure, be instantiations of 7.1.a, the Nominal schema, in which a Thing is in a schematic (but specific) Relation with the Speaker/Hearer functional assembly.

**Verbals**

Verbals were defined in 1.5 as epistemically grounded processes. There are two ways in which processes are grounded. The primary one, in general, has to do with the relationship of the process itself, in particular of its temporal profile, to the time of the speech act and to the Speaker and Hearer’s conception(s) of reality. This kind of grounding is obligatory for verbals in TN, as in most languages. It is of course arguably required of all verbals. It is accomplished through construction with an SP (grounding the trajector) and, where appropriate, an OP (grounding the landmark).

The grounding of verbal participants is not made much of (at this level) in many languages: in TN it is arguably required of all verbals. It is accomplished through construction with an SP (grounding the trajector) and, where appropriate, an OP (grounding the landmark).

![Diagram of Verbals](image)

7.1.a. Nominal  
7.1.b. Intransitive Verbal  
7.1.c. Transitive Verbal

The question of whether or not the verbal needs separate grounding through its landmark is essentially the same question as whether the stem is to be treated transitively or not. As explained in 2.5, the answer to this question depends on a number of factors, such as the salience and differentiation of the landmark and the degree to which its nature is already specified internally to the stem, but principally, at least in Nahuatl, where the transitive-intransitive categories are fairly rigid, on the internalization of previous usage. Intransitive stems, including most stems with incorporated noun direct objects, do not require (and thus, by internalization, do not permit) the landmark to be separately grounded. They must, however, be grounded through their trajector (by an SP-Stem construction instantiating F.f) and also through their temporal profile (by construction with tense/mood predicates).

Thus their composite structures will be instantiations of 7.1.b, the Intransitive Verbal schema, in which the trajector and the temporal profile of a schematic process are put into schematic (but specific) Relations with the Speaker-Hearer functional assembly. Transitive stems, including those stems with incorporated objects where another Thing is chosen as a Landmark e-site, permit (and thus by internalization require) the landmark to be grounded. This is done by an OP-Stem construction, an instantiation of 5.5.e. Like the intransitive stems, they must have their trajector and their temporal profile grounded as well, making them instantiations of 7.1.c, the Transitive Verbal schema.

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3 Some grounding of this type is accomplished outside of the verbal, by adverbal predications such as e.g. *ye iksa* (already be??) ‘long ago’ or *de mālas* (of evils (Sp.)) ‘like as not, probably’. These can be viewed as modifying rather than establishing the epistemic status. Modifications also obtain of the grounding through participants in the process: both kinds of cases of the phenomenon will be taken up in the discussion of clauses below.
Most verbs consist of only one word, a complete verb, though in some cases certain adverbials seem to cohere with the verb and might be included in the verbal.4

Clauses

In a clause a verbal is combined with zero or more other structures, with the verbal acting as profile determinant, so that the composite structure of the clause is that of a process. The simplest clauses consist of a single verbal; more complex clauses include such structures as adverbials modifying the verbal (i.e. dependent on it, the profile determinant) and various types of complements, structures on which the verbal is dependent.5

In complex clauses the other elements in the clause elaborate on various facets of the semantic structure presented by the verbal. For instance, in the case of the clause ni-ka ni-lāka-ƛ (I-be 1-man-abs) ‘I am a man’, the verbal ni-ka profiles an imperfective present tense intransitive schematic process with a first person trajector. The stative Relation ni-lāka-ƛ (F.2.i-ƛ) ‘I being a man’ elaborates (the non-processual part of) that processual Relation, indicating (in stative terms) what the Relation is that is extended through time in ni-ka. ni-lāka-ƛ is a complement of ni-ka because ni-ka is strongly dependent on it: the Relation within ni-ka which is put in correspondence with ni-lāka-ƛ is profiled, and is strongly expected to function as an e-site. In mōsƛa to-hta-s-ki (tomorrow we.refl-see-fut-pl) ‘we’ll be seeing each other tomorrow’, mōsƛa elaborates the already partially specified (future) time of to-hta-s-ki, which is not a prominent e-site. At the same time, to-hta-s-ki elaborates the specification of something expected to happen during the timespan profiled by mōsƛa, a prominent and highly schematic e-site. Here mōsƛa is a modifier of to-hta-s-ki, since the dependence of mōsƛa on to-hta-s-ki is the stronger. In ni-ya para no-čā (I-go towards (Sp.) my-home) ‘I’m heading home’ the prepositional phrase para no-čā is dependent on the verb ni-ya, but ni-ya is also dependent on it: the path or direction the trajector takes is a salient aspect of the meaning of ya ‘go’ and therefore of ni-ya, and para no-čā elaborates that path. Thus in this case we have an adverbial complement, a modifier that is also depended on by the verb. In ni-ya no-čā (I-go my-home) ‘I’m going home’ the destination of the going in ni-ya, a (sub)landmark of an intransitive verb, is elaborated by the noun no-čā. In ni-k-wi̱ka-s no-čā (I-it-carry-fut my-home) ‘I’m going to take it home’ no-čā elaborates a corresponding sub-landmark in the transitive verb ni-k-wi̱ka-s. In both cases no-čā is a complement, i.e. the verb depends on it rather than on the verb.

In cases like that of ni-ya no-čā the nominal can actually be taken as a direct object. Compare the discussion in 3.1 (before 3.1.d) of forms like ilwikak-leḥko (heaven-ascend) ‘go up to heaven’, and kʷah-leḥko (tree-ascend) ‘climb a tree’. The same nouns occur in nominals as clausal objects of the same landmarks in leḥko ilwikak ‘he goes up to heaven’ and leḥko sen-te kʷaw-id (ascend one-num tree-abs) ‘he climbs a tree’, and again they can be taken as direct objects, since the elaborate the most salient landmark (making it most salient in the process) of the verbal. However, it is not clear that that landmark is the most

4 Historically some such adverbials seem to have become virtually prefixal, joining the verb word. Most clearly this is true in TN of o- ‘past’. This morpheme precedes the SP, and in some ways it still acts like a clitic — e.g. it does not destroy the environment for Epenthesis, A.6. Yet it often bears the main stress of the verb, which one would not expect a clitic to do. Another case, similar though different in some respects, is that of ma ‘subjunctive’. It is not irrelevant that both of these adverbials are involved in epistemic grounding. In Classical Nahuatl (Andrews 1975:33 (5.6.1)) there was a larger class of these cliticizing or prefixal adverbials.

5 I am using the term “complement” in a general sense; a more restricted sense which corresponds better to some linguists’ usage would call complements only those elements on which the verb is not only dependent but which elaborate e-sites that are internalized as such, i.e. for which there is an internal expectation in the verb. The direct objects of transitive verbs are complements in this second sense, but the unexpected direct objects of intransitive verbs are not, even though the verb may be quite as strongly dependent on them.
salient apart from these constructions, and there is certainly little pressure for there to be any clausal objects such as these; they are permitted but not demanded.

In *ni-ki-hta-ya sen-te lāka-ƛ* (I-him-see-impf one-num man-abs) ‘I saw a man’ we have a clear case of a clausal direct object. The nominal *sen-te lāka-ƛ* elaborates the main Landmark of the verbal *ni-ki-hta-ya*. Thus *sen-te lāka-ƛ* is put in correspondence with the 3 pers sg OP *ki-* and ultimately with the Landmark of the stem (*ihta* ‘see’). This construction is diagrammed in 7.1.d. In the diagram only the composite forms of *htaya*, *sente lāka-ƛ* are given; all three are clearly analyzable. The constituency [[ni[[ki[htaya]]] [sente lāka-ƛ]]] is assumed, though other constituencies (e.g. [[ni[[ki-hta]ya]]] or [[ni[[ki-hta]ya] ya]]) are possible and may well obtain. Cases such as this of clausal direct objects are extremely common: virtually every transitive verb can take a clausal direct object.

Similarly, in *nēč-ihta-ya sen-te lāka-ƛ* (me-see-impf one-num man-abs) we have a clausal subject: the nominal *sen-te lāka-ƛ* elaborates the Trajector of the verbal *nēč-ihta-ya*, thus being put in correspondence...
with the 3 pers sg SP Ø and ultimately with the Trajector of the stem (*ihta. This clause is diagrammed in 7.1.e.6

Like clausal direct objects, clausal subjects are extremely common. Almost all verbals can take a clausal subject (meteorological verbs are, as in many languages, generally exceptional to this rule).

SP’s and OP’s are Not Simply Copies of Clausal Subjects and Objects

It should be obvious from the analyses presented in 7.1.d-e that I am not treating the SP’s and OP’s as syntactically derived, meaningless copies of clausal subjects and objects, as would be the expected analysis under Transformational Grammar and many of its offspring (see e.g. Dakin’s 1972 Object Marking rule for Classical Nahuatl, p. 33, passim.). Langacker (1981b:56-59) discusses the closely related case of pronominal object prefixes on postpositions, and comments:

6 Again I am giving only composite representations of *sen-te, *laka-Ø, and *hta-ya, and assuming the most probable of several possible constituencies. I am also assuming that the OP-stem construction *nēč-hta-ya has not yet achieved unit status, though it would not surprise me in the least to find that it has for most speakers. I would judge that it is clearly less well-entrenched than *ki-hta-ya, in any case.
One question that this construction raises is whether the “true” postpositional object is the noun or the pronoun. Under a standard transformational analysis, the noun would most likely be taken as the underlying object, with the pronoun copy introduced to bear the postpositional suffix … On the other hand, many perceptive linguists have felt that the pronoun is in some sense the “real” object, with the noun serving some kind of elaborating function. (The same kind of question arises with respect to pronominal affixes on a verb— are they the “real” subject and object, or do they simply register agreement with external nominals?)

In [CG], this difference is immaterial—one is not forced to make a choice … it is possible, even necessary, to say that both the noun and the pronoun function as the postpositional object, elaborating it to different degrees and in different ways. In fact there are layers of elaboration, since even the pronoun elaborates a schematic thing serving as landmark within the postpositional predicate itself.

And the same conclusion holds here for verbal subjects and objects: we do not have to choose either the pronominal prefixes or the clausal nominals as the “real” subject and object, since both are “real”, elaborating, in layers, the Thing serving as landmark within the verb stem itself. The only argument against their both being “real” was the old argument from simplicity we abandoned so long ago (1.3); the grammar would be simpler if we could predict all the pronominal prefixes from clausal nominals. And the answer to the argument is the same as before, namely that the redundancy should be tolerated by the grammar, since is clearly tolerated by the language.

Furthermore, given the notion of meaning we have developed, even if the pronouns somehow started out as mere mechanical meaningless markers, the fact that they mark only certain kinds of cases will internalize to become their meaning. Even if nēč- were meaningless, a semantically empty syntactic copy of the meaningful naha ‘I/me’, it would come to mean ‘me’ by virtue of its usage.

And there is something right about viewing the SP-OP-Stem construction as more basic to the clausal structure than the Subject-Nominal Verbal construction; it is used constantly without any clausal subject or object, and when such subjects or objects do appear, it is either for emphasis or because it is necessary for the hearer to know more than just epistemic grounding about them in order to identify them. In other words, I would rather line up with Langacker’s “perceptive linguists” and claim that the prefixes are the “real” subject and object than with the Transformational Grammar analysts, claiming that they are secondary.7

As Langacker claimed, however, we do not have to, in fact must not, make the choice. Both the prefixal pronouns and the clausal nominals exist, and both are subjects (or objects) of the verb. Both analyses are possible, as enrichments of the meaning of the respective forms, that one form is “derived” from the other, but neither analysis can explain the forms themselves away. And I believe that for most speakers the analysis of the prefixes as basic and the clausal nominals as secondary, optional elaborations, is probably more salient.

”Warpings” Away From the Structure of the Verbal

I claimed that in complex clauses the verbal is profile determinant, so that the clause as a whole profiles a process, and that the other elements in the clause elaborate (compatibly) on different facets of that process. In general that is true, but it is often the case that while the clause as a whole inherits the general structure

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7 To a large extent my feeling is based on intuition, and I readily admit that my intuitions in Nahuatl are far from native. However, as a near-native speaker of Spanish, my intuitions have always been that transformational analyses were wrong to e.g. derive the clause quier-o comer (want-I pres eat) from yo querer comer (I want eat) by person marking and pronoun deletion: that always felt like an English speaker’s perspective. Rather than such clauses having had something deleted, clauses like yo quier-o comer ‘I want to eat’ had had something added.
provided by the verbal, the other elements provide salient specifications which conflict with specifications in the verbal, and the specifications of those other elements are adopted in the clause.

This of course is quite natural: few of the situations we want to talk about fit exactly the conceptual structure coded by an easily constructed verbal, and if the discrepancies are judged important, the other elements in a clause provide an easy way of making up the difference.

As an extreme example, consider negatives such as TN amo. When put in construction with a verbal, they drastically change the epistemic grounding, negating the occurrence that the verbal asserts. This negation is preserved (i.e. the assertion is abandoned) in the clause as a whole. Similarly adverbs of probability modify the assertion of the verbal. Virtually any other adverbial can do the same sort of thing, depending on what kind of verbal it is construed with. For instance, yōlik in TN means ‘slowly, lightly’, and one could say yōlik o-ween (slowly past-fall.pret) ‘it fell slowly’, “warping” away from the specification (not a particularly central specification, but still there) in o-ween of suddenness and forcefulness. There is a slight “collocational clash”, which is resolved in favor of the adverb. Thus the verbal is not in the strictest sense profile determinant for the clause, i.e. it is not totally schematic for it.

The same thing happens with other kinds of elements in the clause. It is particularly germane for us to notice that it happens with subjects and objects. The kind of trajector or landmark that the verb expects may be gotten rid of in favor of the kind specified by the clausal subject or object. Thus ki-kʷâ-ya (it-eat-impf) specifies (not centrally, but discernibly) an edible Landmark. However, one could say ki-kʷâ-ya te-ween ‘he was eating rocks’, and the specification of the (inedible) nature of rocks, central to the clausal direct object, will override the specification of the verbal that its Landmark is edible.

We had two cases of this sort earlier: in 7.1.d the verbal ni-kihta-ya specifies a definite landmark, and the clausal direct object, sente láka-ƛ, specifies an indefinite Thing. The clause as a whole construes the Landmark as indefinite, adopting, on this point, the specifications of the direct object rather than of the verb. Similarly in 7.1.e nēč-ihta-ya has a definite trajector, but the clausal subject specifies an indefinite, and that is what is preserved in the structure of the clause as a whole. Thus the verbs in these cases are not truly schematic for the clause as a whole, and are so represented in the diagram.8

8 This account allows me to preserve the claim made in D.2 that 3 pers pronouns are definite. I do not want to claim this strongly, however. Usage in constructions such as those above (and they are the normal way to code a verbal with a specific but indefinite subject or direct object) will internalize to at least some sub-versions of ki- and ø-, making them mean ‘specific’ rather than ‘definite’. Yet a further stretch is made by usages such as ni-kihta-ya kanah-yeka lî čôka-ya (I-him-see-impf dub-someone that cry-impf) ‘I saw somebody or other who was crying’ or kanah-yeka o-nēč-ihta-k (dub-someone past-me-see-perf.sg) ‘somebody or other saw me’, where the clausal object and subject are non-specific (unspecified). Thus some version of ki- and ø- must mean simply ‘Thing’, without any particular specification of specificity. These will not be the prototypical cases (particularly the second), however, and they will be connected with constructions involving clausal subjects (or direct objects, as appropriate),
which will specify the indefiniteness or unspecificity. I.e. part of the meaning of the version of *ki* that means ‘specific indefinite Thing’ is the expectation of a clausal subject which is specifically indefinite. Thus what I really need to say is that prototypically, and except in cases where it corresponds with a clausal subject which is indefinite or non-specific, the 3 pers SP ø is definite, and similarly for *ki*.

Such internalization will of course affect all the cases of “warping” talked about in this section: sufficient usage will “rub off the sharp corners”, so to speak, making the verbal compatible with the clause and with its companions in the clause or them with it.
7.2 Clausal Transitivity

Supporting to some extent the idea presented a few paragraphs back, that the pronominal SP’s and OP’s are the “real” or “basic” subjects and objects of TN verbs, is the fact that the phenomena of transitivity are much stronger and easier to see in the relations of SP’s and OP’s to verb stems than in the relations of clausal subjects and objects to clausal verbs. There is nothing at the clausal level like the strong and almost complete dichotomy between transitive and intransitive stems: the vast majority of verbs can take clausal subjects and objects or leave them.

To say the same thing from another perspective, verbs at the clausal level are much freer from conventionalization in at least this respect, much less hidebound by tradition and able to respond much more readily to variations in the various conceptual factors tending towards transitive or intransitive usage. As long as the Landmark is conceptually no more highly specified than in the verbal, transitive usage is strongly discouraged. Constructions like nēč-ihta-k naha (me-see-pret.sg 1) ‘he saw me’ are used only for strong emphasis.

When the Landmark is conceptually much more elaborate than the verbal stem would let on, or if it is unusual, elaboration is more likely to happen. If a man eats cat meat, and cat meat has not been mentioned just previously (which would have made it temporarily the preeminently salient Thing known to the Speaker and Hearer), the clause o-ki-kʷa-k to describe it would be quite inappropriate. Since the verbal o-ki-kʷa-k is not strongly transitive in having its Landmark strongly expected to function as an e-site, it is free to behave transitively or not, according to the situation.

This of course is true with respect to other Things in the structure of a verbal; trajectors, and sublandmarks of both transitive and intransitive verbs are free to be elaborated or not, as are path specifications, time specifications, and so forth. Virtually any aspect of the characterization of a verbal can be elaborated clausally, though rarely does any need be.

Strong clausal intransitivity occurs, however, in the case of unspecified objects. When a verbal has an unspecified direct object such as ƛa- (5.4), it is extremely rare for its Landmark to be further elaborated by a clausal direct object. For instance, o-ƛa-kʷa-k (past-unspec-eat-pret.sg) means ‘he ate’, but what he ate cannot be specified by a clausal direct object: *o-ƛa-kʷa-k ḥaškal-i ka ista-k (past-unspec-pret.sg tortilla-abs with salt-abs) is unacceptable—the nearest approach to it would be to use a periphrastic adverbial such as that in ƛaakʷak de ḥaškali ka istaλ (he.ate of tortilla with salt) ‘he dined on tortillas and salt’. Much more commonly, of course, one would say o-ki-kʷa-k ḥaškali ka istaλ (past-it-eat-pret.sg tortilla with salt) ‘he ate tortillas and salt’. This aversion to clausal elaboration of a landmark already elaborated by ƛa is general. As noted in 5.4, it provides a good argument that in certain verbs ƛa- is a secondary object, corresponding to a secondary landmark in the verbs’ stem. Crucially, those verbs are clausally intransitive with respect to those secondary landmarks.

This phenomenon is certainly a natural one: why would one make a point of not specifying a landmark at the verbal level, only to turn around and specify it by a clausal object?

Reflexives as well are typically intransitive: at least clausal nominals which could be taken as their direct objects are, in my judgement, more likely to be construed as subjects, which, since the trajector and landmark correspond, will produce the same composite structure. The only cases I know of where there are two nominals and it seems reasonable to construe one as clausal subject and one as clausal direct object of a reflexive are constructions of such verbs with the Pronoun-mismo (Pronoun-self) construction, borrowed

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1 Note how this construction pushes ƛa- towards the not-clearly-nominal meaning ‘perform the canonical activity’ and away from the ‘unspec’ sense.
from Spanish, and perhaps with the *sen-te ka ok-sen-te* (one-num with yet-one-num) ‘each other, one with another’ construction, perhaps calqued from Spanish as well. Note that *ok-sen-te* is not clearly a direct object, being object of the preposition *ka* as well as bearing a clear identity Relation to the Landmark of the verb.

It is further the case that 1 and 2 pers direct objects are clausally elaborated much less frequently than 3 pers direct objects, so that verbals with 1 and 2 pers OP’s are fairly strongly intransitive. The Personal Pronouns from D.2, in any person, can, however, be used as clausal direct objects, with the idea of emphasis and/or focus usually a strong part of the meaning of the construction. This again is natural; if the Landmark of a verbal is already specified to be the Speaker, why should he have to be identified again in the clause? Speaker and Hearer are (relatively) unique: Others (third persons) are multitudinous and will often have to be further identified.

There is only one case that has come to my attention where a group of verbals seem to always have a clausal direct object, and thus will have, by internalization, the expectation of such a direct object, making them clausally transitive. This is the case of verbals built on the stem *ayi* ‘do, be busy with s.t.’. This stem, as was discussed in 3.1, is intransitive at the level of verbal structure: it never takes an OP. However, all verbals constructed on it (i.e. with it as profile determinant, leaving out its applicative and causative forms) are always used in clausal constructions with a non-specific clausal object (a direct object, I would call it) such as *lī* ‘what?’ or *amo-ilīa* (neg-anything) ‘nothing’. Thus *ayi* and all its derivatives strongly expect the Thing done to function as an e-site at the clausal level.2

Some other stems exhibit a lesser degree of clausal transitivity than *ayi*, being used with clausal direct objects perhaps ninety percent of the time, but still being quite unexceptional when used without one. For instance, verbs built on the stem *htowa* ‘say’ such as *o-ki-hto* (past-it-say.perf) ‘he said it’ almost always occur with a subordinate clause as clausal direct object, but can occur alone or in constructions like *o-ki-hto šowā* (past-it-say.perf John) ‘John said it’. Here the absence of the expected direct object tends to give extra emphasis to John, making this a good focus construction: ‘it was John who said it’.

Another common occurrence is fairly strong transitivity with respect to secondary objects and other kinds of complements. The stem *nek-tya* (want-caus/appliuc) ‘wish s.o. (s.t.)’ (6.3.h-i), takes as its Landmark the person wished something. It permits but does not especially encourage elaboration of that Landmark, but it is strongly transitive clausally, i.e. it requires clausal elaboration, with respect to its sub-landmark, the Thing wished (e.g. a Happy New Year or a good trip, the Thing which was the landmark of the stem *nekī*).

*mo-wāška-tyiya* (refl-own.thing-caus) ‘inherit (s.t.)’ and *mo-teč-tyiya* (refl-next.to-caus) ‘appropriate, filch (s.t.)’ are postposition-causative structures parallel to *yōl-ipan-tyiya* (heart-on-caus) ‘preach to s.o., exhort s.o.’, but are always reflexive. They, and especially the latter, are strongly transitive at the clausal level with respect to their sub-landmarks, the Thing acquired in each case. Verbs constructed on the stem *mīni-tyiya* (sting-appliuc) ‘inject s.o. (with s.t.)’ are similarly strongly transitive with respect to the substance injected. And so forth.

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2 I would have no non-adhoc way to represent in the diagrams we have been using the difference between the clausal transitivity of *ayi*, which as we have noted is associated with the stem itself rather than with any particular verbals built on it, and the transitivity of the other verb meaning ‘do’, *čīwa*, which has to do with the construction of the verbal (see discussion in 3.1). However, this is a notational rather than a theoretical problem, another one of those pseudo-issues that arise from using diagrams with the “meaning as content” metaphor. In the “Interconnected Network” model, the difference is that a central specification of *ayi* is a connection to the clausal Direct Object Verbal construction, while *čīwa* in contrast has a strong connection to the OP-Verb Stem construction in 5.5.e.
Summary

(1) Clausal transitivity is not nearly as rigid and fixed as is the transitivity of stems with respect to OP’s.
(2) Verbals with reflexive and particularly unspecified Landmarks are strongly intransitive with respect to them.
(3) 1 and 2 pers Landmarks are usually elaborated at the clausal level only for emphasis.
(4) A very few verbals may be totally transitive at the clausal level. ayi is the best example. Many others are transitive to a certain degree but readily permit clausally intransitive usage as well.
(5) A certain degree of clausal transitivity with respect to secondary objects is not at all uncommon.
CHAPTER VIII

Concluding Discussion

It is customary to ask one who has completed a dissertation what he has accomplished, what is the significance of his work. This chapter is an attempt to answer that question.

I believe I can claim three closely related accomplishments which are well worth while. First, I have described, analyzed, and discussed the meanings involved in the transitivity-related morphology of TN a good deal more thoroughly than has to my knowledge been done previously for any dialect of Aztecan. I have been able to describe and often explain to some extent many ways in which different morphemes and constructions are related. In particular I have been able to show clear semantic relatednesses between cases that other analysts have treated as essentially separate, related only by historical accident.

Secondly I have shown, at least to my satisfaction, that Cognitive Grammar is a useful and appropriate tool for this kind of analysis. Much of the analysis could not have been accomplished under most linguistic models in vogue today. I would have been forced to separate certain phenomena which are, from the perspectives of CG, intuition, and common sense, clearly to be related, and I would have been strongly encouraged, if not forced, to lump together indiscriminately things that are certainly related but which show important differences for all that. Explanations which really do explain would have been lost because they are not strictly predictive; explanations that do not explain (because they do not really fit the facts) would have been encouraged. Much would be simply ignored because no way would be provided to talk about it.

Thirdly, I believe I have shed some light on certain problems ubiquitous in language, such as the nature of transitivity, stem-affix relations, the relationship of reflexives and passives, etc. In several of these cases I have largely followed the lead of Langacker, but I have been able to go a little farther and in some cases achieve an understanding or an explanation for why things are as they are. In particular I think the notion of internalization is very important and pervasive in language, in its relationship to diachronic changes in meaning, to grammatical relationships and dependencies such as stem-affix relations and verb-object relations (transitivity), to the meanings of “meaningless” grammatical morphemes, and so forth.

Another question traditionally asked of a candidate whose work invests heavily in a particular theoretical model is: could the job have been done as well in a different framework? The answer is, as stated above, that as far as I know it could not. I know of no other model that embodies the notions of encyclopedic meaning with all its subtleties, of relations of schematicity among units as the criterion and expression of classification, of prototypicality, of the nature of syntagmatic relations (dependency, profile determinance, the distinction between composite and analyzed views of a structure and their freedom from total dependence on each other), of the absence of compartmentalization in grammar (e.g. no P-S Rules vs. T-Rules, Lexicon vs. Morphology vs. Syntax, etc.): and without these and other concepts which are built into the CG model many of the insights I have gotten would probably not be achieved and could certainly not be easily expressed.

Causatives and Applicatives Under Relational Grammar (RG)

To exemplify this I would like to briefly present, and contrast with the analysis in Chapter 6, a treatment of causative and applicative constructions under Relational Grammar (RG) (Perlmutter and Postal 1977 etc., Perlmutter 1983, Frantz 1979). I select RG not because I consider it particularly worthy of or susceptible to castigation, but because I respect it and those who consider it viable, and also because, since I have been exposed to it more than to other frameworks, I feel I can treat it more fairly. It is also representative in a number of respects of an important tradition in modern linguistics, that of classical Transformational Grammar.
RG takes as basic the Grammatical Relations of Subject (abbreviated as “1”), Direct Object (“2”), and Indirect Object (“3”), which nominals bear to a clause node. Each clause will also have a predicate (“P”). There are other Grammatical Relations a nominal can bear; benefactee, locative, etc.; they are collectively called oblique relations. Grammatical Relations are arranged in a hierarchy with the order 1, 2, 3, Oblique.

A nominal may bear different Grammatical Relations to the same clause at different strata: strata (which correspond roughly to Transformational Grammar’s cycles) are arranged in order from initial to final. The initial stratum is supposed to reflect quite directly the “semantic” or “logical” roles of the nominals, while the final stratum reflects the “surface” relations.¹ When a nominal assumes the Grammatical Relation of another nominal, the second nominal is put “en chômage” (French for “unemployed”) and is known as a chômeur. Thus in Passive a 2 (direct object) assumes the 1 relation (subject) converting the erstwhile 1 into a 1-Chômeur (1̂). This rule is an Advancement rather than a Demotion because the nominal is climbing up the hierarchy, from 2 to 1.

Causatives

There is an established tradition in RG of accounting for causative constructions by a structure called Clause Union (a counterpart in some respects of Generative Semantics’ “Predicate Raising”), in which an initially biclausal structure is finally monoclausal. The downstairs (initially embedded) predicate becomes a “dead” dependent of the upstairs clause, and the downstairs nominals assume grammatical relations to the upstairs clause. The upstairs predicate (“cause”, in the cases we are interested in) becomes, in many if not most languages, an affix of the dead verb (e.g. Blackfoot, Georgian, Hebrew, Inupiaq Eskimo, Isleta, Japanese, Kannada, Sayula Popoluca, Southern Paiute, Turkish); in some languages (e.g. French, English, Jacaltec, German) the verbs remain morphologically separate (Frantz 1977, 1979:32-39, Gibson 1980: 67 ff., Harris 1976:119, Rhodes 1976:66).²

In Clause Union, it has been claimed, the downstairs final ergative (subject of a transitive clause) becomes an upstairs indirect object (3), the downstairs final absolutive (direct object, or subject of an intransitive clause) becomes upstairs direct object (2). (The upstairs subject remains as subject (1), and any other dependents of the downstairs clause assume an “emeritus” (“dead”) relation upstairs. Thus a downstairs 3 becomes an upstairs 3-emeritus.)³ In many languages the downstairs ergative regularly shows up as a 2 upstairs, in contradiction to these predictions (e.g. Blackfoot (Frantz 1979:35), Cebuano (Bell 1976), Hebrew (Cole and Sridhar 1979), Tzotzil (Aissen 1983), Yawelmani (Rhodes 1976:69)). These cases are typically accounted for by positing Antipassive (2-2) downstairs (Blackfoot) or 3-2 Advancement (Dative Movement) upstairs after Clause Union (Tzotzil, Yawelmani). In many of these languages there are no final 3’s at all: either 3-2 Advancement is obligatory everywhere, or some other mechanism is used to filter out all 3’s.

¹ The “initial” stratum is not exactly the same thing as “deep structure”, “strata” are not the same thing as “cycles”, “final” stratum is not the same as “surface structure”, etc. These comparisons are intended to give some sort of content to the terms for those unfamiliar with them: they are legitimate in that there are strong parallelisms, but they should not be pressed too hard.

² I have not found much discussion of Clause Union in English, so I will not use English examples. Rhodes (1976:60, 66) gives I saw him leave as an example of Clause Union, in contrast to I saw that he left, and I let him eat mangoes as an example which has no non-united counterpart; I would assume that this last example and such sentences as I made him eat mangoes would be examples of causative Clause Unions.

³ Frantz (1977) replaces these rules with a single rule that the downstairs 1 becomes upstairs 2, all other nominals adopting the same relation upstairs that they had down, and a condition that Clause Union requires intransitivity of the downstairs clause. Cases where the downstairs 1 shows up upstairs as a 3 are examples where the downstairs intransitivity requirement was satisfied by 1-3 Retreat (Inversion) followed by 2-1 Advancement (Unaccusative). Gibson (1980) and Gibson and Raposo (1980:20) claim two types of Clause Union, one as above in the text, and one in which the downstairs 1 becomes upstairs 2. Either of these analyses would fit the TN data more intuitively.
Such an analysis would be possible for TN as well. For instance, the clause ni-k-mik-tiya (1-him-die-caus) ‘I kill him’ (cf. 6.1.a-b) would be represented by the Relational Network 8.a, in which the initially bicausal structure becomes monoclausal by Clause Union. As expected, the downstairs subject yaha ‘he’ becomes upstairs direct object. Verb agreement with it and naха ‘I’ will furnish the OP and the SP. -tiya will be suffixed to the dead verb, which will change to mik by a morphophonological rule, the independent pronouns will be dropped, and the result will be ni-k-mik-tiya. Similarly ni-k-mac-tiya (cf. 6.1.h) will be represented by the Relational Network in 8.b, with a transitive downstairs clause, and the downstairs 1, being an ergative, will become upstairs 3, then advance to 2 and put the 2 en chômage.4 Once again, agreement, suffixation, pronominal drop (including the dropping of iğa ‘anything/something’), and morphophonemic rules will produce the final form.

This formulation, I think, captures a number of significant facts. It is clear that:

1. the clause ni-k-mik-tiya involves two verbal notions, one of causing and one of dying.
2. The two verbal notions are joined together to form a single constituent, the main verbal element of a single clause.
3. The 3rd person is understood as the person who dies (trajector of the notion symbolized by miki), and
4. he is the direct object in the clause whose predicate is mik-tiya.

The same observations hold for ni-k-mac-tiya. It is also clear that:

5. the Thing known (the landmark of matti) is not a central dependent of the structure formed by the union of mac and -tiya.

All of these facts are also captured in the CG analysis of these clauses.

1. mik and tiya are listed as units of the grammar of TN (lexical items), both are processual (verbal), and
2. together they form a single constituent mik-tiya, which is also processual and is the central verbal element (profile determinant) of the clause ni-k-mik-tiya.

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4 3-2 would probably obligatory in TN, accounting for the fact that there are no surface indirect objects. (There are a very few cases where one might want to call a prepositional phrase an indirect object: e.g. ka tehwači (with you-hon) in nēč-namaka-ki ka tehwači (me-sell-pl. pret with you-hon) ‘they sold me to you hon’; these could also be taken as cases of the Goal relation.) Another attractive analysis might be to claim Antipassive (2-2 Demotion) downstairs before Clause Union, as Frantz does for Blackfoot. This Antipassive could reasonably be claimed to be marked by -i ‘intransitive’ (A.1, 3.2), which would be deleted in these two forms by the Perfective Stem Formation rule (A.5). This analysis would explain why these forms do not have a 3-2 Advancement marker (applicative). -tiya (App. G), which doesn’t condition A.1, could be analyzed as having 3-2 Advancement, with the -i being the applicative, and the lack of an i explained. However, there are no clear cases where i means Antipassive: in the clear cases it looks more like Passive. In any case the objections raised ahead would still apply.
Within the construction *mik-tiya*, as a result of the identification of the caused Relation B (whose trajector is Landmark of *tiya* and thus of *mik-tiya*), the Landmark of *mik-tiya* and the trajector of *miki* are identified. Thus

(4) when the 3rd person symbolized as *k-* is integrated as direct object of *mik-tiya*, his identification as trajector of *mik* (i.e. as the person who dies) follows naturally.

The same things hold true for *ni-k-mač-tiya*. However:

(5) since the profile determinant -*tiya* gives no central role to the landmark of Relation B, it is a natural consequence that that landmark (the Thing known) is not central to the stem *mač-tiya* nor to the verbal and clause *ni-k-mač-tiya*.

In achieving these insights, the RG analysis makes a number of questionable assumptions and claims. Among them are the following:

(a) *mik* and *tiya* are initially (because semantically) two clauses. This raises the question of what is a clause.

The assumption is that there is a one to one correspondence between verbal notions and (initial) clauses. Carried to the logical extreme, this led to the Generative Semantics type of analysis where English *kill*, which also has two verbal notions, was analyzed into two clauses with predicates CAUSE and DIE. This is now generally rejected. But if *kill* need not be biclausal, why must *mik-tiya*? Why can it not be bi-morphemic? The CG analysis says that it is bi-morphemic (thus contrasting with e.g. *kill*) and not biclausal (thus contrasting with e.g. *he caused that someone die*); the fact that *miki* can be used as the profile determinant of clauses elsewhere does not mean that it is so used here.

(b) The RG analysis claims that the direct object of *mik-tiya* is also syntagmatically subject of *miki*. The assumption is that the fact that a nominal can be identified with a Thing centrally involved in a process means that it must be (at some level) syntagmatically united with the morpheme coding that process. CG again denies that assumption. Thus e.g. in the conversation *Who ate the beans? I guess it must have been john*, it is not necessary to claim that *john* was ever syntagmatically the subject of *ate*; the identification can be made independently of such a claim.

(c) The RG analysis claims that *ni-* and *k-* are meaningless markers of the presence of the meaningful nominals *naha* and *yaha*. This kind of analysis is discussed in 7.1; there is really no evidence to support it nor reason to accept it.

(d) The RG analysis claims that the 3rd person who knows something in *mač-tiya* is at some level an indirect object. (As pointed out earlier, this may not be central to the RG analysis.) I know of no evidence for such a claim: in fact I doubt strongly whether Indirect Object (as opposed to Goal, Benefactee, etc.) is a relevant notion at all for Aztecan and many other languages (Comrie 1979, Faltz 1978, Tuggy 1979d).

**The Loss of Predictiveness is No Loss**

One kind of argument that might be made (it has been used elsewhere)\(^5\) for the RG analysis is that it is predictive, that the upstairs Grammatical Relations of the initially downstairs nominals are predicted absolutely, by Universal Law. This, it would seem, is real explanation.

Or is it? Leaving aside the fact that TN does not conform to the predictions even in the prototypical cases, so that some otherwise unmotivated device such as advancement of 3 to 2 must be used to make things square up, notice that one result of that absolute predictiveness is to force compartmentalization, to make us treat as unrelated cases that do not fit the pattern. Consider the construal in 6.3.f (*čōkī-tiya* (cry-caus))

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\(^5\) E.g. Gibson (1980:241) rejects a statement by Comrie of which Grammatical Relations are assigned to nominals in causative constructions, as merely “describing some tendency of language. As such, the claim is without empirical content since there is no conceivable evidence which could logically falsify it.”
‘mourn s.o., cry because of s.o.’). If it were analyzed by clause union the result would be something like 8.c, which wreaks havoc with the universal predictions.

This structure would quite certainly be (as a result) consigned to the lexicon as idiosyncratic (which it is, to a certain extent) and therefore unrelated (which it is not). It comes to a circular argument: the predictions hold true for all Clause Unions, and we know which are Clause Unions and which are not by whether the predictions come true or not. The CG analysis downgrades the predictions into tendencies, stating that the most prominent Thing in the causing Relation is prototypically (but not inevitably) chosen as Trajector, and the most prominent Thing in the caused Relation is prototypically chosen as Landmark (2.3, Characteristics (iv) and (v)). This accounts for both the prototypical and non-prototypical cases, and permits us to still view them as related.

Applicatives

Applicatives would probably be analyzed quite differently. Such structures (e.g. -i ~ -yi in Chamorro (Gibson 1980:34-37, Crain 1979:11), -ka in Indonesian (Chung 1976:55-56), -be in Tzotzil (Aissen 1983)) are often taken under RG as Advancement markers, syntactically introduced morphemes registering the advancement of a 3 or perhaps an oblique such as a Benefactee or Locative to 2. Such an analysis can be made to work for TN also. Verbs with applicatives would be assumed to have an initial 3 or oblique which (obligatorily for 3’s in most if not all TN structures) would advance to 2, putting the erstwhile 2 (if there was one) en chômage. Thus ni-k-teši-liya (1-her-grind-applic) ‘I grind (corn) for her’ (cf. 6.5.a) would be represented by the Relational Network in 8.d, ni-k-lāli-liya (1-it-place-applic) ‘I put (s.t.) on it’ (cf. 6.5.b) by 8.e, ni-k-tīlani-liya (1-him-send-applic) ‘I send (s.t.) to him’ (cf. 6.5.f) by 8.f, and so forth. The stem will be syntactically marked by the suffix -liya to show that advancement to 2 has taken place, the SP and OP will be produced by agreement marking, morphophonemic rules and dropping of the pronouns will occur, and the surface form will result.
Again, some important facts would come through in such an analysis. Particularly:

(1) a 3rd person which is not the direct object of the stem without -liya is the direct object of the stem with -tiya.

(2) Where the stem without -liya does take a Thing as direct object, that Thing is not the direct object of the stem with -liya.

Again, CG captures the same generalizations. And again, the RG analysis embodies some questionable assumptions which the CG analysis does not. I will not go into these matters.

But note how different these RG treatments of the causative and applicative structures are.

The causative structures are initially biclausal, and the difference between the initial and final strata involves joining the two clauses into one, concomitantly changing the Grammatical Relations of nominals in the downstairs clause, always downwards on the hierarchy. The suffix -tiya is a meaningful verb 'cause'; it becomes a suffix by a rule joining it to a dead stem.

The applicative constructions are monoclausal throughout: the difference between the initial and final strata is the advancement rather than the demotion of a nominal to be direct object. -liya is a meaningless element introduced syntactically as a suffix to mark the application of a syntactic rule. The stem to which it attaches is the predicate of the clause and is by no means dead.

This enormous difference in analysis makes it very difficult to see how causatives and applicatives could be related. The fact that all of the causative/applicative suffixes seem to have both kinds of usages is totally accidental, and the historical developments that would make it a historical accident are quite inexplicable. Similar developments in other languages are totally mystifying. This constitutes a quite strong argument that something is wrong with either the analysis of applicatives or the analysis of causatives or both.

The CG analysis presented in Chapter 6 (especially 6.7), with its strong semantic and syntagmatic parallels between the causatives and the applicatives, is clearly preferable to this.

**Syntactic vs. Lexical Causatives and Applicatives**

I have proceeded as if the Clause Union and Advancement Marker analyses were the only ways these phenomena could be treated in RG. I think it is fair to characterize these as the preferred analyses, and I know of no other good candidates for a syntactic analysis in either case. However, the door is open to consider any (or preferably, if this step is taken, all) the causatives and applicatives as lexically rather than syntactically formed. This is an either/or proposition: simplicity denies the possibility of any form being both syntactic and lexical (cf. e.g. Harris 1976:122-124). All things being equal, simplicity also argues for the syntactic against the lexical analysis, but such things as lack of productivity and semantic development

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6 The phenomenon of causative/applicative overlap is general in Uto-Aztecan (Langacker 1977:144-147). Perhaps it is cognate in all the daughter languages, though the suffixes themselves are not all cognate. In any case the survival of the phenomenon, if it is an unnatural one, would still be difficult to explain. The case of English and German be- was discussed in 6.7. I do not have other good examples from other languages; I fully expect, however, that that is more a measure of my ignorance than of their non-existence or rarity.

[Indeed! Various papers in Shibatani (ed.) *The Grammar of causation and interpersonal manipulation* (2002, John Benjamins) are among many publications showing that causative/applicative overlap is far from unusual in the world’s languages.]

7 The RG analysis might be able to express the similarity of the two kinds of constructions by either (a) positing a new kind of Clause Union, governed by upstairs verbs such as liya, which mean 'result', or (b) positing a new Grammatical Relation, namely Cause, and analyzing cases of causative -tiya as marking Cause-1 advancement. Neither move will probably seem too attractive to adepts of the theory.
of constructions beyond what might be expected from the combination of the parts may be taken as evidence that a lexical analysis is indicated.

The extent to which the TN causatives and applicatives are productive is difficult to ascertain: clearly novel expressions are hard to come by. And semantic specialization is very common: mač-tiya, as noted in 6.1, does not mean “announce”, though announcing is a way of causing knowledge as much as teaching is.\(^8\) The cases of non-canonical construals (6.3 and following) would have to be taken as clear examples of lexical formations in any case.

Thus the analysis is quite possible (in fact David Perlmutter suggested to me that it looks right for TN) that the causative and applicative constructions are not syntactically derived at all but are idiosyncratic lexical formations. mik-tiya and mač-tiya are listed in the lexicon as verbs, subcategorized to occur in clauses which have a 1 and a 2. They may be complex in some morphological sense (i.e. -tiya and -liya may be suffixes like -ceive is in English) but they are, like idioms, semantically and syntactically homogenous.\(^9\)

There are a number of objections to such a move. For instance, intuition says the forms are analyzable into clearly meaningful morphemes in a syntagmatic relationship: this says they are not. The parallelism of the forms with constructions in languages where Clause Union is posited is lost. Such productivity as there is would not be easy to deal with. Clearly such constructions were productive and thus presumably syntactic at some recent point in history; how and when did the switch take place? Were both analyses coexistent at some stage? If then, why not now? A less legitimate but practically far-reaching objection is that such an analysis effectively puts TN causatives and applicatives outside of the sphere of constructions which are theoretically interesting; RG, at least as it has been developed so far, has nothing to say about them.

The CG position on this issue, as discussed in some detail in 1.3 and 1.5, is that we are setting up a false dichotomy in separating lexical from syntactic constructions. mik-tiya and teši-liya and many other constructions are clearly units in their own right, entered into the lexicon, but that does not mean that they cease to be analyzable into syntagmatically combined components. Semantic drift is to be expected, and lack of clear evidence of productivity is nothing to be surprised at, but they do not signal a drastic change of status. The historical changes involved in upgrading the salience of the composite units at the expense of their componentiality were gradual, and the process is not yet complete. The TN constructions are parallel to constructions in many other languages, even though those constructions may be more productive and less susceptible to idiosyncratic developments.

**Verbalizing Usages and Non-Prototypical Construals**

It is not clear to me how RG would handle the verbalizing usages of causative-applicative suffixes. For the straightforward cases of causative adjective or postposition verbalization (cf. e.g. 6.2.j-k) it is quite possible that they could take the stem as being the predicate of an embedded clause and do a clause union analysis. (Cf. Perlmutter 1979 on using adjectives and nouns as predicates.) A similar analysis might be possible for noun verbalizations such as tōkā-ỹō-tiya (name-possd-caus) ‘name s.o.’, but it is probable that the analysis would have to be different for most cases where such notions as having the noun (rather than being the noun) are part of the predicate.\(^{10}\) This would mean that there would be homophonous suffix -tiya listed...

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8 I should be very surprised if causative and applicative constructions in other languages where RG analysts have posited Clause Union or Advancement to 2 do not show similar traits to some degree.

9 The theory of such morphology and of the lexicon in general is not worked out in detail in RG, so I will not argue here against this assumption, which I believe to be totally untenable, that lexical units are necessarily unanalyzable.

10 One possibility for a syntactic analysis would be to posit an abstract, “zero” verb meaning ‘have’, with an ad hoc requirement that its direct object be a noun rather than a pronoun and that it be incorporated to the Clause Union structure.
in the lexicon and used to verbalize nouns.\textsuperscript{11} Many of the Noun-\textit{tiya} combinations would also probably have to be listed in the lexicon (as semantically and syntactically unanalyzable units) because they show semantic idiosyncrasies. E.g. \textit{lāl-tiya} (cf. 6.2.a) would have to be a unit meaning ‘give s.o. (arable) land’, because it cannot mean ‘put dirt on s.o.’ (\textit{lāl-wiya}).

The non-canonical construals of Stem-Caus/Applic constructions such as 6.3.a-c, f, h, and j, etc., would also be simply chunked into the lexicon as unanalyzable units; analyses such as 8.c, violating universal laws, could not be tolerated. The homophony of the last two syllables of such lexical entries with cases of the causative -\textit{tiya} (or -\textit{liya}, or whatever) would be totally accidental, and there would be no explanation to show that it was even a historical accident.

\textbf{Summary}

In sum, the RG analysis is not able to present the differing constructions with suffixes such as -\textit{tiya} and -\textit{liya} as interrelated, varying in semantic detail and in degree of prototypicality and productivity but essentially the same sort of structure. It may (a) ignore them all, putting them all in the lexicon and thus claiming that they are idiosyncratic and syntactically and probably semantically unanalyzable. Alternatively, it may (b) take some of them (the prototypical causative and applicative cases) as being syntactically produced (in very different ways from each other) while the others (many verbalizations and all the non-canonical construals, including the many that are part-way between causatives and applicatives) would be relegated to the lexicon.

The CG analysis avoids these problems while capturing the same generalizations as does the RG analysis, and thus, to my mind, is clearly superior.

\textsuperscript{11} The productivity of -\textit{tiya} as a verbalizer would need some explanation. Usually productivity is taken as a sign of syntactic derivation, but as the theory of the lexicon is not yet developed, it is possible that lexical productivity will also be posited. In fact I doubt if it can be avoided.
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APPENDIX A

The Phonology of Tetelcingo Nahuatl

The Phonemic System

TN has the following consonant phonemes in native words:¹ p, t, k; č, ŵ; s, š, h; l, r, m, n, w, y. Also, recent Spanish loans may have the voiced stops (or fricatives) b, d, g, or the labio-dental fricative f. These are pronounced as follows: p, t, k are as in the Spanish of the area, which is closely equivalent to Mexico City standard Spanish. (k is, of course, orthographically c or qu in Spanish, depending on whether or not a front vowel follows). They are unaspirated, and t (and similarly n and d) is usually dental rather than alveolar. č and ŵ are also the same as their Spanish counterparts (orthographically ch and cu). ē is the non-palatally released sibilant affricate [tʰ], which does not occur as a Spanish phoneme, and ŵ is a laterally released (totally voiceless) affricate [ɭɭ], also foreign to Spanish. c̸ is IPA [θθ], like the English sh in ship. l and r are as in Spanish, except that they are voiceless when syllable final. m, n, and y are as in Spanish. w is labial [ββ] when it precedes a front vowel, and voiceless [w̥w̥ w̥w̥] or [ɸɸ ɸɸ] when it follows a consonant, including devoiced l or r, b, d, and g are as in the Spanish of the area, fricativized except postconsonantly or word or utterance initially, and f is also as in Spanish. The entrance of b into the system has messed up the w phoneme, making the [ββ] allophone contrast with the others; f has similarly interfered with the [θθ] or [ʃʃ] allophone.² As in Spanish or English, y is IPA [j].

A fairly conventional feature categorization for these consonants (and the categorization I will presuppose in the rules) is as follows:³

|   | p | t | k | ē | ŵ | s | š | h | l | r | m | n | w | y | b | d | g | f |
| Syllabic | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sonorant | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Obstruent | + | + | + | + | + | + | + | - | - | - | - | - | - | - | + | + | + |
| Consonantal | + | + | + | + | + | + | - | + | + | + | + | - | + | + | + | + | + |
| Continuant | - | - | - | - | - | + | + | + | + | - | + | + | + | + | + | + | + |
| Delayed Release | - | - | + | + | + | - | - | - | - | - | - | - | - | - | - | - | - |
| Strident | - | - | + | + | + | - | + | - | - | - | - | - | - | - | - | - | + |

¹ Previous accounts of the phonemic system of TN are in Pittman 1961 and Brewer and Brewer 1962.
² The practical orthographies used in such S.I.L. publications as Brewer and Brewer 1962 follow the traditional Nahuatl orthographies in retaining the Spanish spellings mentioned above. ŵ is represented as tl and ť as x, again following tradition. w is written as hu, ju, b, or f, depending on whether it is pronounced as [w], [ʃʃ], or [θθ].
³ This feature matrix follows Schane 1973:26-32 except that (1) I have employed a feature [oral obstruent] in addition to the more usual [sonorant], in order to permit h to be classified with the sonorants as a non-obstruent. Such a classification is necessary for stating the generalization embodied in Final Non-Obstruent Deletion (A.13). (2) I have filled the matrix out with minuses in certain places where Schane would leave blanks: e.g. I have called the continuants [-del rel] instead of leaving them unspecified for the feature.
The airstream to strike the upper teeth (Schane 1973:18, 28). \( \lambda \) is considered to be strident, since the lateral release is strongly fricated and clearly audible, and is produced by causing the airstream to strike the upper teeth.

The sonorants (non-obstruents) never occur word-finally. \( l \) and \( r \) are exceptions to this rule, because they are devoiced and obstruentized syllable-finally.) \( h \) occurs word-initially only in a few Spanish loans, and only rarely intervocally: almost all the cases where it does can be viewed as coming from reduplications. The quite common syllable-final \( h \)'s could be derived from \( w \) (or \( y \)), which never occur in that position: historically many were \( w \)'s, but many were \( h \) or \(?\).

There are eight vowels in TN, whose phonetic ranges are given impressionistically below. Arrows indicate the direction of gliding in pronunciation.

\begin{verbatim}
<table>
<thead>
<tr>
<th></th>
<th>Lateral</th>
<th>Nasal</th>
<th>Anterior</th>
<th>Coronal</th>
<th>High</th>
<th>Back</th>
<th>Rounded</th>
<th>Voiced</th>
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<tbody>
<tr>
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</tbody>
</table>
\end{verbatim}

\( \lambda \) is considered to be strident, since the lateral release is strongly fricated and clearly audible, and is produced by causing the airstream to strike the upper teeth (Schane 1973:18, 28). \( b, d, \) and \( g \) are represented as continuants, even though in initial or post-nasal position they may be true stops.

There are eight vowels in TN, whose phonetic ranges are given impressionistically below. Arrows indicate the direction of gliding in pronunciation.

\[ \begin{align*}
\text{A.a. Phonetic Ranges of TN Vowels} \\
[\text{\textit{u}}] & \text{is strongly rounded, [\text{\textit{o}}]} & \text{and [\text{\textit{o}}^\text{\textsuperscript{stress}}] rather less so. In Classical Nahuatl these vowels were organized into an \textit{i-e-a-o} system with a short and a long version of each vowel. The long vowels correspond to TN [\textit{i}], [\text{\textit{ie}}], [\text{\textit{o}}], and [\text{\textit{u}}], respectively, and the short ones to [\textit{i}], [\textit{e}], [\textit{a}], and [\textit{o}}^\text{\textsuperscript{stress}}]. There is abundant evidence that these pairings are still relevant. In reduplications (B.3) you often get a “short” vowel as the reduplication of a “long” one, or vice versa, and a good many other phonological alternations involve shifting one member of a pair to the other. In borrowed Spanish words, including apparently novel borrowings, stressed Spanish vowels are pronounced as “long”, and unstressed ones are often pronounced as “short”. (Penultimate stress is imposed whether or not the Spanish word had it.) Thus e.g. Spanish \textit{capitán} [\text{\textit{kap\textsuperscript{t}a\text{\textsuperscript{n}}}}] is borrowed as [\text{\textit{ka\textsuperscript{p}ta\text{\textsuperscript{	extit{a}}}]}]; \textit{arroz} [\text{\textit{a\text{\textsuperscript{r}o\textit{s}}}}] is TN [\text{\textit{ar\textsuperscript{u}}}]. One might propose a phonological feature of vague phonetic significance, such as “strong” or “tense”, to separate these vowels as below. I assume such an analysis in the body of the dissertation, and write the phonemes with a “long” macron to mark the “tense” or “strong” feature, particularly since this will make comparison with data from other dialects of Aztec easier.
\end{align*} \]
Sometimes I write an ō as u or ē as ie in words borrowed from Spanish which have the sounds and are customarily so represented (e.g. puro, ‘donkey’, from Spanish burro, or tiempo ‘time’ Sp. tiempo.)

The basic syllabic patters of TN are V, VC, CV, and CVC. Thus there are no initial nor final consonant clusters and no medial clusters larger than two, with the exception of a few Spanish loans which have initial CC or medial CCC clusters. There is a conspiracy of phonological rules to avoid such clusters (see e.g. Epenthesis (A.6) and the limitation on Perfective Stem Formation (A.5) that it not occur if more than one consonant precedes it or if the preceding consonant is stem-initial).

### Phonological Rules

Some of the more important phonological rules of TN are given below, with examples of the alternations motivating them. They are in an acceptable, if not a necessary, ordering. Particularly Perfective Stem Formation (A.5) must precede a number of the later rules. The rules following Y-Assibilation (A.9) are general rules and may be considered to be allophonic, although some of them neutralize positional contrast, and thus their outputs are not allophonic in the classical sense. Many of these rules are discussed in Tuggy 1979b. It should not be thought that I am presenting this as the analysis for the phonology of TN; there is evidence that many of these alternations should be motivated by suppletion and/or by more than one phonological rule. Such multiple analyses are the expected case in CG (1.3, 1.6). The evidence for more than one analysis of the data accounted for by Epenthesis (A.6) is summarized in Tuggy (1981).

The early examples are given according to the orthographical conventions I use in the body of the dissertation, following the practice of traditional phonemics in writing the outputs of rules which are morphologically governed or which have exceptions, except where they represent a neutralization of contrast. (E.g. I do not write the predictable variant [w] (A.15), but I do write the predictable variant [h] (A.14) of the phoneme /w/, since [w] could only be the allophone of /w/, whereas [h] could be the preconsonantal allophone of /w/, /h/, /y/, or, in certain cases, one or more stops, affricates, and fricatives; the pre-consonantal contrast between those phonemes is neutralized.) Thus in the early examples a form may bear the effects of a later rule: ki-mač-tiya has been given as an example of Palatalization (A.2) even though the underlying i (or perhaps an i introduced by Deactivation (A.1)) which is stated as part of the environment of A.2, has been deleted by Perfective Stem Formation (A.5). After a rule has been introduced, however, I write its output in all the following examples. Thus the word ‘he tells him’

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4 These vowels have been written a number of different ways in various practical orthographies and articles on TN. ī is usually i, sometimes ë; ī has been represented by i, i, i, i, and e; ē as ie (ye) or ē, a as a, ā as ō, ō, or ā, ő is o, and ŏ is u or ŏ. In most practical orthographies ī and ī have not been distinguished; in others ī and e have been merged. This is in response to pressure from the people, who want the Nahuatl to look and read like the Spanish orthography they have learned in school. For the same reason ē is usually written o even though it is related to o only phonetically. ī is phonetically [e] in most contexts for many younger speakers. Speakers often write o as u, especially where it is pronounced [o] (in complicated contexts involving stress, initial position, and adjacent velars or h), and they often write ʌ as cl, ʌ as ch, etc., giving the Spanish sound that is the nearest phonetic equivalent.
is written *ki-liwiya* until Liquid Obstruentization (A.12) has been introduced, then it is *ki-ɬwiya*, and after rules A.15 and A.16 (Semivowel Devoicing and Labialization) it is written *ki-ɬɨiya*, representing the phonetic values of the segments in the word.

(Various fairly standard abbreviations and formalisms from the generative grammar tradition are used here without definition.)

**A.1. Deactivation**

\[ a \rightarrow i / \bar{\text{____}} \neq \{ \text{-lis 'nr', -tiya 'caus', etc.} \} \]

\((\neq = \text{"stem boundary"})\)

<table>
<thead>
<tr>
<th>ki-pāka</th>
<th>‘he cleans it’</th>
<th>ki-pāki-liya</th>
<th>‘he cleans it for him’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-clean</td>
<td></td>
<td>it-clean-applic</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>λa-pah-pāki-lis-λi</th>
<th>‘(a) cleansing’</th>
</tr>
</thead>
<tbody>
<tr>
<td>unspec-rdp-clean-nr-abs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>čōka</th>
<th>‘he cries’</th>
<th>ki-čōkī-tiya</th>
<th>‘he mourns him’</th>
</tr>
</thead>
<tbody>
<tr>
<td>cry</td>
<td></td>
<td>him-cry-caus</td>
<td></td>
</tr>
</tbody>
</table>

**A.2. Palatalization**

\[-son\] \[+ant\] \[+cor\] \[+hi\] \[____ i \neq \{ \text{-lis ‘nr’, -tiya ‘caus’, etc.} \} \]

<table>
<thead>
<tr>
<th>ki-māla</th>
<th>‘he hurls it’</th>
<th>ki-mōči-liya</th>
<th>‘he hurls it at him’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-hurl</td>
<td></td>
<td>him-hurl-applic</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ki-mati</th>
<th>‘he knows it’</th>
<th>ki-mač-tiya</th>
<th>‘he teaches him’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-know</td>
<td></td>
<td>him-know-caus</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>tesi</th>
<th>‘she grinds (corn)’</th>
<th>ki-teši-liya</th>
<th>‘she grinds (corn) for her’</th>
</tr>
</thead>
<tbody>
<tr>
<td>grind</td>
<td></td>
<td>her-grind-applic</td>
<td></td>
</tr>
</tbody>
</table>

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5 This rule has definite semantic effects in some cases, amounting almost to a change of morphemes. Some of the crucial cases are discussed briefly in 3.2.
A.3. Tensing

\[-\text{tiya} \text{ ‘caus’}\]

\[V \rightarrow [+\text{tns}] / \_\_\_ \neq \{ -\text{lo} \text{ ‘3 pers hon’} (\text{etc.})\]

<table>
<thead>
<tr>
<th>čōka</th>
<th>‘he cries’</th>
<th>ki-čōk-\text{tiya}</th>
<th>‘he makes him cry’</th>
</tr>
</thead>
<tbody>
<tr>
<td>cry</td>
<td></td>
<td>him-cry-caus</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ki-soso</th>
<th>‘he pricks it’</th>
<th>ki-sosō-\text{lo}</th>
<th>‘he hon pricks it’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-prick</td>
<td></td>
<td>it-prick-hon</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>nemi</th>
<th>‘he lives’</th>
<th>ki-nemī-\text{tiya}</th>
<th>‘he vivifies him’</th>
</tr>
</thead>
<tbody>
<tr>
<td>live</td>
<td></td>
<td>him-live-caus</td>
<td></td>
</tr>
</tbody>
</table>

A.4. Contraction

\[[+\text{hi}] \ [+\text{hi}] \ [+\text{hi}]\]

\[\text{[+syl]} \rightarrow [+[\text{syl}]] / \_\_\_ \text{C}\]

<table>
<thead>
<tr>
<th>ki-h\text{htow-a}</th>
<th>‘he says it’</th>
<th>ki-h\text{tō-s}</th>
<th>‘he will say it’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-say-pres</td>
<td></td>
<td>it-say-fut</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ki-l\text{lwiy-a}</th>
<th>‘he tells him’</th>
<th>ki-l\text{wī-s}</th>
<th>‘he will tell him’</th>
</tr>
</thead>
<tbody>
<tr>
<td>him-tell-pres</td>
<td></td>
<td>him-tell-fut</td>
<td></td>
</tr>
</tbody>
</table>

A.5 Perfective Stem Formation

\[\text{preterite tense}\]

\[-\text{ki} \text{ ‘pret pl’}\]

\[V \rightarrow \emptyset / VC \_\_\_ \neq \{ -\text{tiya} \text{ ‘caus’} \}
\text{-\text{tika} \text{ class aspect markers (etc.)}\}

<table>
<thead>
<tr>
<th>miki</th>
<th>‘he dies’</th>
<th>o-mik</th>
<th>‘he died’</th>
</tr>
</thead>
<tbody>
<tr>
<td>die</td>
<td></td>
<td>past-die.perf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>mik-tika</th>
<th>‘he is dying’</th>
<th>o-mih-mih-\text{ki}</th>
<th>‘they died’</th>
</tr>
</thead>
<tbody>
<tr>
<td>die.perf-dur</td>
<td></td>
<td>past-rdp-die.perf-pret.pl</td>
<td></td>
</tr>
</tbody>
</table>
A.6. Epenthesis

\[ \emptyset \rightarrow \{ , \# \} C \_+ \{ C, \# \} \]

\[ \{ C, \# \} \_+ C \{ C, \# \} \]

<table>
<thead>
<tr>
<th>ni-k-nekí</th>
<th>‘I want it’</th>
<th>ki-nekí</th>
<th>‘he wants it’</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-it-want</td>
<td></td>
<td>it-want</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>n-asi</th>
<th>‘I arrive’</th>
<th>ni-k-asi</th>
<th>‘I grasp it’</th>
</tr>
</thead>
<tbody>
<tr>
<td>I-arrive</td>
<td></td>
<td>I-it-arrive</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>kʷawi-ƛ</th>
<th>‘tree’</th>
<th>kʷah-me</th>
<th>‘trees’</th>
</tr>
</thead>
<tbody>
<tr>
<td>tree-abs</td>
<td></td>
<td>tree-pl</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>tēčawi-ƛ</th>
<th>‘omen, miracle’</th>
<th>tēčawi-me</th>
<th>‘omens, miracles’</th>
</tr>
</thead>
<tbody>
<tr>
<td>omen-abs</td>
<td></td>
<td>omen-pl</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>nēč-dihta</th>
<th>‘he sees me’</th>
<th>mo-hhta</th>
<th>‘he sees himself’</th>
</tr>
</thead>
<tbody>
<tr>
<td>me-see</td>
<td></td>
<td>refl-see</td>
<td></td>
</tr>
</tbody>
</table>

A.7. Vowel Harmony

\[ i \rightarrow o / \_ \{ , k-om- \} \quad \text{‘refl’} \]

\[ \text{‘him+hence’} \quad \text{(somewhat optional)} \]

<table>
<thead>
<tr>
<th>ti-mo-hta</th>
<th>‘you see yourself’</th>
<th>to-mo-hta</th>
<th>‘you see yourself’</th>
</tr>
</thead>
<tbody>
<tr>
<td>you-refl-see</td>
<td></td>
<td>you-refl-see</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>no-k-on-ihta-k</th>
<th>‘I (went and) saw it’</th>
<th>to-k-wāl-on-ihta-k</th>
<th>‘you (came and) saw it’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-it-hence-see-pret</td>
<td></td>
<td>you-it-hither-hence-see-pret</td>
<td></td>
</tr>
</tbody>
</table>

A.8. Vowel Deletion

\[ V \rightarrow \emptyset / \_ \_ + V \]

<table>
<thead>
<tr>
<th>mo-hta</th>
<th>‘he sees himself’</th>
<th>m-antrekār-owa</th>
<th>‘he surrenders’</th>
</tr>
</thead>
<tbody>
<tr>
<td>refl-see</td>
<td></td>
<td>refl-surrender-vr</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>m-asi</th>
<th>‘he bases himself’</th>
</tr>
</thead>
<tbody>
<tr>
<td>refl-grasp</td>
<td></td>
</tr>
</tbody>
</table>
A.9. Y-Assibilation

\[ y \rightarrow š / \text{____} \{C, \#\} \]

<table>
<thead>
<tr>
<th>ki-piya</th>
<th>‘he has it’</th>
<th>o-ki-piš</th>
<th>‘he got it’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-have</td>
<td></td>
<td>past-it-have.perf</td>
<td></td>
</tr>
<tr>
<td>λa-čiya</td>
<td>‘he looks around’</td>
<td>λa-čiš-tika</td>
<td>‘he is looking around, is awake’</td>
</tr>
<tr>
<td>unspec-await</td>
<td></td>
<td>unspec-await.perf -dur</td>
<td></td>
</tr>
</tbody>
</table>

A.10 Lowering

\[ ō \rightarrow o / \text{____} wa \]

<table>
<thead>
<tr>
<th>ki-powa</th>
<th>‘he tells it’</th>
<th>ki-pōwi-liya</th>
<th>‘he tells it to him’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-tell</td>
<td></td>
<td>him-tell-applic</td>
<td></td>
</tr>
<tr>
<td>λa-pōwi-lis-λi</td>
<td>‘story, account’</td>
<td>unspec-tell-nr-abs</td>
<td></td>
</tr>
<tr>
<td>ki-kowa</td>
<td>‘he buys it’</td>
<td>ki-kōwi-liya</td>
<td>‘he buys it from him’</td>
</tr>
<tr>
<td>it-buy</td>
<td></td>
<td>him-buy-applic</td>
<td></td>
</tr>
</tbody>
</table>

A.11. Nasal Assimilation

\[ [+nas] \rightarrow [αant] / \_ C \]

| λami | ‘it ends’ | o-λaŋ-ki | ‘they ended’ |
| end |         | past-end.perf.pl.pret |          |
| λan-tika | ‘it is ending’ | end.perf-dur |          |

A.12 Liquid Obstruentization

\[ [+cns] \rightarrow [+obs] / \_ \{C, \#\} \]

\[ [-nas] \rightarrow [(-vd)] \]

6 This process is less general in TN than it was in Classical Nahua; cf. rule A.14 below.
A.13. Final Non-Obstruent Deletion

\[ [-\text{syl}] \rightarrow \emptyset / \_\_\_\_\# [-\text{obs}] \]

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>kal-i</td>
<td>‘house’</td>
<td>kal-me / kal-te</td>
<td>‘houses’</td>
</tr>
<tr>
<td>house-abs</td>
<td></td>
<td>house-pl / house-pl</td>
<td></td>
</tr>
<tr>
<td>no-kał</td>
<td>‘my house’</td>
<td>koṛmēna</td>
<td>‘bee’ (Sp. cormena)</td>
</tr>
<tr>
<td>my-house</td>
<td></td>
<td>bee</td>
<td></td>
</tr>
</tbody>
</table>

A.14 Semivowel Spirantization

\[ [-\text{syl}] \rightarrow h / \_\_\_\_\_\_\_C [-\text{cns}] \]

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>kʷaw-iɺ</td>
<td>‘wood, tree’</td>
<td>i-kʷa</td>
<td>‘his wood, tree’</td>
</tr>
<tr>
<td>tree-abs</td>
<td></td>
<td>his-tree</td>
<td></td>
</tr>
<tr>
<td>čân-ɺi</td>
<td>‘home, dwelling’</td>
<td>i-čā</td>
<td>‘his home, dwelling’</td>
</tr>
<tr>
<td>home-abs</td>
<td></td>
<td>his-home</td>
<td></td>
</tr>
<tr>
<td>ki-htōw-a</td>
<td>‘he says it’</td>
<td>o-ki-hto</td>
<td>‘he said it’</td>
</tr>
<tr>
<td>it-say-pres</td>
<td></td>
<td>past-it-say.perf?</td>
<td></td>
</tr>
<tr>
<td>ki-lwiy-a</td>
<td>‘he tells him’</td>
<td>o-ki-lwi</td>
<td>‘he told him’</td>
</tr>
<tr>
<td>him-tell-pres</td>
<td></td>
<td>past-him-tell.perf?</td>
<td></td>
</tr>
<tr>
<td>puro</td>
<td>‘donkey’</td>
<td>puroh-te</td>
<td>‘donkeys’</td>
</tr>
<tr>
<td>burro</td>
<td></td>
<td>burro-pl</td>
<td></td>
</tr>
</tbody>
</table>

---

7 Note that l and r do not delete by this rule, because they are obstruent in word-final position (A.12).

8 In Classical Nahuatl w became voiceless [w̥] in this environment, and y became š, at least in most cases (see A.9 above).
A.15. Semivowel Devoicing

[-syl]  [-vd ]  
[-cns]  [+asp]  /  C  ___  
[-vd]

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|-----------------------------------------------|
| 298                                           |

\[
\begin{array}{|c|c|c|}
\hline
\text{tehwā} & \text{‘we’} & \text{iḥya-k} \\
\text{we} & & \text{stinky-adj} \\
\text{i-kat-wā} & \text{‘his houses’} & \text{i-kak-wā} \\
\text{his-house-possd.pl} & \text{‘his guaraches’} & \\
\hline
\end{array}
\]

A.16. Labialization

[-syl]  [-bac]  
[-cns]  [+cns]  /  V  
[-ant]  [+ant]  [-bac]  [-hi ]

\[
\begin{array}{|c|c|c|}
\hline
\text{ki-čīwa} & \text{‘he does it’} & \text{ki-čībi-liya} \\
\text{it-do} & & \text{him-do-applic} \\
\text{kiθiˈya} & \text{‘he tells him’} & \\
\text{(phonetic form of ki-ḥwiya him-tell)} & & \\
\text{kʷaβiƛ} & \text{‘tree’} & \\
\text{(phonetic form of kʷaw-iƛ tree-obs)} & & \\
\hline
\end{array}
\]

9 The sequence \( k w \) is often reinterpreted as a unit \( kʰ \), in which the \( w \) offglide is still more or less voiceless, but less strongly aspirated than with the sequence \( [kʰw] \).
A.17. Dissimilation\(^{10}\)

\[
\begin{array}{c|c|c}
\text{ki-mati} & \text{miki} & \text{mo-pāki-lis} \\
it-know & die & your-rejoice-nr \\
\end{array}
\begin{array}{c|c|c|c}
\text{ki-mah-tika} & \text{o-mih-mih-ki} & \text{mo-pek-te} & \text{ne-mo-yekas-te-moh-molōni-h-čīnhō-tā-s-ki'yā-ya} \\
\end{array}
\begin{array}{c|c|c|c}
\text{’he knows it’} & \text{’he dies’} & \text{’he arises’} & \text{’your joy’} \\
\text{’he realizes’} & \text{’they died’} & \text{’you hon arise’} & \text{’your (hon) joy’} \\
\end{array}
\]

\[
\text{where if } a, \text{ then } b; \text{ and if } c, \text{ then } d
\]

A.18. Penultimate Stress

\[
V \rightarrow [+\text{str}] / ___ C_0 V C_0 #
\]

\[
\begin{array}{c|c|c|c}
miki & \text{to-mo-nekē-ti}ya & \text{ne-mo-yekas-te-moh-molōni-h-čīnhō-tā-s-ki'yā-ya} \\
die & you-refl-want-caus & you-pl-refl-nose-stone-rdp-flower-trns-hon-ambulative-fut-would've-impf \\
\end{array}
\begin{array}{c|c|c|c}
’he dies’ & ’you hon want it’ \\
\end{array}
\]

\[
\text{‘you pl. hon would have gone along banging your noses so that they bled’}
\]

\(^{10}\) This rule is discussed in Tuggy (1979c) in connection with the angle bracket formalism. This formalism permits collapsing of what must otherwise be written as three rules, one for stops, one for affricates, and one for fricatives, capturing the generalization that essentially the same process is involved in all three cases. From the vantage point of CG, where simplicity is not the most highly valued attribute of a model, the sub-rules that necessitate the use of angle brackets (those involving the affricates and fricatives) will be listed separately from the sub-rule without them (which deals with the stops); indeed, there may well be a separate rule for each of the phonemes involved. These will coexist with generalizing schemas of various degrees of importance in the phonological system, including one corresponding to the rule as here listed, but without the necessity of stating all the facts about the distributions of all of the subcases in this one place. One piece of evidence that the sub-rules are in fact separate (as well as obviously united by a generalization) is that the rule is somewhat optional (fast-speechy) with the sibilant fricatives (e.g. either \textit{īh-čī-čīl-ti-k} or \textit{iš-čī-čīl-ti-k} can be heard, with the former predominating in fast or sloppy speech), less so with the affricates, and not at all with the stops. The theory of Natural Phonology (Stampe et. al.) accounts for cases such as these by analyzing them as multiple cases (hence distinct) of a single natural process (hence the same); there is something right about that treatment.
A.19. Y-Epenthesis\textsuperscript{11}

\[+\text{syl}\]
\[-\text{bac}\]
\[\emptyset \rightarrow y / \# \quad -\text{nts}\]
\[-\text{str}\]

<table>
<thead>
<tr>
<th>m-e’sōλa</th>
<th>‘he vomits’</th>
<th>yeso’λa-l-i</th>
<th>‘vomit’</th>
</tr>
</thead>
<tbody>
<tr>
<td>refl-vomit</td>
<td></td>
<td>vomit-nr-abs</td>
<td></td>
</tr>
<tr>
<td>tē-ik’nī-wā</td>
<td>‘his (hon) brothers’</td>
<td>yikni-λ</td>
<td>‘brother’</td>
</tr>
<tr>
<td>his.hon-sibling-possd.pl</td>
<td></td>
<td>sibling-abs</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{11} The notation \([\text{!str}]\) (borrowed from Natural Phonology) means “especially if stressed”. The rule with \(e\) seems to be more independent of stress than is the case with \(i\). In the case of \(e\) it is not clear that this is not a rule tensing it to \(ē\).
APPENDIX B

The Verbal Morphology of Tetelcingo Nahuatl

The verbal morphology of Tetelcingo Nahuatl which has to do with the transitivity of the verb stem is summarized briefly in 1.2 and discussed in detail in the body of the dissertation and in later appendices. Here we will survey quite superficially the other most salient features of the verbal morphology. In B.1 below we scan the morphological markings of the most commonly used tenses, namely the present, imperfect, preterite, future, and imperative/subjunctive. Verbs are usefully divided into four major classes on the basis of how they mark these tenses. In B.2 we briefly view the counterfactuals and conditionals, two large groups of “aspect markers”, directionals, and nominalizers. And in B.3 we survey reduplications, plurality markers, and markers of the honorificness of the subject or object of the verb.

B.1 Basic Tenses and Verb Classes

Tenses and Tense Markings

The most commonly used tenses in TN are the present, imperfect, preterite, future, and imperative/subjunctive. Their marking is as follows: Present is unmarked or marked by a suffix -a. Imperfect is marked by -ya. Verbs which take the suffix -a in the present retain it (as ā, preceding the ya) in the imperfect. Neither the present nor the imperfective has a plural marker that is used with it. Preterite is marked by a truncation of the stem (i.e. by the application of Perfective Stem Formation, A.5) or, failing that, by a suffix -k in the singular; -ki is the plural marker in either case. Both preterites and imperfects often take a prefix or proclitic o- (ō- when stressed) ‘past’. This marker precedes the SP; it is optional with long verbs, preferred with many short (2-3 syllable) verbs, especially those with a one-syllable stem, and obligatory with otherwise one-syllable verbs. I will use it in examples only where it seems to be preferable or obligatory. Future is marked by the suffix -s, with plural -s-ki. Imperatives and (for most speakers) other 2 pers subjunctives are marked by the imperative Subject Pronoun ši-/š-; they and other subjunctives are otherwise unmarked in the singular, and take the plural suffix -kā. There are many other alternations that can be viewed as resulting from these ones by way of the phonological rules discussed in Appendix A.

The Four Verb Classes

The different ways in which these tenses are marked form the basis for distinguishing four classes of verbs. The morphological distinctions among these classes can be motivated, at least to some extent, by phonological considerations (Tuggy 1979b attempted to do this as far as possible), but there is a certain degree of ad hoc-ness involved: it is not always possible to totally predict which class a verb is in on the basis of its phonological shape unless that shape itself is unmotivatedly abstract.

My Classes I-IV parallel Andrews’ (1975:19-21) Classes A-D. Class I corresponds to Çanger’s (1980:46-47) Class III, II to her IV, III to her II, and IV to her I.
Class I verbs are those that take the suffix -k to mark their preterite singular forms. Examples of verbs in this class are maka ‘give, hit’ and asi ‘arrive’. Representative forms of maka (here glossed ‘hit’) are given below.

<table>
<thead>
<tr>
<th>Class I Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ki-maka</td>
</tr>
<tr>
<td>hi-m-hit</td>
</tr>
<tr>
<td>ki-maka-k</td>
</tr>
<tr>
<td>hi-m-hit-pret.sg</td>
</tr>
<tr>
<td>ši-k-maka</td>
</tr>
<tr>
<td>impv-him-hit</td>
</tr>
<tr>
<td>ki-maka-s</td>
</tr>
<tr>
<td>hi-m-hit-fut</td>
</tr>
</tbody>
</table>

Class II verbs undergo truncation (Perfective Stem Formation, A.5) to derive their preterite forms. Examples of this class are keća ‘stand s.t. up’ and mīki ‘die’. Representative forms of keća are given below. Class II has more simple (non-derived) stems in it than any of the others. Many of the phonological rules in Appendix A (and some others) are triggered by the truncation, resulting in changes in the shape of the stems.

<table>
<thead>
<tr>
<th>Class II Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ki-keća</td>
</tr>
<tr>
<td>it-stand</td>
</tr>
<tr>
<td>o-ki-keć</td>
</tr>
<tr>
<td>past-it-stand.perf</td>
</tr>
<tr>
<td>ši-h-keća</td>
</tr>
<tr>
<td>impv-it-stand</td>
</tr>
<tr>
<td>ki-keća-s</td>
</tr>
<tr>
<td>it-stand-fut</td>
</tr>
</tbody>
</table>

Class III probably has more stems than any other, though most if them are derived from a simpler stem and one of the Class III causative/applicative suffixes (Chapter 6, Appendix G). This class uses the morpheme -a ‘present/imperfect’, which I here gloss ‘pres(ent)’. Usually in the text I give Class III forms in their citation form, with the -a, but without setting it off as a separate morpheme; occasionally, e.g. when it is desirable to set off Class III from Class II or Class I forms, I mark the -a ‘pres’. All (and only) verbs

---

2 All one-syllable stems and stems ending in CCV are Class I. Almost all stems ending in ka, ŋa, sV, or kʷV are Class I, although there are exceptions to this rule. For instance the stem ŋa-ka ‘close’ behaves differently in the forms m-ňhų-ţakʷa (refl-breath-close) ‘suffocate’ and ţa-h-ţakʷa (rdp-close) ‘close up’: m-ňhy-ţakʷa-k (refl-breath-close-pret.sg) ‘he suffocated’ shows Class I morphology, while o-ki-ţa-h-ţa (past-him-close.perf) ‘he shut him up (e.g. in jail)’ shows Class II morphology. (kʷ becomes k syllable finally.) There are also other types of Class I stems besides those mentioned above, including all stems formed with the suffix tiya ‘inchoative’ (not to be confused with the Class III suffix -tiy-a ‘causative’ discussed in 6.1-4).
ending in ow-a and iy-a in this class. The Class III preterite singular can be analyzed as either unmarked or formed by truncating the -a off. Representative forms of hto-w ‘say’ and hwiy-a ‘tell’ are given below.

<table>
<thead>
<tr>
<th>Class III Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>-owa</td>
</tr>
<tr>
<td>ki-htow-a</td>
</tr>
<tr>
<td>it-say-pres</td>
</tr>
<tr>
<td>ki-htow-ā-ya</td>
</tr>
<tr>
<td>it-say-pres-impf</td>
</tr>
<tr>
<td>o-ki-hto</td>
</tr>
<tr>
<td>past-it-say.perf?</td>
</tr>
<tr>
<td>o-ki-htoh-ki</td>
</tr>
<tr>
<td>past-it-say.perf?-pl.pret</td>
</tr>
</tbody>
</table>

3 Although all verbs ending in ow-a and iy-a are in this class, there are verbs in owa and iya that are not (e.g. Class I wela-tyia (cripple-inchoa) ‘go lame’ and Class II kowa ‘buy’). Thus there is a kind of circularity or ad hoc-ness about the prediction: essentially the only way you can tell whether you have an ow-a or an owa verb is to see if it is a Class III Verb or not.

4 There is controversy over whether the w and the y are “really” there in these verbs in Aztecan or whether they are merely phonetic transitions, introduced by a very natural allomorphic rule. Classically the forms were usually written with wa and ya, but everyone admits that the classical scribes often left “real” w’s and y’s out. Çanger (1980) considers the question in detail, and finds evidence for historical w’s here in that this allows the odd applicative -hwiy-a (Appendix G), which is used on ow-a verbs, to be derived by metathesis from w-liy-a (pp. 100-131; cf. a similar proposal rejected in Tuggy 1979b). But she emphatically claims that in Classical and all modern dialects these verbs must be analyzed synchronically as ending in ow and iya, in contrast with other verbs (Class II) in owa and iya, and she roundly scores those who have analyzed them differently. (Elsewhere, e.g. p. 27, she is more tolerant: “…I wish to emphasize that both descriptions [her i-ya and Carocho et al.’s i-a] of the formation of the imperfect describe the situation adequately, and if we prefer one above the other, then that is a matter of choice and theoretical background.” And she scores Andrews for seeming unwilling to accept Carocho’s i-a analysis as a possible one.) Vázquez Soto (for Classical Nahuatl, 1977:120-122) and Burnham (for Rafael Delgado (Orizaba) Nahuatl, 1981a:45) posit an underlying i or o here; Çanger (1980:116) claims this historically (not synchronically) with h for the iy-a (not the ow-a) verbs.

Assuming the semivowels to be underlying for TN (and I write them throughout) makes the allomorphies easier to explain: the tense vowels in the sbjnct pl and fut are results of Contraction (A.4), the h’s (pret pl, tilka class suffixes) are from Semivowel Spirantization (A.4), the short final vowels (pret sg and sbjnct sg) are from Final Non-Obstruent Deletion (A.13), and the semivowels are from being there all along. Also supporting the notion of the w’s being there is the fact that in at least two cases where w’s have changed to a sound less likely to be transitional, the ow-a verbs have changed too: TN owa corresponds to Rafael Delgado (Orizaba) osha (Burnham 1981a:45) and to uwa in an old ms. from near Toluca (Lockhart 1981).

As is usual in such matters, the truth is probably that there is truth in all these analyses: the semivowels are phonetic transitions and can be analyzed as such, but they are not merely phonetic transitions. They may be taken as underlying and the other forms derived from them, but the contrary analyses may hold as well. -hwiy-a may well be a metathesis of w-liy-a, but that need not be all that it is: it exists in its own right as a suppletive form. See the discussion in 1.4 and in Tuggy 1981 in support of allowing such multiple analysis.

One interesting parallel, showing the interaction of a “phonetic transition” rule with suppletion, is that of the Classical possessive pronoun stem āškā. The most common usages of this stem would be with a preceding ñ ‘his’ in āškā ‘his’ and with a preceding o in no-āškā ‘mine’, to-āškā ‘ours’, mo-āškā ‘yours’, or amo-āškā ‘yours (pl)’. Almost certainly there was a transitional w after the o and a transitional y after the i. Of four modern dialects described in one volume, one (Huasteca Nahuatl, Beller and Beller 1979:242) retains the form āška, another (Michoacán Nahuatl, Sischo 1979:340) has yaška in all environments, and a third (TN) has wāškā in all environments. The fourth (North Puebla Nahuatl, Brockway 1979:158) has the form listed as -waška/-yaška: from the examples it is apparently w after back vowels and y after front ones, as we should expect.

5 Deleting the -a by Perfective Stem Formation (A.5) can be used to account for the otherwise arbitrary fact that all and only the forms where Perfective Stem Formation applies in Class II verbs (preterite forms and forms with tilka-class suffixes) show the effects of Semivowel Spirantization (A.4); other cases where the -a is not present (simply not spelled, in this analysis) show the effects of Contraction (A.4). However, there are problems with this analysis, mostly engendered by trying to account for Class IV verbs in a similar way in order to preserve the generalizations holding between them.
Class IV is quite a small class, comprising eight forms and their derivatives that I know of, and some of the eight are defective (e.g. the morpheme -a ‘pres’ of the Class III verbs shows an alternation characteristic of the class, but it only occurs in the present and imperfect). However, it includes the forms for ‘eat’ and ‘go’, and so is of rather frequent occurrence. All of its members end in a in the present tense. It parallels Class II in several respects.6

Representative forms of $k^\#a$ ‘eat’ are given.

<table>
<thead>
<tr>
<th>Class IV Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ki-$k^#a$</td>
</tr>
<tr>
<td>o-ki-$k^#(k)$</td>
</tr>
<tr>
<td>$\ddot{s}i$-$h$-$k^#a$</td>
</tr>
<tr>
<td>$k^#a$-$s$</td>
</tr>
</tbody>
</table>

These four classes include the regular verb forms of TN. There are a number of irregular verb paradigms, including some with totally suppletive stems for different tenses or for honorific usage, and some with bits and pieces left over from their phonological shape of years ago. They will not be at all crucial to this study.

6 These respects prove embarrassing for a nice neat phonological analysis of Class III verbs; unless multiple analyses are permitted generalizations are lost. This dilemma is investigated and presented in Tuggy 1979b. Most of these verbs apparently historically ended in aha; ya ‘go’ was perhaps yawa (Çanger 1980:61,119, Campbell and Langacker 1978:264,#(51))

7 Many younger speakers use the -k here, though not on other Class IV verbs. Some also use it occasionally on Class III preterites. Sometimes in these cases it seems to bear an ‘over and done with’ nuance.
B.2. Conditionals, Aspect Markers, and Such-like

Conditionals, Counterfactuals, Irrealis

There is a suffix *-ni* (which behaves morphologically like the suffix *-ya* ‘imperfect’) which means ‘counterfactual, irrealis’. There is a complex of suffixes built from the future suffix *-s* followed by an element *-kiya* which in turn may be followed by *-ni* or *-ya*, which mean, more or less, ‘would have, was going to’ (*-kiya* takes the form *-kiyā* before *-ni* or *-ya*, according to the pattern of either Class III or Class IV verbs.) A few examples are given below.

<table>
<thead>
<tr>
<th>ni-k-čīwa-ni</th>
<th>‘(if) I had done it (but I didn’t)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-it-do-irr</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ni-k-čīwa-s-kiya</th>
<th>‘I was going to do it (but I (probably) didn’t)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-it-do-fut-would’ve</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ni-k-čīwa-s-kiyā-ya</th>
<th>‘I intended to do it (and maybe did)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-it-do-fut-would’ve-impf</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ni-k-čīwa-s-kiyā-ni</th>
<th>‘I would have done it (but I didn’t) / if I had done it (but I didn’t)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-it-do-fut-would’ve-irr</td>
<td></td>
</tr>
</tbody>
</table>

-**to** Class Aspect Markers

There is a class of aspect markers which behaves morphologically like the subjunctive plural suffix *-kā* and the future suffix *-s* (and thus like the *-s-kiya* forms above). It consists of four forms: *-ti* ‘go and Verb’, *-kī* ‘come and Verb’ (plurals *-ti-we* and *-kī-we*) and their preterite counterparts *-to* and *-ko*. I will refer to these as *to*-class suffixes; some examples of their usage are given below.

<table>
<thead>
<tr>
<th>ki-čīwa-to</th>
<th>‘he/they went and did it / went to do it (and did it)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-do-went.and</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ti-miṭ-ilwē-tī-we</th>
<th>‘we have come to tell you’</th>
</tr>
</thead>
<tbody>
<tr>
<td>we-you-tell-come.and-pl</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ši-tekti-tī</th>
<th>‘Go work!’</th>
</tr>
</thead>
<tbody>
<tr>
<td>impv-work-go.and</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>wāl-mo-kʷepa-ko</th>
<th>‘he came back (here)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>hither-refl-turn-come.and</td>
<td></td>
</tr>
</tbody>
</table>

1 As far as I know an *i-o* contrast never elsewhere distinguishes present from preterite forms.
-tika Class Aspect Markers

A rather larger class of aspect markers behaves morphologically like -ki ‘preterite plural’, affixing to a perfective stem in Class II verbs and to a tense-vowel version of Class III and IV verbs. It includes the following suffixes: -ti ‘go’, Verbing as you go’ (pl -ti-we, past/subjunctive/irrealis -ta/-tah/-tā, according to the pattern of Class IV verbs, with no plural marker), -tehkō2 ‘go, Verb, and return/verb upon arrival (there)’, -ta ‘durative (except present indicative)’ and a group of suffixes formed from a connector? -ti- and a verb.3 They include: ti-ka (conn-be) ‘present indicative durative, be Verbing’ (pl -tika-te), ti-kīsa (conn-emerge) ‘suddenly Verb’, ti-nemi (conn-walk) ‘ambulative, go around Verbing’, ti-wīc (conn-come) ‘come Verbing’ (pl ti-wīc-i), t-ēwa (conn-arise) ‘Verb quickly’, and ti-weči (conn-fall) ‘Verb suddenly/quickly’. Examples of their usage are given below.

<table>
<thead>
<tr>
<th>Mik-tika</th>
<th>‘He is dying’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Die PERF-Dur</td>
<td></td>
</tr>
<tr>
<td>O-mik-ta-ya</td>
<td>‘He was dying’</td>
</tr>
<tr>
<td>Past Die PERF-Dur-IMP</td>
<td></td>
</tr>
<tr>
<td>Ti-miś-îlwihi-ti-we</td>
<td>‘We are telling you as we go’</td>
</tr>
<tr>
<td>We-you-tell-go. Verbing-pl</td>
<td></td>
</tr>
<tr>
<td>Lā-nō-nōč-ta-ya</td>
<td>‘He was talking, yakking, preaching’</td>
</tr>
<tr>
<td>Unspec-rdp-call.PERF-DUR-IMP</td>
<td></td>
</tr>
<tr>
<td>Lā-nō-nōč-tā-ya</td>
<td>‘He was talking, yakking, preaching as he went’</td>
</tr>
<tr>
<td>Unspec-rdp-call.perf-go. Verbing-IMP</td>
<td></td>
</tr>
<tr>
<td>Lā-nō-nōč-tinemi-ya</td>
<td>‘He was going/used to go around talking/yakking/preaching’</td>
</tr>
<tr>
<td>Unspec-rdp-call.perf-ambulative-IMP</td>
<td></td>
</tr>
<tr>
<td>Ši-k-wiča-tiweči</td>
<td>‘Hurry up and take it (away)!’</td>
</tr>
<tr>
<td>Impv it-carry-quickly</td>
<td></td>
</tr>
</tbody>
</table>

Directionals

Perhaps resulting historically from adverb incorporations are two adverbial prefixes, traditionally known as directionals, but exhibiting a wide variety of usages not directly connected with physical motion or position. They are -on ‘hence, immediately, past?’ and wāl- ‘hither, result’. The semantics of these forms is extremely complex, and their distribution with respect to other prefixes is also not easy to state. For instance, they precede the 3 pers pl object marking element -în- (5.1), and usually the reflexive (honorific) mo- (5.3), as well as the unspecified OP lā- (5.4) (which is often preceded by other incorporated stems as well). A few examples of their usage are given below.

---

2 This suffix occurs only in subjunctive and future forms. Like Class III verbs, it tenses to -tehkō before marker -s or the subjunctive plural marker -kā, e.g. -tehkō-kā.

3 The -ti was likely an old participial meaning ‘-ing’; thus ki-kʷah-ti-ka (it-eat-conn?/partcp?--be) meant quite literally “be eating it”. These suffixes will be written as units, e.g. -tika ‘dur’.
Nominalizers

Finally, some mention should be made of the nominalizing suffixes. They include -ni ‘-er’, -ki ‘-er/-ee’, -lis-ƛi (nr-abs) ‘-tion’, and -l-i (nr-abs) ‘-ed (thing)’. Some examples are given below.

| ìšłaka-ti-ni | lie-vr-nr | ‘liar’ | teo-piš-ki | divine-have-perf-nr | ‘priest’ |
| mih-ki | die-perf-nr | ‘dead man’ | pāki-lis-ƛi | rejoice-nr-abs | ‘joy’ |
| tēki-lis-ƛi | pour-nr-abs | ‘diarrhea’ | ĭa-htō-l-i | unspec-say-nr-abs | ‘word, speech’ |
| ičpōč-kāwa-l-i | daughter-leave-nr-abs | ‘old maid’ |
B.3 Reduplications; Plural and Honorific Markings

Reduplications

TN verbs are often reduplicated. The patterns for reduplication are that the initial CV of the stem is copied as a prefix, an $h$ may intervene between the reduplication and the stem, and the reduplicated vowel may be shifted to contrast in tenseness with the stem vowel. Thus eight patterns are predicted: CV-CV and Cv̅̄-CV, CV-Cv̅̄, CVh-CV, and Cv̅̄h-Cv̅̄. All these occur, though the patterns with Cv̅̄h- are quite rare, apparently occurring only as variants of the corresponding CV patterns. There are no clear or consistent differences in meaning among the various types, though the reduplications with $h$ and an identically tense vowel seem to be favored for marking plural subjects.

The reduplications have a variety of semantic effects, for which the phonological reduplication is often iconic. Often they may signal intensity of action, or repetitiveness of action. As a subcase of repetitiveness, they are used to mark plurality of the object in certain cases. More saliently, they are used to mark plurality of the subject, especially in tenses where no plural marker is used.

Often the difference in meaning between the reduplicated and the unreduplicated form is almost undiscernible: some cases may be phonologically rather than semantically motivated (e.g. reduplicating is one strategy used to avoid one-syllable words). In other cases, by contrast, reduplications act “derivationally”, changing the meaning of the stem in quite drastic and unexpected ways.

Reduplications are also used on nouns and adjectives, usually denoting either intensity or plurality: in a few cases the reduplicated form is singular while the non-reduplicated form is plural.

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
<th>Reduplication</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>yā-ya</td>
<td>‘he always/customarily goes’</td>
<td>pah-pāki</td>
<td>‘he rejoices’</td>
</tr>
<tr>
<td>rdp-go</td>
<td></td>
<td>rdp-be.happy</td>
<td></td>
</tr>
<tr>
<td>wē-wečka</td>
<td>rdp-smile</td>
<td>ki-čah-čakʷa</td>
<td>‘he shuts it (house) up, locks him up’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>it/him-rdp-shut</td>
<td></td>
</tr>
<tr>
<td>ah-asi</td>
<td>rdp-arrive</td>
<td>ki-nō-nōča</td>
<td>‘he chats with him’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>him-rdp-call</td>
<td></td>
</tr>
<tr>
<td>ki-nōh-nōča</td>
<td>him-rdp-call</td>
<td>‘she (the bridegroom’s grandmother) asks him(the bride’s father) for the bride’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ki-ši-šikowa</td>
<td>him-rdp-bear</td>
<td>‘he outlasts (and thus conquers) him, persuades him’</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ča-čahči</td>
<td>rdp-shout</td>
<td>ča-čahči</td>
<td>‘she (a hen) cackles’</td>
</tr>
<tr>
<td></td>
<td>‘they shout, many people shout, there is shouting’</td>
<td>rdp-shout</td>
<td></td>
</tr>
<tr>
<td>nemī</td>
<td>live</td>
<td>neh-nemī</td>
<td>‘he walks / they walk’</td>
</tr>
<tr>
<td>ni-ka</td>
<td>I-be</td>
<td>ni-ka-ka</td>
<td>‘I am’ (more common as a locative ‘be’)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>I-rdp-be</td>
<td></td>
</tr>
</tbody>
</table>
In a few cases the semantic difference between a reduplicated stem and the non-reduplicated form involves a shift in the type of direct object. E.g. contrast *ki-čah-čakʷa* ‘he shuts it (a house) up, jails him’ with *ki-čakʷa* (it-shut) ‘he shuts it (a door)’; and *ki-ši-šikowa* ‘he beats, persuades him’ with *ki-šikowa* (it-bear) ‘he bears it (a load, difficulty)’. These cases are discussed briefly in 3.2.

### Plurals

Most of the plural markings have already been introduced in the preceding sections, since most of them are associated with (and thus “mean”) particular tenses as well as plurality of the subject. They include the following:

- `-ki` ‘preterite, future pl’
- `-kā` ‘subjunctive plural’
- `-we` ‘aspect marker plural’ (used after `-tī, -kī,` and `-tī`)
- `-i` ‘coming plural’, used after present tense *wī* “come”, after the aspect marker `-tiwē`, and after several other verbs ending in a morpheme `-č` ‘hither’ such as *wīka-č* (carry hither) *‘bring’*¹
- `-te` ‘being plural’ (perhaps cognate with the noun plural suffix `-te`?) Used on the verb *ka* ‘be’ and the aspect marker `-tika`.

Examples of these plural markers are given below.

<table>
<thead>
<tr>
<th>o-ti-k-čih-kí</th>
<th>ti-k-čiwa-s-ki</th>
<th>nē-wĩ-ĩ</th>
</tr>
</thead>
<tbody>
<tr>
<td>past-we-it-do.perf-pl.pret</td>
<td>we-it-do-fut-pl</td>
<td>dist-come-pl</td>
</tr>
<tr>
<td>‘we did it’</td>
<td>‘we will do it’</td>
<td>‘There they come’</td>
</tr>
</tbody>
</table>

| to-mač-ti-kĩ-we | sa ši-ye-ta-kā |
| we.refl-know.perf-caus-come-pl | just impv-be-dur-pl.sbjntc |
| ‘we have come to learn’ | ‘shut up! (you pl)’ |

### Honorifics

It is important in TN to mark on the verb whether the subject or object is to be honored or not.² Children or one’s wife are spoken to and referred to without honorifics. One’s husband, adult peers (except in certain close personal friendships), and superiors are spoken to and about with honorifics. Honorifics are used only in second and third persons: there are no first person honorifics. When speaking to God or godparental relations, or on certain ceremonial occasions, ultrahonorific forms are appropriate, though they are not always used.

The third person honorifics are formed as follows:

---

¹ If the analysis is taken that Class IV verbs end in *a w* (making them parallel with Class II verbs), this plural may also be used with *ya* (underlying *yaw*) ‘go’, whose present tense plural is *yaw/yawe*. The *e* variant could be from a general tendency to lower final *i*.

Otherwise the plural of *ya-we/-wi* is probably to be taken as the ‘aspect marker plural’ *-we*, but then the *wi* variant becomes quite surprising.

Note that all the aspect markers which call for `-i` (or `-we`) are movement markers, thus semantically similar to *ya(w)*.

• 3 pers hon obj is marked by the honorific OP tē- (historically ‘unspecified human object’, 5.4) in place of ki-.
• 3 pers hon subjects are marked by one of a group of suffixes -lo, -wa, -owa, and -o.3 Historically these were markers of passive/impersonal constructions: only a few vestiges of such usage are left in TN. -lo is the most common variant. -wa occurs mostly after i-final stems. -owa and -o (which condition deletion of a preceding final vowel) are rather rare.
• Preterite, future, and subjunctive forms with -lo are often avoided, and plural forms (with -ki or -kā) are used in their stead. E.g. ki-čiwa-k is the form favored by many speakers for ‘he hon will do it’.
• Sometimes -o is used instead of -lo in the same tenses (preterite, future, and subjunctive). Thus e.g. o-ki-mak-ō-k (past-it-give.perf-hon-pret.sg) is preferred over ki-maka-lō-k (or ki-maka-ki) for ‘he hon gave it’ (preterite of ki-maka-lo ‘he hon gives it’).
• Reflexives are marked with the honorific reflexive OP ne- and the appropriate marking for honorific subject. ne- historically meant “unspecified (human) reflexive OP” (5.4).
Examples of these markings follow.

| tē-nōča-lo | ‘he hon calls him hon’ | ne-kʷepa-lo | ‘he hon returns’ |
| hi-mik-owa-k | ‘he hon died’ | aši-wa | ‘he hon arrives’ |
| ne-mā-teh-tek-o | ‘he hon cut his hand’ | o-ki-čihi-ki | ‘he hon/they did it’ |

Second person honorifics are formed by putting a causative (mostly on intransitives) or an applicative (mostly on transitives) on the verb stem and using the reflexive mo-.4 Many stems that otherwise have no

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3 Apparently these suffixes were originally -liwa (Langacker 1976:150-151, Burnham 1981a). It is still reasonable to analyze -lo as underlyingly low, since it undergoes Contraction (A.4) preconsonantally (e.g. ki-čiwa-lō-s (it-do-hon-fut) ‘he hon will do it’). Before the suffixes -ya ‘imperfect’, -ni ‘irrealis’, and -ni ‘nominalizer’ it takes the form lowā (e.g. ki-čiwa-lowā-ya ‘he hon was doing it’).

4 This kind of usage already existed in Classical Nahuatl (Andrews 1975:112-116).

All of the honorific forms may be viewed as examples of indirection expressing social distance (cf. Hill and Hill 1978).

• The 3 pers hon use of impersonal or unspecified markings amounts to refusing to name the honored person directly.
• Where plurals mark a singular honorific, the honored person is represented as one of an indefinite group, again not singled out. Note that English you, originally an honorific in its singular usage, was pl (object case of ye), that royalty refer to themselves (sg) as we, that Spanish usted ‘you hon’ comes from vuestra merced ‘your (pl) grace’, and that German Sie ‘you sg (formal)’ is a plural morphologically and syntactically. Note also that the hon sg pronouns t-ehwá-ci ‘you hon’ and y-ehwá-ci ‘he hon’ use the element ehwa which is elsewhere associated with plurals (D.2).
• A usage common in other dialects, and of which there are some traces in TN, is to use the directional -or ‘hence, away’ (B.2) to mark honorific forms (Rosenthal 1980, Hill and Hill 1978). This even more iconically represents the social distance, by representing the honored person as acting at a physical distance.
• In the reflexive-cum-caus-applic locution, “by a flattering fiction the agent is presented as solely responsible for his action, as if he were autonomous … [or] as performing an action for his own sake or to his own interest” (Andrews 1975:112, 114). Again, the honored person is viewed as untouched or unaffected by (distant from) the speaker.

Of course there is more to it than that. The social context will naturally internalize to the point where the whole complex construction mo-…applic/caus (and probably even more strongly subschemas under it such as mo-liya or mo-tiya) has the meaning “(2 pers) honorific” independent of the complex compositional path posited above. Otherwise it is hard to see how it could come to be used for honorific objects as well as honorific subjects. ti-nēč-mo-neki-tiya (you me-refl-want-caus) may well mean ‘you love me of your own accord’ and therefore ‘you hon love me’. But if timīg-mo-neki-tiya (you-refl-want-caus) is taken to mean
causative or applicative form have one for the purposes of this construction. Already causativized or applicativized forms simply have another applicative added onto them. If the object of a transitive verb is 3 pers non-honoric, no OP is used besides the reflexive, but 1 pers and 3 pers hon OP’s are used, preceding the reflexive (e.g. contrast to-mo-nek̃tiya (you-refl-want-caus) ‘you hon want it’ with ti-neč-mo-nek̃tiya (you-me-refl-want-caus) ‘you hon want/love me’).

When the object is 2 pers hon, the same strategy is used, but with the 2 pers OP preceding the reflexive (e.g. mič-mo-nek̃tiya (you.obj-refl-want-caus) ‘he wants/loves you hon’).

2 pers hon reflexives have the same reflexive-cum-caus/applic form, with the suffix -c̸ínowa ‘honorific reflexive’, which is probably constructed of -c̸ín ‘honorific’ plus the (Class III) verbalizer -ow-a (Appendix G). This suffix behaves morphologically like -ki ‘preterite pl’ or the -tika class suffixes, and forms a Class III stem.

Below are some examples of these usages.

<table>
<thead>
<tr>
<th>to-mo-nemī-tiya</th>
<th>you-refl-live-caus</th>
<th>‘you hon live’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ne-mo-maČtih-ki</td>
<td>you.pl-refl-know-caus-pl.pret</td>
<td>‘you hon pl found out’ (i.e. you knew preterite)</td>
</tr>
<tr>
<td>ne-mo-maČtih-c̸inoh-ki</td>
<td>you.pl-refl-know.perf-caus-hon.refl-pl.pret</td>
<td>‘you hon pl learned’ (lit. you taught yourselves)</td>
</tr>
<tr>
<td>ti-neč-mo-hṭi-liya</td>
<td>you-me-refl-see-applic</td>
<td>‘you hon see me’</td>
</tr>
<tr>
<td>to-mo-lwi-li-s</td>
<td>you-refl-tell-applic-fut</td>
<td>‘you hon will tell him’</td>
</tr>
<tr>
<td>timiČ-mo-lwi-li-s-ki</td>
<td>you.obj-refl-tell-applic-fut-pl</td>
<td>‘they will tell you hon’</td>
</tr>
<tr>
<td>ne-tėč-mo-hṭi-li-li-liya</td>
<td>you.pl-us-refl-see-applic-applic-applic</td>
<td>‘you hon pl see it in us’</td>
</tr>
</tbody>
</table>

Ultra-honorifics are formed in various ways. For 3 pers honorifics, the 2 pers hon form with a 3 pers SP (Ø-) instead of the 2 pers SP are used. ki-/k- is retained (if appropriate) in this construction. Sometimes this construction and a -lo type suffix are both used. Extra -c̸ínowa’s are occasionally dropped in. 2 pers sg ultra-hon may be expressed by plural forms. Occasionally two different mo-’s may be used. Some examples follow.

| ki-mo-nek̃tiya     | it-refl-want-caus     | ‘he hon wants it’ |

(as it would) ‘I love you of my own accord’, it would be a first rather than a second person honorific. In fact it means ‘I love you hon’ rather than ‘I hon love you’.
<table>
<thead>
<tr>
<th>Phrase</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ki-mo-c̃iwi-lī-lo</td>
<td>'he hhon does it'</td>
</tr>
<tr>
<td>it-refl-do-applic-hon</td>
<td></td>
</tr>
<tr>
<td>ki-mo-c̃iwi-lih-č̃i-nowa</td>
<td>'he extra hhon does it'</td>
</tr>
<tr>
<td>it-refl-do-applic-applic-hon</td>
<td></td>
</tr>
<tr>
<td>tē-mo-wāl-mo-tūtlan-i-li-lō-k</td>
<td>'he hhon sent him hhon here'</td>
</tr>
<tr>
<td>him.hon-refl-hither-refl-send-applic-applic-hon-pret.sg</td>
<td></td>
</tr>
<tr>
<td>ne-mo-neki-tī-s-ki</td>
<td>'you sg hhon will want it'</td>
</tr>
<tr>
<td>you.pl-refl-want-caus-fut-pl</td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

Perfective and Imperfective Verb Stems

An important characteristic which divides verb stems into different classes is the difference between verbs that are basically perfective and those that are basically imperfective.\(^1\) The notions of perfectivity and imperfectivity were discussed in 1.4; perfectivity involves a change through time, while imperfectivity is the limiting case of change, permanence through time. This distinction is important to the meanings of the different “tenses” in Tetelcingo Nahuatl, as in so many other languages. The present and imperfect are the strongly imperfective tenses, whereas the future and especially the preterite are strongly perfective tenses.

Not all verbs behave the same semantically in the different tenses, however. Certain verbs seem to be basically easier to construe perfectly, and others seem to be easier to construe imperfectively. I will call this basic tendency or preference as to construal “notional” perfectivity or imperfectivity.

The verb \(\text{c̸ikʷīni}\) ‘jump’, like its English counterpart, is notionally perfective. It is hard to conceive of it as not involving a change through time. It goes most naturally in the perfective tenses, and putting it into an imperfective tense involves shifting the basic meaning.

Similarly, \(\text{mati}\) ‘know’ is, like its English counterpart, notionally imperfective. It is hard to conceive of it as involving a change through time. It goes most naturally in the imperfective tenses, and putting it into a perfective tense involves shifting its basic meaning.

Finally, there are verbs which may be construed as either perfective or imperfective. One such is \(\text{ihta}\) ‘see’. It can be easily taken to designate either an imperfective process of continual, unchanging visual awareness, or a perfective episode in which something comes into the seer’s visual field, he sees it, and then, whether by his looking away or his closing his eyes or the object’s leaving his visual field, he ceases to see it. The two construals contrast in \(I\ saw\ President\ McKinley\ once\) and \(I\ saw\ that\ all\ along\).

When you put a notionally perfective verb into an imperfective tense either (a) some particular intermediate state of those involved in the change is singled out and, as it were, stretched out to become imperfective,\(^2\) or (b) the perfective episode designated by the verb is replicated indefinitely, until its very repetition can be viewed as unchanging through time.

Both of these changes can seem to involve changing the scope of the predicate. Change (a) contracts the scope to just one of those involved in the perfective episode, and change (b) expands the scope to indefinitely many similar episodes. Thus the verb \(\text{c̸ikʷīni-ya}\) (jump-impf) ‘he was jumping’ must be taken to designate either some single state involved in the process of jumping (say the moment the jumper’s feet leave the ground), construed as if it were autonomous and unchanging, or a continuous repetition of episodes of jumping, with neither its beginning nor its ending specified. The two construals contrast in English in \(In\ this\ picture\ Johnny\ is\ jumping\ over\ a\ six-inch\ hurdle\) and \(Johnny\ is\ out\ jumping\ rope\ for\ exercise\).

There are, then, two alternative methods of squeezing the perfective notion of jumping (symbolized by the stem \(\text{c̸ikʷīni}\)) into the uncomfortable imperfective shape specified by the profile-determinant -\(\text{ya}\). This is somewhat parallel to how the attempt to squeeze or warp an intransitive predicate into a transitive shape can

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\(^1\) The discussion in this section owes much to the ideas presented in Langacker (1981a).

\(^2\) The state singled out, naturally enough, tends strongly to be one of the most central or characteristic of the states involved. Thus in imperfectivizing \(\text{jump}\) one would pick a state in which the trajector is in the air rather than on the ground, or in \(\text{throw}\) one would not pick a state in which the thrown object has progressed far away from the thrower.
result in either expanding the profile to include a new Thing (a Type II or Type III transitive, 2.4), or in looking more carefully within the area already profiled to find a qualified Thing (a Type I transitive). Here the Type (a) construal represents looking within the area already profiled for an appropriate structure, and the Type (b) construal is an expansion of the profile until an appropriate structure is found.

Notice that the intransitivity of ɛikʷini is preserved in ɛikʷini-ya. Similarly the transitive maka ‘hit, give’ remains transitive in its imperfect form, maka-ya. -ya is simply unspecified as to transitivity, and the transitivity of the verb stem is adopted along with all its other specifications which do not clash with the imperfective specifications of -ya.

Construing a notionally imperfective verb in an imperfective tense simply preserves the basic temporal profile, or, if you will, replaces it with an equivalent one contributed by the profile-determinant element.

What happens when you put a notionally imperfective verb into a perfective tense is that you specify a beginning to the otherwise still imperfective Relation.3 What happens when you put a notionally imperfective verb into a perfective tense is that you specify a "past time" element in the meaning of the preterite tense.) The notation used for the "process morpheme" was introduced in 1.6.b;c; only the composite form will be used in the text.

Perfectivizing a notionally imperfective verb will be diagrammed as in C.a below. (I am ignoring the “past time” element in the meaning of the preterite tense.) The notation used for the “process morpheme” was introduced in 1.6.b-c; only the composite form will be used in the text.

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3 It would also be a logically possible construal to specify the ending, or both the beginning and the ending, but as far as I know, in Tetelcingo Nahuatl it is always the beginning point that gets specified.

It also would make sense that, if a verb is an imperfective of the repetitive kind, perfectivizing it would pick out a single episode of the type otherwise repeated. There are some cases where it would make sense to claim that this is happening. For instance ƛaƛasi means ‘cough’ and is prototypically imperfective. A perfective construal of this verb does not mean ‘start coughing’ but ‘cough (once)’. Many of the stems which I have considered to be notionally ambivalent as to perfectivity do this sort of thing. But it is not clear in every case that the imperfective repetitive construal is really basic.
When one of the verbs which is notionally either perfective or imperfective is put into a perfective tense, it can either be given its natural perfective construal or it can be given an inchoative construal. Thus $o$-$ki$-$htak$ (post-it-see-pret) can mean either ‘he saw it’ (episodal, arising from the notionally perfective construal) or ‘he came to see it’ (inchoative, arising from the notionally imperfective construal). Similarly, when it is put into an imperfective tense, it can either be taken as repetitive or a straight imperfective. Thus $ki$-$hta$ can mean either ‘he sees it (every day)’ or ‘he sees it (perfectly well)’.

To the extent that a perfective or imperfective tense triggers changes in the construal of a stem, it is behaving like a derivational morpheme (1.6). Yet such tenses are clearly used productively, even prolifically. This is one of the many types of cases which don’t fit neatly into either the “derivational” or the “inflectional” category, but fall somewhere on the continuum in between.

\[\text{4 The conceptualization achieved by picking a state from among those involved in the perfective episode of seeing and stretching it out (a Type (a) construal) is equivalent to the straight imperfective construal.}\]
APPENDIX D

Non-Verbal Stems

In 1.4 nouns (including pronouns) were characterized as elements having the profile of a Thing; and adjectives, adverbs, and adpositions were characterized as profiling stative Relations. In this appendix I will elaborate briefly on this skeletal characterization, discussing representative predicates from these classes in TN. Nouns are discussed in D.1, pronouns in D.2, adjectives, adverbs, and postpositions in D.3.

D.1 Nouns

Nouns, in common with pronouns and higher order nominals but in contrast to verbs, adjectives, adverbs, and adpositions, have the profile of a Thing. A Thing, it was claimed, is a bounded region in some domain: prototypical Things are bounded in physical space (i.e. they are physical objects), but the bounding may be in other domains instead or besides. Let us consider what sorts of things must be included in the characterization of nouns.

As a first example let us take \( \text{λāka-Dƛ} \) ‘man’.\(^1\) This stem profiles a Thing against the background of a very complicated matrix involving many domains.

Physical space is perhaps the primary domain in the matrix of \( \text{λāka-Dƛ} \) at least for the prototypical version, the domain in which it is a bounded region. Salient within its meaning is a physical specification if the (quite complex) human shape. Perhaps less salient is reference to other physical traits such as wearing typical male clothing (trousers, guaraches or shoes, and a hat), having short hair and at least the possibility of a mustache, having a phallicus, having relatively deep voice, and so on. All these specifications involve reference to many other domains besides three-dimensional space, such as color and touch sensations, knowledge of the human body and of animal bodies, the functional assemblies involved in the making and wearing of clothing, mating, etc.

\( \text{λāka-Dƛ} \) will also have salient within it specifications of social roles that differentiate men from women, such as the different work done by each, the different position in the home life and political and religious life, etc.

Another salient group of specifications will have to do with traits (physical, social, chronological, psychological, and perhaps others) that have to do with specifying a \( \text{λāka-Dƛ} \) as an adult rather than as an immature human. Another group will have to do with the many complex specifications that distinguish men (and other humans) from animals and inanimate Things.

These will all be present with differing degrees of salience. The one unifying factor will be the Thing which participates in all of those Relations, the Thing designated by the predicate and symbolized by the phonological string \( \text{λāka} \), the man. Three diagrams of this structure are given below, one more complete (but still woefully inadequate) and two abbreviated from that. For convenience’ sake such abbreviated representations are used elsewhere for this and other nouns.

\(^1\) \( \text{λāka-Dƛ} \), like most Nahuatl nouns, bears what is known as an absolutive suffix. It appears as -\( \text{ƛ} \) following vowels, -\( \text{ƛ} \) following certain consonants (mostly resonants that would otherwise neutralize), -\( \text{ƛi} \) following most other consonants. It appears as -\( \text{ƛi} \) following \( \text{l} \) (historically from \( \text{l}-\text{ƛi} \rightarrow \text{l-ƛi} \rightarrow \text{l-ƛ} \)), and following other consonants in a few cases (those that had -\( \text{in} \) historically). This suffix generally appears only when the noun has no other affixes and is not compounded with a following element. Its meaning is not at all clear; many would claim that it has no meaning. In all these examples I will refer to the noun by its citation form with the absolutive, but will deal with the stem in the discussion.
The second diagram is equivalent to saying that \( \lambda\text{\text{-}}\lambda \) is [+HUMAN], [+ADULT], AND [+MALE], but note that I am claiming neither that this is an exhaustive nor even that it is a necessary characterization of the concept. It is true and it is useful, but it is neither a necessary nor sufficient account.

\[ \lambda\text{\text{-}}\lambda \] corresponds to Spanish hombre and English man, but I would quite emphatically deny that the three words have the same meanings. There will be certain specifications in the Nahuat word that are not there in English or Spanish, and even when the specifications are the same their relative saliency will differ. The three words will “fit” the same conceptual scenes in many instances, but they view them slightly differently.

The criteria for distinguishing men from boys, for instance, differ in the three cultures. In Tetelcingo boys typically become \( \lambda\text{\text{-}}\lambda \) at a younger age than they become men in the United States. This has two effects: in some cases a person could be called a \( \lambda\text{\text{-}}\lambda \) who would not easily be called a man; and in other cases calling a person a man might be a means of stating something not obvious about his status or maturity, whereas calling the same person a \( \lambda\text{\text{-}}\lambda \) would be a matter of course.

The physical specifications are different for the different words. The prototypical măsēwal-\( \lambda\text{\text{-}}\lambda \) (TN man) is fairly short (by our standards; normal by theirs), brown-skinned, wears guaraches and a hat, may have a mustache but does not have a beard, and has short hair. The prototypical American is taller, fairer, may have either a mustache or a beard but probably has neither, and wears a variety of kinds of clothing, but normally does not wear guaraches and usually does not even wear a hat.

The social roles associated with men, hombre-s, and \( \lambda\text{\text{-}}\lambda \) differ quite markedly. And so on.
These differences in content go along with (and are best viewed as special cases of) differences in salience; e.g. both *man* and *lāka*-λ make reference to typical male clothing, but that reference seems in Tetelcingo to be more salient (see e.g. the next paragraph). Actually these words are a very good match, as such things go: the differences are mostly of the order traditionally viewed as “connotational”, in that they are not so drastic as to regularly change the truth-values of statements. However, they are there, and an adequate account of meaning must include them.

There is, not surprisingly, more than one version of *lāka*-λ. In one such version it is virtually equivalent to *māsēwal-lāka*-λ, and is distinguished sharply from *kištāno* ‘foreigner’. Salient within the profile of this version of *lāka*-λ is a specification of origin. Another somewhat salient specification seems to be that a *lāka*-λ wears huaraches: a man wearing shoes is told (not quite seriously) he is being a *kištāno*, and I, when wearing huaraches and, preferably, a hat, am welcomed as a *lāka*-λ. As far as I know, there is no such version of either *man* or *hombre*; to be told *Now you are a man* because I am wearing guaraches does not sound like an English conversation to me (although it is, of course, sanctioned by the grammar), and I do not remember anyone ever being denied status as either a *man* or an *hombre* because of his place of origin. (In some Spanish dialects an Indian is denied status as a human, but not as a man, and it is a matter of race rather than of place of origin.)

A more schematic version of *lāka*-λ neutralizes the distinctions between men and women and men and children, coming to mean effectively ‘human’. This construal almost never appears except in the plural construction. It parallels the English usages of *man* in the sense of “mankind”. These three versions of *lāka* are diagrammed in D.1.b below. D.1.b is of course far from exhaustive of the meaning of *lāka*-λ, however; there would be a whole hierarchy of different sub-versions of the predicate.

Another example of a noun would be *ilwi*-λ ‘fiesta’. The matrix against which this Thing is profiled does not make primary reference to the domain of physical space. In one version it primarily has to do with the domain of the calendrical cycle, with certain periods in that cycle designated as feast days; *ilwi*-λ designates one of these. In other versions the more salient element is a social event (conceived of as a Thing), involving myriad Relations of people getting together in the town square or someone’s yard, dancing, drinking firewater, setting off skyrockets, making mole (a very complex process) and eating it, and so forth. Many religious elements (parading the saints through the streets with pageanties, Pontius Pilate and other *chinelos*, candles and incense, ceremonies in the churches, putting up the costs for the whole thing as

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2 The word originally meant ‘day’; this meaning survives in a few words and phrases such as *noči sem-ilwi*-λ (all *always-day-abs*) ‘the whole day long’ or *sem-ilwi-tiya* (always *day-caus*) ‘spend all day’.
discharging a religious/civic duty, etc.) are also involved. It is all very complex and ultimately undefinable in any strict sense. Nevertheless the word is used and understood. The word fiesta in some Mexican subcultures is a very close equivalent to ilwi-ƛ; English has no good equivalent because there is nothing corresponding very well in our culture to the designatum of the word. A very inadequate diagram of ilwi-ƛ (it would require a Brueghel to begin to do the word justice on paper) is part of D.1.c.

Other nouns are to be accounted for in similar ways. Each profiles a Thing against the background of certain Relations (usually numerous) in which it participates. To the extent that any one Relation becomes salient beyond the others the noun will be a “relational noun”; e.g. in a noun like tah-ƛi (father-abs) the Relation of being father to offspring is very salient, though it is not profiled. Nouns can be classified according to whether or not they participate in certain salient Relations or coordinated groups of Relations. Distinctions such as animacy vs. inanimacy are not to be treated as simple differences of polarity with respect to a single feature, but as differences involving a number of coordinated sub-distinctions. Such classification implies that there are salient schemas embodying the appropriate specifications but not specifying other Relations that distinguish the different nouns in the class from each other. Thus there will be a schema ‘animate’ and a schema ‘inanimate’, a schema ‘human’ and a schema ‘non-human’, and so forth. Count nouns differ from mass nouns in that the primary domain of mass nouns can be analyzed as being what Langacker has termed “substance space”; there will be a count noun schema and a mass noun schema. Without going deeply into such distinctions, I will assume that they are there and can be used to characterize classes of nouns.

Plural and Common Number

Another matter of some importance is that of number of nouns. There is a clear pattern in which stems such as ƛāka and ilwi are put into construction with a suffix (usually -me or -te) which converts their profile into one where such an entity is replicated indefinitely.3 4 This plural suffix parallels English -z (1.5.a, etc.) very closely: it is dependent on the noun, and is the profile determinant, yielding a new type of Thing profile, though the noun is semantically heavier. A diagram of ilwi-me ‘fiestas’ is given below, first in an analyzed view showing the componentiality, and then in a composite view showing the structure of the construction as a whole.

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3 The replicated entity must be replicated at least once, but once is enough. This is quite exactly parallel to what happens with the English (1.5.a, etc.) and Spanish plural suffixes. This particular structuring of Things along the scale of number is, of course, not the only one possible; other languages have special forms for dual replication as opposed to singular and (other) plural. And in TN (and English and Spanish, as well as in most other languages) systems such as the progression sen-te, se-ki, meyak-te (one-num, one-pl, much-pl) ‘a, some, many’ and the numerical system permit more exact placement along the scale when that is desirable.

Also, the concept of replication is a little slippery: it is not entirely clear how similar entities must be to count as replications of each other. With pluralized nouns the criterion is, at first blush, whether or not they can be taken as instantiations of the schema defining the noun. But questions of vagueness vs. ambiguity with respect to sub-schemas come up; a noun may clearly have a schema uniting all its sub-versions but have some of them so salient and the contrast between them so strong that they will resist having an instantiation of each of them united as an example of plurality. For example, a hammer is a tepos-ƛi, (iron-abs) and so is a gun, but if a person has one hammer and one gun, it would not be particularly felicitous to speak of him having two tepos-me, as it would if it were two guns or a hammer and a chisel or a trowel. There is a clear schema uniting the cases, meaning (more or less) ‘iron implement’, but the distinction between fire-irons and tools is none the less too great to allow of them being viewed as replications of each other. Or a tree and a stick can both be called kʷah-ƛi (wood-abs); two or more trees or sticks can be called kʷah-me, but not a stick and a tree. Similarly, if a man with a bird dog and a baton said in English that he had two pointers, or if he had a steam iron for ironing clothes and a tire iron and said that he had two irons, it would be either a lie or a pun, or a man with a donkey and a sawhorse would refer to his dos burros only as a jest. Cf. the discussion ahead with respect to the different kinds of plurality in pronouns.

4 Reduplication of either the stem or a suffix often is used to symbolize (iconically) plurality; sometimes it symbolizes singularity.
Most nouns in Tetelcingo Nahuatl can be pluralized. But many nouns also exhibit what has been called “common number”, in which a noun has no plural marker but rather appears with the absolutive (if it has one), yet means something that we must translate as a plural. This is especially frequent with inanimate nouns, and never, as far as I know, occurs with human nouns. A common number noun can appear modified by numerals or by quantifiers like se-ki (one-pl) ‘some, a few’ which are otherwise employed with plural nouns. For instance, yēyi āwaka-ƛ (three avocado-abs) ‘three avocados’, or se-ki šōči-ƛ (one-pl flower-abs) ‘some flowers’. It can also take (and more commonly does) modifiers like meyak ‘much, a lot of’ or tepi-ƛ (little-dim) ‘a little’ which otherwise go with mass nouns. Thus the common number form for ‘a lot of flowers’ is meyak šōči-ƛ, and the plural form for the same is meyak-tē šōči-me (much-pl flower-pl) ‘many flowers’. Both *meyak-tē šōči-ƛ and *meyak šōči-me are ill-formed.

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5 In Classical Nahuatl inanimate nouns were rarely or never pluralized; common number was the established pattern for them, though when used metaphorically for humans they took plurals (Carochi 1645:403, Andrews 1975:143). Something like a common number construal of human nouns may be involved in expressions like noči ũaka-ƛ ‘all men’ (cf. Spanish todo hombre) but it could also be claimed that noči is accommodating itself to the singular noun, giving rather the meaning ‘every man’ (Spanish cada hombre, borrowed into TN as cāra sen-te ũaka-ƛ (each one-num man-abs) ‘each particular man’). Noči ũaka (all men) is also a perfectly well-formed conventional expression. The ũ plural which occurs in English on animal nouns, especially game animal nouns (e.g. three badger, lots of bear in the woods), may be the same sort of thing as common number. But note that *we found little badger in the woods (or *much bear) is ill-formed. Perhaps the English construal neutralizes only singular and plural but not singular and mass. Koiné Greek neuter plurals triggered singular verb agreement in what is probably another example of the same sort of thing. This doubtless occurred, say Dana and Mantey (1927:165) ‘because a neuter plural usually refers to inanimate objects, which are viewed in mass rather than as distinct individuals ... The verb is generally plural if the neuter plural subject refers to persons.”
Thus common number seems to be sort of like plurality and sort of like mass-hood, and it shares the same form as the singular: you can, of course, say sen-te šōčiƛ (one-num flower-abs) ‘a flower, one flower’ and in isolation šōčiƛ will be translated as ‘flower’ or ‘the flower’ (flor or la flor).\(^6\)

I suggest that for these nouns no strong distinction is made regarding singular/plural/mass categorization. The absolutive form is vague among the three possible construals, allowing (appropriate sub-versions of) it to be used in constructions whose semantic specifications bar non-singualrs, non-plurals, or non-mass nouns. Common number involves a de-specification of those distinctions.\(^7\)

Nouns enter into the SP-Noun Construction (F.m), Noun Incorporations (Chapter 4), Noun-Verbalizer constructions (6.2.a-i, etc.), and Nominals (7.1). In 6.2 and Appendix F the possibility is brought up that noun stems, in many or even most usages, are really construed as Relations rather than as Things.

D.2 Pronouns

Nominal predicates, those which have the profile of a Thing, can be divided into two subgroups, nouns and pronouns. There are both syntactic and (other) semantic grounds for distinguishing between these two groups in TN (and other languages).

Many syntactic differences can be found. Nouns occur with a large class of affixes including absolutives, plurals, possessives, “subject markers”, “abstract/collective”, diminutives, augmentatives, and various other affective suffixes (Tuggy 1979:33-36, 51-60). With the exception of a few cases of plural markers and of honorific -či, pronouns do not. Nouns occur in phrases with modifying adjectives, in particular with demonstrative adjectives and existential quantifiers such as sen-te ‘one’, which effectively functions as an indefinite article. Pronouns cannot take such modifiers (except perhaps in the case of two demonstratives being used together). These facts (which line up with universal tendencies) are best viewed as following more or less directly from the semantic differences between nouns and pronouns.

Precisely what those semantic differences are is not easy to characterize. It seems (and I will assume) that there are two factors involved: pronouns (as opposed to nouns) have a high degree of schematicity and also are epistemically grounded. In other words, they have in their schematic structure a specified relationship to the speaker and hearer and their spheres of knowledge, but have little other content. Nouns may have a high degree of schematicity or may be effectively grounded epistemically, but not both. Thus pronouns show clear affinities with two subgroups of nouns.

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\(^6\) A final fact is that when such nouns function as clausal direct objects of a verb, the OP prefix that they correspond to (7.1) is the singular ki- rather than the plural kim. However, ki- can also be used with plural nouns. This is discussed further in 5.1. Similarly a common number clausal subject will combine with a singular, rather than a plural verb stem.

\(^7\) I am well aware that this is not the whole story: there are subtleties and implications in the number categories of nouns that I have not begun to touch.
Nouns like *thing* in English, or *ƛāka-ƛ* (man-abs) ‘man’ in TN, have a high degree of degree of schematicity, but lack epistemic grounding. Epistemically grounding such a noun makes it quite pronounlike; the *thing* is a pretty close synonym to *it*, and *something* and *anything* are commonly listed as pronouns in English grammars. Similarly, *in-ो ƛāka-ƛ* (dem-dist man-abs) ‘that man’ in TN is pretty close, both in meaning and potential usage, to *yaha* ‘he’.

The second group which has affinities with pronouns consists of highly specific nouns such as *deōs* ‘God’, or *mēc̸Dƛi* (moon-abs) ‘Moon’, or *dīlo* ‘(Father Patrick) Dillon (the Roman Catholic priest in Tetelcingo for many years)’. These nouns are effectively given epistemic grounding by their very specificity (i.e. they are definite and clearly not identified with the speaker or hearer). However, that same specificity means they cannot be pronouns, since specificity is the opposite of schematicity. Such nouns are (like pronouns) uncomfortable with modifiers, particularly epistemically grounding modifiers. This is natural enough; if something is already epistemically grounded there is no particular reason to want to reground it, and one would expect languages to lack the constructions necessary to do so. Thus **?nānDka mēc̸Dƛi** (prox-be moon-abs) ‘this Moon’, or **?nān-ka deōs** ‘this God’, or **?sen-te mēc̸-ƛi** ‘a Moon’, or **?sen-te deōs** ‘a God’, are very nearly as bad as **nān-ka yaha** ‘this he’, or **sen-te naha** ‘an I’, except in a reading where mēc̸-ƛi and deōs become ordinary count nouns of which there are potentially many instances. In that case it is clear that the nouns are not epistemically grounded to begin with. That is, *deōs* must be taken to mean ‘god’ rather than ‘God’, and *mēc̸-ƛi* must mean ‘moon’ rather than ‘Moon’. As far as I know, **sen-te dīlo** and **nān-ka dīlo** are quite impossible.

Note that the specification of high schematicity is a matter of degree. Thus some pronominal-type elements will be more pronominal (closer to the prototypical pronominal specification) than others. *I* is highly pronominal: clearly grounded and otherwise almost completely devoid of content. *Somehow* or *anyplace* are perhaps less clearly grounded (grounded only by specifying that they cannot be grounded in the normal way) and less schematic, since they specify that they profile a manner or a place rather than some other kind of Thing. And, as has often been pointed out, epistemically grounded noun phrases of rather high degrees of elaboration are often pressed into service as virtual pronouns, especially when their content is uncomplimentary to the designatum: phrases such as *some meathead* or *the bitch* are not uncommon as pronominal elements in some stupididiots’ speech.

**Personal Pronouns**

In 1.5, in the discussion of epistemic grounding, we talked about the functional assembly of the Speech situation (1.5.p), which is (in various versions) crucial to all such groundings. For characterizing personal pronouns, the only elements that need to be specified are the speaker and the hearer in the relationship specified by the speech act, and the potential existence of other Thing(s) which are neither speaker nor hearer but are known to both. We abbreviated these Participants in the Speech Situation, as S (speaker), H (hearer) and O (other participants(s)), and the communicative process between S and H by an arrow.

Let is consider, then, the independent pronoun *naha* ‘I/me’. It designates a Thing which is epistemically grounded by being identified with the Speaker in the Speech Situation. This semantic structure is symbolically represented by the phonological string *naha*. This configuration is diagrammed in D.2.a below.

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1 Perhaps I should have given just the stem *ƛāka* rather than the stem with the absolutive: it is not clear at all to me what the meaning of the absolutive is, but one facet may be precisely epistemic grounding of some sort. When the stem is used without an absolutive (or other epistemically grounding affixes such as possessives), as in incorporations (Chapter 4), it is clearly ungrounded, but when it is used with an absolutive it can appear alone, apparently meaning ‘the man’. However, it is not clear that that grounding is from the absolutive and not from being an instance of the SP-Noun construction (see discussion in 7.1).
The pronoun *taha* ‘you singular’ is directly parallel to *naha* except that it profiles the hearer instead of the speaker. The pronoun *yaha* ‘he’, as you might expect, profiles some other Thing which is neither Speaker nor Hearer, but is known to both, that is, the O.\(^2\)

Another pronoun, like *yaha* except in that it profiles a group of individuals other than the Speaker and Hearer, is *yehwā* ‘they’. This is, of course, the 3 pers plural pronoun. Notice that in calling it a plural we are appealing to a schema which unites it with plural nouns like *ilwi-me* (D.1.c). This schema specifies the profiling of a Thing consisting of an indefinite number of Things (but more than one) which are replications of each other.\(^3\)

The 2 pers pl form, *nemehwā*, is similar to *yehwā* in including more than one individual in the profile.\(^4\) In fact, in one version it is directly parallel, profiling more than one hearer just as *yehwā* profiles more than one non-speaker/hearer. This version we could diagram as in D.2.b.

Another version of *nemehwā* would include one or more Hearer(s) together with one or more Others, people who are neither Speaker(s) nor Hearer(s). Here it seems that the notion of replication is being adjusted (cf. the discussion in D.1 fn.3). We are including with the Hearer others who are unlike him in his defining characteristic, though they are like him in other respects (humanness, etc.).\(^5\) I will term this

\(^2\) It is obvious that these three forms are analyzable to some extent. They can be separated into *n* ‘1’, *t* ‘you sg’, *y* ‘3 pers sg’, and *-aha* ‘pronoun base’. Although these analyses are possible, I do not think that they are enough more salient than would be an English analysis of *he, him, they*, and *them* into [hi] ‘he’, [th] ‘they’, *-y* ‘nominative’ and *-m* accusative. I do not necessarily mean to imply that the Tetelcingo forms are as opaque as the English ones, but simply that in both cases the unit is far more salient than its parts. In Tetelcingo the units *n* ‘1’ and *t* ‘you’ have a good deal of independent motivation (cf. the SP and OP forms in Appendix F and 5.1, and, for *n*, the possessive *no*). For *y* the external attestation is somewhat slimmer, being confined to other 3 pers independent pronouns and (perhaps) the possessive *i*- *aha* (or, assuming it to be reduplicated, *-ah-a*) might be a sort of demonstrative element (see ahead), neutral between the proximal *-i* and the distal *-ò* that appear in e.g. *lín-in-th-i* (**what-dem-rdp-prox**) ‘what’s this?’ and *líin-in-th-ó* ‘what’s that?’. Cf. the three forms *kálah-a* ‘which (one)’, *kála-ó* ‘which (one of these/one is this)’, and *kálah-ó* ‘which (one of those/one is that)’. Cf. also *wel-aha* (very/well-he) ‘he himself, the genuine article’, with the plural *wel-ehwā* or *wel-yehwā*, which are doubtless derived from the personal pronouns.

\(^3\) It is possible that the *-ehwā on yehwā, tehwā, and nemehwā could be taken as a plural marker, again making the pronouns analyzable: however it also appears in the singular honorific pronouns. There is an *n* associated with it in some less common plural forms with suffixes (e.g. *yehwān*-pi-ò (*they-rdp-hon*) ‘they hon’, archaic *ehwan-te* (we-pl) ‘we’, *yehwan-i* (*they-prox*) ‘these ones here/these are they’). Usually the *n* is deleted as it occurs word-finally (A.13). This *n* could also be taken as a plural marker.

\(^4\) There is another form of this pronoun, *namehwā*. Virtually all the 2 pers pl forms (independent pronouns, SP, OP, and possessive) have one form with *na-* and an alternate with *ne-. The *ne-* forms seem to be spreading, and are quite a bit more common than the other.

\(^5\) One might try to claim that the definition of 2 pers actually does not designate the Hearer but only designates Non-Speaker. Then one would not need to claim a less strict replication. However, if it meant Non-Speaker, then *taha* ought to be able to bear the meaning ‘he’ as well as ‘you’, and *nemehwā* should be able to mean ‘they’ as well as ‘you pl’. Nevertheless, there may be something in this idea: perhaps the definition of 2 pers is “Non-Speaker including at least one Hearer”. I am not sure how different that is from what I have proposed in the text.

In this regard it is interesting to speculate on whether the Classical Nahua *am*- *am-* ‘you pl’ (which changed *nan-* *-nen*) *na*- *ne-* in Tetelcingo) might not be etymologically *a-n* (neg-1) ‘non-Speaker’.
conceptualization involving a looser construal of replication Plural, in contrast with the stricter one, which I will call Multiple. Thus D.2.b represents the Multiple Hearer version of *nemehwā*, while D.2.c represents the Plural version. Both are subsumed under a schema which is vague as to whether any non-Hearers are included, and represents the defining schema for this morpheme. (This vagueness I will also call plural).

Then there is the pronoun *tehwā* ‘we/us’. Like *naha* it profiles the Speaker(s); like *yehwā* it profiles a non-singular Thing, and like *nemehwā* it has a Multiple and a Plural version. In the Multiple version there is more than one Speaker; in the Plural version there is included with the Speaker(s) one or more non-Speakers, either Hearers or Others. The defining Plural schema abstracts away from the difference between the two. These versions are diagrammed in D.2.d.

There are, of course, many different subschemas under those given in D.2.d., which are of varying salience. Some will specify more fully whether, in the plural version, the Hearer is included (the inclusive/exclusive distinction) others will specify to varying degrees the size of the S, the H, and the O components within the profile of the morpheme, others will specify the nature of the schema on the basis of which they are classed together (e.g. there is a rather salient version of *tehwā* which means essentially ‘we humans’, another meaning ‘we Tetelcingans’, others meaning ‘my family and I’, ‘we men’ or ‘we women’, etc.). Some of these are salient enough that they can be used without any previous linguistic specification, others will usually appear only when previous discourse has made clear what grouping is likely to be relevant. (Similar subschemas will exist also for *nemehwā* and *yehwā*, though they are probably not as salient).

These six pronouns are doubtless cross-classified under a number of higher-order schemas such as Singular and Plural (which will neutralize the person distinctions, specifying only that a singular or plural participant in the Speech Situation is profiled) and First Person, Second Person, and Third Person (neutralizing the singular/plural distinction). These all would be united under D.2.e, the Personal Pronoun Schema, which neutralizes both distinctions and defines the class as a whole.

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6 As with *nemehwā*, it might be possible to posit that 1 pers, rather than meaning Speaker per se, means ‘group including Speaker’.

Notice that this is not the only way to structure the conceptions with which these pronouns are dealing. In other languages separate forms are given to meanings with only S or only H or both S and H (‘we exclusive’ vs. ‘you pl’ vs. ‘we inclusive’). Also cases with both S and H may be viewed as basically H (2 pers) rather than S (1 pers). It is possible that the Nahuatl use of *t(i)D* as a marker of 2 pers sg as well as 1 pers pl is a result of using 1 pers forms for ‘we inclusive’ situations.
D.2.e. Personal Pronoun

There is another group of pronouns which specify that the designated Thing is viewed honorifically by the Speaker. These pronouns by convention do not include first person pronouns (in other dialects they do), and are basically used only to designate people or deities. The rules governing which people must be so designated are quite complex, having to do with the relative ages of the Speaker and the profiled person, their sexes and familial relationship, godparental relationships, and so forth (cf. B.3, Pittman 1948, Hill and Hill 1978). tehwā-ē (you-hon) is ‘you sg hon’, yehwā-ē is ‘he/she/it hon’, nemehwān-ē-ē (or namehwān-ē-ē) (you.pl-rdp-hon) is ‘you pl hon’, and yehwān-ē-ē is ‘they hon’. These pronouns will be united under a schema Honorific Pronoun and cross-classified under the various subschemas that apply. There will thus have to be two versions of each 2 pers and 3 pers pronoun, one honorific and one non-honorific.

A fragment of the schematic hierarchy for personal pronouns is diagrammed in D.2.f.

D.2.f. Personal Pronoun Schematic Hierarchy

Other Independent Pronouns

The personal pronouns just discussed were grounded against the functional assembly of the Speech Situation (1.5.p). There are a number of other pronominal or quasi-pronominal elements which are grounded against slightly more elaborate versions of that functional assembly. Among these are Demonstratives, certain quantifying pronouns, and some with meanings in the indefinite/non-specific area, like ‘anyone’ or ‘some people’.

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7 The morphological pieces are clearly stems such as those used in the non-honorific pronouns plus -ē ‘honorific/diminutive’ plus reduplication of the -ē for plurals. As previously noted, it could be claimed that the final n on the stem is a marker of plurality.
Demonstratives are grounded in a quite complex version of the Speech Situation which involves near and far neighborhoods of the Speaker and Hearer. There are many morphological pieces involved; the basic ones are a pair of suffixes -i ‘proximal’ and -ō ‘distal’, which combine with a demonstrative base īn- and two adverbial elements, nān ‘here, hither’ and nē- ‘there, thither’, which combine with the verb ka ‘be’ to yield demonstratives. These combinations give us the four basic demonstratives: īn-i, īn-ō, nān-ka, and nē-ka.

nān-ka is the most strongly proximal; it implies that the designated thing is in the immediate neighborhood of the Speaker, prototypically within arm’s reach. It can be translated as ‘this (one) right here’. ī-nī is also proximal, though it may relate to a somewhat less immediate neighborhood: something near to both S and H may be designated by the term. ī-nō often implies that the designated Thing is within reach of the Hearer; sometimes it seems to mean ‘medially distant’. nē-ka strongly implies that the designated Thing is beyond the reach of both the Speaker and Hearer.

The specifications outlined above are relative rather than absolute. The functional assembly against which they are profiled will be accommodated to fit different relevant situations. Even when the reference is to physical distance, the specifications will not be the same. For instance, inside a room nē-ka can be used to designate an object ten feet away, whereas outdoors using that form to designate an object so close would almost always be inappropriate. When standing in the fields near Tetelcingo, one could refer to it as īn-i nān-ka pwēblo ‘this town right here’, and to Oaxtepec as īn-ō pwēblo, and have to go as far afield as Tepostlán or Mexico City to find a proper designatum for nē-ka pwēblo. This is, of course, to be expected; we can in English speak of a bushing or a bearing as being a long way out of round when it is only a hundredth of an inch, or of the Milky Way as being close to the Andromeda Galaxy.

And often a sort of distance other than physical distance is referred to. For instance, in social contexts nē-ka implies social distance or alienation: if you call a man nē-ka you are implying that you are alienating yourself from him presumably because of something objectionable about him. Thus it is not good manners to refer to a person with that term, particularly if he is within hearing distance.

Another question is whether these demonstratives are adjectives or pronouns. Or perhaps the question should be whether such a question is an appropriate question to ask. In some sense it certainly appears that they are both.

In many constructions these demonstratives occur preceding a noun and to all appearances modifying it. For instance īn-ō lāka-ı (dem-dist man-abs) means simply ‘that man’. The simplest accounting for such cases is to say that the demonstrative is an adjective, that it, it has the profile of a stative Relation with a Thing as its trajector. The landmark of this Relation would be the (medial) range of īn-ō. The Thing which is located there, the trajector, functions as an e-site which is elaborated by the noun. This construal of īn-ō (ignoring the internal composition of the form) is diagrammed in D.2.g; the other demonstratives can be construed in a parallel fashion.

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8 This is probably the same element as the definite article of Classical Nahuatl (cited by Andrews 1975, however, as having a contrastively short i).

9 Evidence that it is in fact ‘be’ and not some other homophonous morpheme is provided by the fact that these demonstratives are pluralized by the irregular plural suffix used by ka (ka-te ‘they are’, nē-ka-te ‘those (ones)’) and are made honorific by using ka’s suppletive honorific stem (e.g. īlowak ‘he hon is’, nā-īlowak ‘this hon (one)’). īn-i and īn-ō have no special honorific or plural forms.

10 There are may other demonstrative forms in Tetelcingo Nahuatl, including question forms, manner, reason, and other adverbial demonstratives. Many of them are listed in Tuggy 1979:65-69.

11 Note that expressions implying distance lend themselves to expressing respect (cf. B.3 fn.4) as well as to being offensive.
However, the same general meaning can be arrived at in another way. We could claim that īn-ō designates not the Static Relation between a Thing and a location, but only the Thing as being in that location. Since that location is an epistemic one (the Thing is located with respect to the Speaker and Hearer and is definite, i.e. clearly locatable within their spheres of knowledge) and there is nothing else specified about the nature of the Thing, we would now be construing īn-ō as a pronoun. This construal is diagrammed in D.2.h. It parallels the construal of English A and THE as in 1.5.q-r, and accords with Langacker’s claim (1982a, fn. 48) that “epistemic predictions, as a general principal, never profile the epistemic relation itself, but only the objective structure being located epistemically.”

Note that even in this pronominal construal the medial range of īn-ō, defined against the base used to characterize all the demonstratives, is more salient than the rest of the base. (I have represented this by a light boldfacing of the ellipse representing that range.) In fact, īn-ō would be a “relational pronoun”, much as lid or father are relational nouns, with a prominent entity in the base singled out and functioning as landmark. If, as we have claimed, profiling is ultimately a matter of degree, we can see that the difference between D.2.g and h is really very slight, consisting only in whether the degree of salience of the landmark surpasses the vague norm necessary for it to constitute profiling or not. The difference between the lesser profiled entity in a Relation and a uniquely and highly salient entity in the base of a Thing is not great.

Under the pronominal construal, we could still account easily enough for the cases like īn-ō lāka-λ; īn-ō and lāka-λ both profile a Thing, and they would be put together in an appositive construction. Such constructions exist in Tetelcingo Nahuatl (e.g. lāka-λ pōčteka-λ (man-abs merchant-abs) ‘merchant man’), and, as far as I can see, there is no way I can demonstrate that īn-ō lāka-λ means ‘that man’ as opposed to ‘that one (who is) a man’. Note in particular that while both īn-ō and lāka-λ elaborate the Thing profiled by the other, the degree of elaboration is much greater from īn-ō to lāka-λ, making īn-ō more dependent overall. Thus īn-ō can still be viewed as a modifier of lāka-λ, even though it is not an adjective.

Also, there are many cases where a demonstrative (or even more commonly, two demonstratives in tandem; īn-ī nān-ka or īn-ō nē-ka) is used alone with no (overt) noun that it modifies. For instance, one can say īn-ī ki-neki iyā-s (dem-prox it-want go-fut) ‘this fellow wants to go’. The appropriateness of such a usage would be straightforward, given the construal of D.2.h. But it could also be accounted for assuming D.2.g, given the pattern (mentioned in D.3.) of using adjectives as nouns. īn-ō could still be basically adjectival and function in this way.

12 As will be clear in the next few paragraphs, I am by no means sure that this is necessarily true.
13 Positing an appositive rather than a head-modifier construction might help account for the fact that demonstratives always precede the noun they “modify”, while the normal adjectives usually follow it. I do not think that any really strong argument can be made from this, however.
14 It is interesting to note that most adjectives cannot function as nouns unless they are preceded by a demonstrative. This could (though it needn’t) be taken to mean that the demonstratives are the nominals and the adjectives are modifying them. The question is, then, whether īn-ī šōšok-ti-k (dem-prox green-conn-adj) means ‘this green(one)’ or ‘this(one) (which is) green’. The
I do not see much hope of being able to resolve the issue; I would expect that speakers probably construe things differently in different cases. When demonstratives are used in typically adjectival contexts the tendency will be for the salience of the landmark to be enhanced to the point of profiling. In typically nominal contexts the tendency will be for it to be downplayed, resulting in a pronominal construal. Thus I feel free to refer to these forms as demonstrative adjectives when they are used in (apparently) modifier positions and as demonstrative pronouns when they are used in nominal positions.

The non-demonstrative pronouns with which we have yet to deal share with the demonstratives this indeterminacy as to whether they are adjectival or (pro)nominal. Some of them are probably adjectival, at least etymologically; e.g. sen-te (one-num) ‘a, somebody’, meyak-te (much-pl) ‘many’. Others seem likely pronominal etymologically; e.g. iči ‘what?, what, something’, or iča ‘something’. They all can be used as pronouns, and most can be used adjectivally as well. I will treat them in the rest of this section as pronouns.

Indefinite Pronouns

A characterization of the non-demonstrative and non-personal pronouns involves several new parameters. One of these is the definite/indefinite distinction. Definite entities may be characterized as those which are identifiable within the sphere of common knowledge of the Speaker and Hearer. Indefinites, however, such as A in 1.5.q-r, are located outside of that sphere. Both the personal pronouns and the demonstratives are definite, that is, the Thing that profile is known to both the Speaker and Hearer. The non-demonstrative and non-personal pronouns are, by and large, indefinite.

I will represent the definite/indefinite distinction diagrammatically by a version of the Speech Situation map which is hidden...
Tetelcingo Nahuatl Transitivity and Space Grammar

Perhaps the prototypical indefinite pronoun in TN is *sen-te* (one-num). It designates a single Thing which is indefinite; thus it can be opposed to *ín-ð* ‘that one’ or any of the other demonstratives, or to *yaha* ‘it’. It is represented in D.2.j, ignoring its internal composition.\(^{18}\)

*se-ki* (one-pl?) ‘some’ is the plural version of *sen-te*; it profiles a plural Thing in precisely the same way that *sen-te* profiles a singular Thing. Other pronouns (or adjectives, however you want to treat them) which are similar include *meyak-tē* (much-pl) ‘many (people/things)’, *mākʷtē* (five-pl) ‘five (of them/people)’ and other numeral-derived forms, and *yeka* ‘someone’. *meyak* ‘much, a lot’ and *ēkï-l-ēkï* (little-?-rdp-dim) ‘a little’ both refer to indefinite masses rather than indefinite count Things. And there are others as well. All can be contrasted with forms like *ín-ð*, ‘that (one)’ or *yaha* ‘be’, which designate Things which are known both to Speaker and Hearer.\(^{19}\)

Specific exclusion from the sphere of knowledge shared by the Speaker and Hearer is a kind of epistemic grounding just as much as is inclusion in that sphere. A noun like *ōpīlō-λ* (buzzard-abs) ‘buzzard’ is not epistemically grounded: one does not know if it is a buzzard or the buzzard or some buzzard. However, *ín-ð* *ōpīlō-λ* ‘that buzzard’, *sen-te* *ōpīlō-λ* ‘a buzzard’, and *kanah sen-te* *ōpīlō-λ* (dub one-num buzzard-abs) ‘some buzzard or other’ are all epistemically grounded: the Hearer has been given an indication as to whether he and/or the speaker is supposed to the able to identify which buzzard is feint referred to. Similarly, *ākâ-λ* (mon-abs) ‘person’ is not epistemically grounded, but *yaha* ‘he’, or *sen-te* ‘a (person), someone’, or *kanah-yëka* ‘somebody (or other)’ are all epistemically grounded. Their relationships to the sphere of knowledge of Speaker and Hearer are specified.

Differences in Specificity

Another distinction needs to be introduced among these indefinite entities, however, namely the specific-unspecific distinction. I find this distinction hard to pin down in order to talk about it; the best I can do is as follows. We have spoken before of concepts which involve a number of parameters which in

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\(^{18}\) The suffix -te is apparently cognate with the noun stem *te* ‘stone’, and was used in a system of designating objects according to size and shape and perhaps other qualities: *sen-te-λ* meant ‘one (small) round (Thing)’ (Andrews 1975:188-189). It has lost most of that content in TN, and now means something more like ‘one countable (Thing)’. It is opposed to *sē* ‘one’ in certain usages where *sen-te* means ‘one in number’ and *sē* means ‘one in essence, of the same kind’ or some such thing. For instance *ok-sen-te* (yet-one-number) means ‘(an)other (one), *ok-sē* ‘(a) different (one)’. There are somewhat parallel distinctions between *ōn-te* (two-num) and *ō-me* (two-pl) and between *ye-te* (three-num) and *yey-i* (three-pls).

\(^{19}\) It is relevant to note, by the way, that the shared sphere of knowledge of Speaker and Hearer against which these distinctions are plotted is the Speaker’s estimate of the real-world sphere of knowledge. He can (and will) use an indefinite as long as he judges it more probable than not that the Hearer does not have the appropriate entity within his sphere of knowledge. In many cases he may be mistaken, telling the Hearer of the existence of an entity he is already aware of.

Also it is important to remember that this sphere of knowledge (and therefore the Speaker’s estimate of it) changes with time and communication: thus an entity introduced as an indefinite will usually immediately gain definite status, since the Speaker will assume (correctly for the most part) that a reflex of it is now identifiable by the Hearer.
prototypical instances fall together in a certain way, and this seems to be another such. There is a gradation along many dimensions from the prototypically definite, highly specific pronouns such as I to the most indefinite, non-specific pronouns such as whatever. Identity with a direct participant in the speech situation is the strongest kind of epistemic grounding; identifiability to such a participant is a weaker sort. Knowledge by someone else relevant is yet a weaker sort, or being singled out by participation in an identified Relation of a certain kind is another weak sort. Plurality, mass-ness, non-physical characterization, and so forth, are also relevant dimensions for this gradation. The definite/indefinite and specific/non-specific distinctions are different cut-off points or lines on this spectrum. They will tend to fall at certain natural breaks (e.g. the one posited above for TN definites vs. indefinites, with “known to S and H” delineating the cut-off). But there is nothing sacred about any one point. Some languages make the cuts differently; e.g. Koine Greek often used the definite article with proper names, as did Classical Nahuatl. I have heard Arabic speakers produce English sentences such as “The robber stole my money yesterday”, with the answer to the question “Which robber?” being “The robber that stole my money (of course!)”. Also there is nothing sacrosanct about there being two cuts along the spectrum, and it should not be surprising to find a language making more of one distinction than of the other.

In TN it seems that the most relevant parameter for the specific/non-specific distinction is identifiability to some relevant definite entity. Thus anything definite is also specific, since it is within the sphere of knowledge (epistemic reach) of the Speaker, and also since it is within the epistemic reach of the Hearer. Entities which are identifiable to the Speaker alone or to the Hearer alone are also specific,20 and so are entities which can be identified by relevant third persons.

Some forms are specific (e.g. definites, all the indefinites above in most usages at least). Some are ambiguous as to specificity (yeka can mean ‘someone specific’, and usually does, but occasionally, especially in non-present or non-indicative contexts, can mean ‘someone non-specific, anyone’). And some are unspecific (āki ‘whoever’, līī-mač ‘whatever’, kanah-il ‘something or other’,21 kanah=yeka (dub-someone) ‘anyone (at all)’, and so forth).

English indefinites are somewhat ambiguous or vague as to specificity: I’m looking for a little white dog has two readings: if the Speaker knows what dog is involved the phrase a little white dog is specific; if he does not know what dog is involved, i.e. if he is looking for “any little white dog or “some” little white dog, it is unspecific. This distinction is more explicit in TN, in such pairs as yeka o-ʔah-ti-k (someone past-shout-pret) ‘someone (specific) shouted’ (the implication being that either the Speaker or some relevant third person or perhaps the Hearer knows who this person was), versus kanah=yeka o-ʔah-ti-k ‘someone (or other) shouted’ (the implication being that neither the Speaker nor the relevant third person(s) nor (prototypically) the Hearer knew who shouted).

TN, then, has the contrasting forms yaha (definite), yeka (indefinite but specific) and kanah=yeka (non-, even un-specific). The three are diagrammed in D.2.k. The designatum of yaha (I have assumed a version in which it is a human) is within S_k-H_k, the Speaker and Hearer’s sphere of shared knowledge: i.e. it is definite

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20 Although entities which can be identified by the Hearer alone are also specific, they are much less commonly profiled, since it is not usual for Speakers to purposely talk to Hearers about things they do not know about and the Hearers do. Something near to this, however, would be occurring in English (and parallel Nahuatl) cases like “So you were held up in the middle of Balboa park by a/some hippie”, or “I hear you’re marrying a girl from Montana” where “a” or “some hippie”, or “a girl” is specific, being known to the Hearer, but indefinite, not being known to the Speaker. It is not clear, however, that the specificity is not to be attributed to participation in the grounded activity of robbery or marriage. The act of robbery or marriage also selects one individual participant out of the mass of potential ones, making it specific, though not definite.

21 The element -lā which appears in several of these unspecified forms (kanah-ỉlā ‘something or other’, amo-iḷa ‘nothing at all’, and occasionally just ỉlā ‘something’) is probably to be identified with the unspecified OM -lā (5.4) with an i epenthesized to avoid a one-syllable word. (Such epenthesis happens elsewhere in both nouns and verbs.)
(D.2.i). yeka is indefinite, outside S_k-H_k, but inside the area defined by the conjunction of S_k, H_k, and O_k (the knowledge of relevant Others). kanah-ye ka is outside of that area as well.

However, things are not as nice and neat as D.2.k might imply; the borderline between what is specific and what is not is a very fuzzy one. It is not clear at what point a Thing is identifiable to the Speaker or the Hearer, nor is it clear which Others (3rd persons) can be taken as important enough to have their spheres of knowledge included as specific. And, in spite of what I have more or less assumed above, it is by no means clear that such identifiability is the only parameter along which the distinction runs.

Furthermore, the conceptual plasticity of human thought has a tendency to muck up categories, even nice neat categories. We constantly talk of a thing as if it were something else, because it suits us to have it viewed that way. Thus the notion of “non-specific” can easily shift from “I/you don’t know who” to “we don’t care who”. Speakers shift their viewpoint, withdrawing or extending their epistemic reach, fading unimportant things out into obscurity even when they could locate them within their spheres of knowledge if they took the trouble. A clearly specific entity (as we have defined them above) can be designated by a form such as kanah-ye ka which, we have claimed, means non-specificity. Thus the borderline between cases where specific and non-specific forms are to be used is obscure and fuzzy, both because it is intrinsically difficult to pin down, and because usage makes it more so.

In the end it is often more accurate or useful to speak of these forms as meaning “specified” and “unspecified” (i.e. construed as if they were specific or non-specific) rather than “specific” and “non-specific”. This is especially clear in the case of the unspecified OM λa- (5.4, cf. diagrams 5.4.a-b). It can be used even of definites. Immediately after saying he was eating tamales and mole, one could designate that event by saying mientras ni-λa-kʷā-ya (while I-unspec-eat-impf) ‘while I was eating’. However one could not in the same place say mientras ni-h-kʷā-ya kanah-λa (while I-it-eat-impf dub-s.t.) ‘while I was eating something’.

The distinctions of definiteness/indefiniteness and specifiedness/unspecifiedness are relevant for the discussion of the third person dependent pronouns in general (OP’s in 5.1 and SP’s in Appendix F) and particularly for the discussion of the Unspecified Object Pronouns in 5.4.

**Possessive Pronouns**

TN has dependent as well as independent pronouns. The dependent pronouns are those which have internalized the expectation of a stem on which they depend phonologically and to which they stand in a particular semantic relationship. They include the SP’s (Appendix F), the OP’s (Chapter 5), and possessives.
Possessives share with the demonstratives and other pronouns we have just been discussing a certain indeterminacy as to whether they are Things or Relations, i.e. pronouns or adjectives. I will assume for this discussion that they are pronouns.\footnote{This contrasts with Langacker’s treatment (1981b, 21-22) of (cognate) Luiseño possessives. Note that unlike the demonstratives, the pronoun designates not the trajector of the possessive Relation but its landmark. As usual, I cannot really argue against the contrary proposal; the difference is a matter of the degree of salience of the possessive Relation within the predicate. However, I think the analysis presented above is every bit as plausible, and fits in slightly better with the relatedness of possessives to clearly pronominal forms (next footnote) and with their usage with postpositions. Historically this argument was perhaps a little stronger, as postpositions were productively used with nouns as well as (these) pronouns. Yet nouns are, I claim, construed Relationally in many other constructions (e.g. 6.2.e, F.m) and they might be able to be construed so here as well.}

Possessives, then, as pronouns, profile an epistemically grounded but otherwise schematic Thing, which functions as landmark for a Relation of possession. As in most languages, that Relation is considerably more schematic (vague) than its prototypical sub-case, possession proper, or ownership. It can also be instantiated by a number of other Relations which are more or less closely linked semantically to the notion of ownership. Among these are the Relation of a person to the parts of his body, to things he is using even though he does not own them, to members of his family and to things which belong to his family, to the town or region he lives in, or to deeds he has done. When used with just about any noun which has some Relation to a person prominent within its base, possessives are likely to be viewed as corresponding to that Relation, no matter how far removed it may seem semantically from ownership. For instance, a person’s enemy, or a person’s boss, or a person’s God, or an episode of sickness the person has undergone, are not normally regarded as his possessions, but the Relation of the person to them can still be expressed in TN (and English) through a possessive. Thus it seems that the notion of “possession” involved in possessives is, most schematically, simply the notion “related (statively) to”. This corresponds to the most schematic version of the notion “have”, with is equivalent to “related processually to”, and perhaps “get”, at least in English, which is (more or less) “related perfectly to”.

We can, then, diagram the possessive no- ‘my’ as in D.2.1. It profiles the Speaker and identifies him as landmark for a (schematic) Relation of possession.\footnote{It is to some extent pointless to ask if no- is a 1 pers sg pronoun which happens to be used only in possessive constructions, or whether it is a possessive which happens to 1 pers sg. Historically the former is probably more like what happened, since no- is pretty clearly cognate with ni- ‘I’ (F.a) no- ‘myself’ (5.3.b), nēč- ‘me’ (5.1.b-c), naха ‘I’ (D.2.a), and older forms like nehwa-λ. But being consistently used as a possessive will mean that the usage will become part of the meaning, by internalization, and thus the form now clearly has both the ‘1 pers sg’ meaning and the ‘possessive’ meaning.} Phonologically no- is prefixal, expecting to be followed by a stem. In construal with a noun stem, the stem is identified as the trajector of the possessive Relation.

When no- is used in construction with a noun the possessive neighborhood of the Speaker is relativized to the nature of the noun; the Possessive Relation is taken to be the same as some Relation prominent within the base of the noun. For example, when the noun is an article of clothing, a typically owned item, the possessive Relation is often understood to be the Relation of ownership. Thus no-šomplēlo (my-hat) can mean ‘my hat; the hat that I own’. The nature of the valence between no- and šomplēlo is as follows: šomplēlo is
clearly the profile determinant, as the profile of the whole expression is of a hat rather than of a 1 pers sg entity. There is no clear imbalance of dependency: the possessed Thing within no- and the owner of the hat within šomplēlo both function as e-sites; both are prominent within the base, but neither is profiled. To some extent it seems that the e-site within no- is more salient than that within šomplēlo; to the extent that that is the case, the overall dependency is from no- to šomplēlo, and we approach a prototypical modifier-head valence.

no-šomplēlo can also mean “the hat that I am wearing”; in TN, as in English, a person can call an article of clothing “his” as long as he is wearing it, even if it is owned by someone else. This seems natural enough, given that within the base of any article of clothing the Relation of a person wearing it is at least as salient as the Relation of a person owning it. The main difference between this construal and the one just discussed is that the possessive Relation is integrated with the “wearing” instead of the “owning” Relation within šomplēlo, with the concomitant change of e-site from owner to wearer. (The only other difference is that no- is somewhat less clearly dependent on šomplēlo overall, as the Relation of “wearing” is quite the most salient one within the base of šomplēlo.) In many (if not most) cases, of course, both construals will be invoked; the meaning may be, for both speaker and hearer, ‘the hat which I am wearing and which I own’, without giving either Relation greater prominence. The construal of no-šomplēlo as ‘my hat; the hat I am wearing’ is diagrammed in D.2.m.

The construal of constructions of no- with other nouns would proceed on the same basis. In each case, the Possessive Relation will be relativized to the nature of the noun, being identified with some prominent Relation in its base. Thus in no-tah-īfī (my-father-hon) ‘my father’ the familial father-offspring Relation will be taken as the Possessive Relation, and in no-ste ‘my fingernail’ it will be the (part-whole?) Relation of a person and a part of his body. In most cases one kind of interpretation will be strongly predominant, though in many, as in the case of no-šomplēlo, there will be more than one easily achieved and at least partially conventionalized construal.

In general, then, the construal of the Possessive Relation will depend on the nature of the noun. However, the principles of internalization guarantee that certain kinds of Relations which turn up over and over again as the Possessive Relation will become expected Relations, and will become conventionalized in prominent sub-versions of no-. Such a Relation is the Relation of ownership, which I would judge to be the prototypically construed Possessive Relation in TN, as in English. Thus to some extent the nature of the Possessive Relation will respond to the tendency to construe the possessive pronoun prototypically, as involving ownership, even if some other Relation is more salient within the base of the possessed noun. This accounts for the fact that the construal most likely to be given to an isolated form like no-šomplēlo, is ‘the hat I own’ rather than ‘the hat I am wearing’, even though šomplēlo is in itself more saliently an article of clothing than a possession. There are certain to be other prominent sub-schemas under no- as given in D.2.1, specifying what the Possessive Relation is. There is probably one for clothing, specifying it as the “wearing” Relation, and there is doubtless one for familial relatives, specifying it as a “kinship” Relation, and so forth.

There is a whole set of possessive pronouns like no-. They include mo- ‘your (sg)’ tī ‘his, to- ‘our’, nemo- (or namo-) ‘your (pl)’24 and im- ‘their’.25 Each of these parallels no- in every respect except that it profiles a different (or, in the case of to-, a more inclusive) participant or set of participants in the Speech Situation. Each will have different sub-versions specifying the Possessive Relation as one of ownership, kinship, or what have you. They will have over them various schemas for 1 pers Possessive Pronoun, Plural

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24 It will be noted that no-, to-, and nemo- are all homophonous with the corresponding reflexives, and that the 2 pers sg possessive mo- is homophonous with the basic reflexive morpheme. I do not know that these facts are significant, but I do not know that they are not, either.

25 The form of im-, like that of the doubtless related pl object marker -im- on verbs (5.1, fn.6), is somewhat uncertain; it might have an n instead of an m finally, and may have a “lax” i rather than a “tense” i. There are also ways to mark honorificness of the possessor, by the special 3 pers hon possessive tē (pl. tē-im) and the honorific suffix -ef(n) on the possessed noun or postposition for 2 pers hon or 3 pers hlon.
Possessive Pronoun, and so forth. All will be instantiations of a Possessive Pronoun schema which defines the whole class of possessives as used with noun stems.

Two special constructions should be mentioned. One is the construction of possessive pronouns with wāška ‘possession’, yielding a series parallel in many respects to the English mine, yours, his, ours, etc. The way to say “It’s mine” in TN is no-wāška. wāška is never used except in this construction and a verbalized form: mo-wāška-tiya (refl-possession-caus) ‘he appropriates, inherits’.

The other construction is with sē-Dl (one-nr) ‘self’, with no-sē-l meaning ‘by myself, I alone’. It always functions in such a way that it can be analyzed as adverbial, and usually is preceded by sā ‘just, entirely’. Thus sā ī-sē-l o-mo-kā (just his-one-nr past-refl-leave.perf) means ‘he was left all alone’. Like wāška, sē-l is not used except in construction with a possessive.

Possessive pronouns are also used with postpositions; these constructions will be discussed briefly in D.3.

D.3. Adjectives, Adverbs, and Postpositions

Adjectives differ from nouns and pronouns in that they profile a Relation rather than a Thing. But they share traits with nouns as well. They are allied with nouns (and adverbs and adpositions) as against verbs in that they are stative rather than processual. They differ from adverbs in that their trajector (the thing that is whatever the adjective specifies) is a Thing, whereas the trajector of an adverb is a Relation. (Thus adjectives modify nouns, whereas adverbs modify verbs, adjectives, adpositions, or other adverbs.) They differ from adpositions in that they are intransitive, allowing elaboration only of their trajector, not of their landmark. (Thus adjectives do not have objects like prepositions do.) In all these characteristics adjectives more closely approximate nouns than do adverbs or adpositions.

As an example of a typical TN adjective, let us take wēyi ‘big’. Langacker has suggested that adjectives prototypically have in their base some sort of scale, some particular region on which serves as the landmark, and a stative IN Relation holds between that internally specified landmark and the active zone or projection of the externally specified trajector.1

Such a construction was exemplified by the English big in 1.5.f. wēyi is essentially parallel to big. In its base is a scale of size, with a norm which either is a neighborhood or has a neighborhood around it. (This norm will be adjusted according to the nature of the trajector; it is different if the trajector of wēyi is a tree than if it is a man.) The landmark is the region above (toward the LARGE end, which is the positive end) the norm-neighborhood, and the trajector is profiled as projecting IN to that region. In symbolic relationship with this semantic configuration is the phonological sequence wēyi. These elements are diagrammed in D.3.a.2 It should be clear that D.3.a, like 1.5.f, is an elaboration of the Adjective schema given in 1.4.j.

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1 Having a scalar landmark is prototypical but it should not be thought a necessary or defining characteristic. Pregnant is an adjective, and so is dead, and expressions like very pregnant or three quarters dead are felt to be impositions of a scalar perspective on non-scalar qualities.

2 Cross-hatching the trajector in this diagram involves, as explained in 2.1, the claim that there is internalized to wēyi (as to other adjectives) the expectation that the trajector will be elaborated in whatever construction the adjective is used in; the trajector’s e-site function is a salient part of the predicate’s meaning.
It is a small but important point that this is a stative configuration and not a processual one. *wēyi* does not present the semantic picture in which the trajector becomes or ceases to be BIG (perfective processes) or even *is* BIG (imperfective process), but rather the picture is of the trajector being big. Another small but important thing to notice is that the notion of size is itself complex. Being large in all dimensions at once or small in all at once is the prototypical case, but not all cases are prototypical. *wēyi* as we have represented it does not specify which dimensions are more salient in this picture; I believe that height is the most crucial one here (for obvious perceptual reasons), though there is certainly a difference between *wēyi* and *wehkapa* (probably *weh-ka* (far-be) = ‘distant’ + *pa* ‘on’) ‘tall’.

Other adjectives by and large present a similar picture. *kos-ti-k* (yellow-conn-adj) ‘yellow’ locates the relevant aspect of the trajector in the yellow region of color space, *pec-ti-k* (slippery-conn-adj) ‘slippery’ locates it above the norm on a scale related to the ease with which something slides on it, *kʷal-i* (good-obs) ‘good’ locates it above the norm with respect to a scale measuring approximation to complete exemplification of a certain vague but desirable quality or qualities, *tōnto* ‘stupid’ locates it below the norm on a scale of intelligence. And so forth.

Adjectives, like nouns, have plural markers, used when their trajectories are plural. They also exhibit the “common number” phenomenon.

**Overlapping Categories: Noun and Adjective**

It is often difficult in TN to tell if a certain word is a noun or an adjective. Virtually any adjective may function in certain constructions (e.g. modified by a demonstrative) as a noun meaning “Thing which is Adjective”. Thus *in-ō wēyi* (dem-dist big) means ‘that big one’, or *in-ō tōnto* (dem-dist stupid) means ‘that idiot’.

We have just seen (D.2) that many pronouns (e.g. demonstratives, possessives) can be construed either as (pro)nominal or as adjectival. Nouns as well are often (perhaps almost always: 6.2, 7.1, F.m) construed as virtually adjectival Relations meaning “being a Noun” or “having a Noun” or some such thing. Certain types of morphology are typically associated with nouns or with adjectives, but there seem to be clear exceptions to any hard-and-fast rules. For instance, the pretty clearly adjectival *kʷal-i* ‘good’ apparently has the normally nominal absolutive suffix, the pretty clearly nominal *kō-kowe-ki* (rdp-ox-pl) ‘cattle’ has the normally adjectival plural *-ki*, and the likely adjectival *rīko, prōbe*, and *tōnto* (from Spanish adjectives *rico* ‘rich’, *pobre* ‘poor’, and *tonto* ‘foolish’) take the normally nominal plural suffix *-te* and can usually be glossed as ‘rich man’, ‘poor man’, and ‘fool’. The constructional patterns associated with nouns and

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3 It is not obvious whether these examples are best analyzed as cases of a demonstrative adjective modifying a nominal *wēyi* or *tōnto* (as suggested in the text), of a nominal-nominal appositive-type construction, or of an adjectival *wēyi* or *tōnto* modifying a demonstrative pronoun. If the adjectives are construed nominally, the adjectival trajectories cease to be e-sites, and the whole structure ceases to be Relational.
adjectives are often parallel (e.g. verbalizations 6.2, SP-Stem constructions F.h,m); in most cases they are identical except for the fact that the Noun one has nouns and the Adjective one has adjectives.

All of this should be no great surprise—the surprise would be to find a language that does not have such an overlap to some extent. Spanish has a tremendous amount of it: the three words rico, pobre, and tonto, mentioned above, are instances. As in TN these are very commonly used as nouns, and, as in TN, virtually any adjective can be used as a noun when modified by a demonstrative (or an article). El grande (the big) is the normal way to say ‘the big one’, or lo-s amarillo-s (the-pl yellow-pl) means ‘the yellow ones’. Nouns are often used as adjectives: according to the story Adam finally in disgust called the donkey burro instead of the more dignified asna, because he was so burro ‘asinine’. In English we keep the two classes somewhat more separate, but there still is overlap. For instance, are English words such as adult, automobile, giant, imbecile, American, Aztec, and so forth basically nouns or basically adjectives? Is little a noun in Bring me a little? Are top and left-hand and front in top left-hand front drawer nouns or adjectives? (Notice that you can say the very top drawer.) The way to account for these facts is simply to say that Nouns have Relations in their bases which characterize the Thing that is profiled. To the extent that some certain Relation from among them is singled out and becomes salient, approximating the degree of salience we are terming profiling (for profiling is, we are claiming, ultimately a matter of degree), to that extent the noun becomes adjective-like. And to the extent that a Thing is conceptually characterized only by a single Relation and the patterns of the language permit it to be expressed by an adjective coding that Relation with no overt noun, to that extent the adjective will become noun-like. We should assign to such forms both an adjectival and a nominal version, with a neutral version schematic to both and representing the morpheme at the most schematic level. Such an analysis is diagrammed for tōnto in D.3.b.

D.3.b. Adjectival, Nominal, and Neutral tōnto

Among the constructions into which adjectives enter are all the noun constructions, the SP-Adjective Construction (F.h), Incorporations (E.b-e), and (as modifiers) Nominals (7.1).

Adverbs

There are not many simple adverbs in TN, though adverbial constructions are quite common. Adverbs are like adjectives except that their trajector is a Relation instead of a Thing. As one example of a TN
adverb, consider ye ‘already, now’. This adverb locates a process (or other Relation) at (or near) the time of speaking.\(^4\) I would represent the semantics of ye diagrammatically as in D.3.c.

![Diagram](image)

As another example, consider the adverb laliwis ‘very, very much’. It, like wēyi, locates a trajector in the region above the neighborhood of the norm for a scale. However, the scale is one of intensity or salience: it is schematic to virtually all other scales, which measure intensity or salience with respect to some one characteristic.\(^6\) This trajector is specified to be a Relation rather than a Thing: it is the intensity or salience of the Relation that is designated. As with wēyi (and most other scalar adjectives and adverbs) the norm against which the intensity of the trajector is compared will vary with the nature of the trajector. laliwis kiyawi (very rain) ‘it’s raining hard’ will involve a higher degree of intensity than laliwis čipīni (very drip) ‘it’s dripping a lot’, because the verbs themselves profile similar processes with quite different intensities. Similarly laliwis īstā-k (very salt?-adj) ‘very white’ is whiter than laliwis īstal-ek-ti-k (very salt?-adj?conn-adj) ‘very pale’. This is, of course to be expected: it is paralleled in English (contrast *it's sprinkling pretty hard* with *it's raining pretty hard*) and Spanish and doubtless every other language in the world.

\(^4\) ye is also occasionally used with nouns; e.g. ye lāka-ƛ ‘he’s already a man/he’s a man now’. However, this usage only occurs when the noun is used “predicatively”: i.e. as a clause; you’d never get ye inside a noun phrase, for instance: *in-ƛ ye lāka-ƛ* (that already man) is malformed. There is independent reason to believe that nouns used predicatively are Relationally (even processually) construed (F.m., 7.1).

\(^5\) When used with verbs (which are already grounded with respect to the time of speaking) this specification becomes somewhat elastic. Preterite verbs are emphasized to have occurred and concluded (just) prior to the time of speaking: this meaning is closely equivalent to English ‘barely’. Imperfect verbs are viewed as having been on the point of occurring; ye here parallels English ‘nearly’ and thus is closely allied with the future tense usage mentioned just ahead. Present tense verbs are emphasized to be right now immediate present, or present as contrasted with the immediate past. Future verbs are construed as immediate and predictable: they can be translated by English “be (just) about to Verb”.

\(^6\) This very vagueness or schematicity provides some degree of explanation for why laliwis (and *very* in English and *muy* in Spanish) are (usually) adverbs instead of adjectives. To know that a Thing exceeds the norm does not fill in the picture to the prototypically desirable level; it is not enough to know that someone is *very*; we want to know “he’s very what”. (This is, of course, no absolute rule: adjectives like *extraordinary* or *sub-normal* are not much more specific, and we tolerate them easily enough.) Relations, however, more than Things, involve scales, and thus using them in conjunction with a predicate like laliwis will automatically provide an elaboration of the scale involved, fleshing it out to the desirable degree. Adjectives and adverbs tend to have scales more salient within them than do verbs and adpositions; thus it should be no surprise to find in English and Spanish that *very* and *muy* have largely confined themselves to adjectives and adverbs. laliwis, however, also takes verbs as its trajector. Note that even nouns can be trajectors of such an adverb, if they saliently include or are taken to include reference to or position on a scale; the phrase *the very top* (or bottom) was mentioned before; the credal statement about Jesus being *very God* and *very man* is perhaps another example. (The fact that both these usages are likely survivors of the original adjectival sense of *very* (‘true’) is in some sense irrelevant.)
Overlapping Categories: Adjective and Adverb

In 2.1 the case of English *loud* was discussed, in which an adjective was used as (and thus came by internalization to have the meaning of) an adverb. There is in TN a similar overlap of adverbs with adjectives: quite a few predicates can function in either category. (Predictably, they tend to be those adjectives which involve, as the active zone of their trajector, some process in which he is involved.) Thus čikāwa-k (*strong-adj*) is often used as an adverb meaning ‘quickly, fiercely, in the manner of a strong man’. Or yōli-k ‘light, soft’ can also mean ‘lightly, softly, slowly’. This is, of course, a common sort of phenomenon; how many a schoolmarm has tried in vain to prevent children from talking about running fast and talking loud or soft or slow? The forms recio or fuerte (‘fierce’ or ‘strong’) and ligero or suave (‘light’ or ‘soft’) are similarly used both adjectivally and adverbially in colloquial Spanish. The TN stem yek of yek-ti-k (*right-conn-adj*) ‘right, righteous, straight’ is one of the most common incorporated adverbs (Appendix E). Locative adverbs like ni-Dkā (*I-loc*) ‘here’ are sometimes used as demonstratives, meaning ‘this’ (cf. English *John here*). These phenomena are to be accounted for historically by internalization; what this means synchronically is that for these predicates the highest schema is neither adjectival nor adverbial, but simply a stative Relation between an Entity (either a Thing or a Relation) and some other Entity. (It will also mean that one or the other usage is likely to be felt as basic, with the other as an extension from it, but that need not concern us here.)

The only transitivity-related construction in which adverbs are crucially involved is the Incorporation construction, discussed in Appendix E (e.g. E.a).

Postpositions

Postpositions in TN correspond in meaning to English and Spanish prepositions, in that they profile a stative, transitive Relation, and in that they are largely locational, but have a large number of extended usages in non-spatial domains which are quite complicated at times. They differ in that they are postposed (in fact, suffixed) rather than preposed to their object.

As a simple example, let us take the postposition -pa(n) ‘at, on’. In a prototypical version, it designates a trajector in contact with the upper (flat) surface of a landmark. Both trajector and landmark function as e-sites; i.e. they must be elaborated. Thus pa is transitive: its landmark, as well as its trajector, is expected to be elaborated by some morpheme (or more rarely a more complex structure). It is always stated not only what entity is on something, but what Thing it is on. The trajector of pa (and of all the postpositions at the most schematic level) is an entity rather than a Relation or a Thing: X-pa structures can be used both adjectivally and adverbially, just like English or Spanish prepositional phrases. Phonologically -pa(n) tends towards suffixality as we have defined the term; it implies a preceding element of some sort within the same word. In fact, this preceding element always profiles a Thing; and it is identified as the landmark of pa.
This construal of -\textit{pa} is diagrammed in D.3.d. D.3.d is clearly an instantiation of the Adposition Schema in 1.4.j.

Other postpositions are like -\textit{pa} in specifying a stative, transitive Relation, but differ in what kind of Relation they specify. A listing of many of them, with a discussion of their usage, may be found in Tuggy 1979:61-64. They occur as incorporated elements in verbs (Appendix E) and are sometimes verbalized (6.2.k, 6.3.a-b, etc.). Many of them (including those in the examples just listed) are complex, consisting of a noun-postposition combination.\footnote{These were probably originally formed by using a possessed noun to fill the landmark valence of a postposition (see preceding footnote). For instance, -\textit{kši-}\textit{ša} (-foot-down.at) ‘down at the foot of’ probably originally had the constituency [\textit{[poss-foot]-down.at}], but it was used as a unit so often that the sequence [foot-down.at] came to be viewed as the basic unit (with the stative transitive Relational profile appropriate to a postposition), with the possessive added on to it, yielding the constituency [\textit{[poss-[foot-down.at]]}. They bear strong and very interesting similarities to the LM’s Active Zone incorporations (4.1.i, 4.2.d); they can be viewed as “transitivity switching” incorporations onto a postpositional rather than a verbal stem.}

Most commonly postpositions combine with possessives. Thus, in no-\textit{pa}, (\textit{my-on}) ‘on me’ (diagrammed in D.3.e) the possessive no- elaborates the landmark e-site of -\textit{pa}. The profile of -\textit{pa} corresponds not to the possessed Thing within no-, as in possessive-Noun constructions such as D.2.m, but rather to the Possessive Relation: postpositions in this construction can be viewed as specifying the nature of the Possessive Relation. Thus that Relation is functioning as an e-site within no-.\footnote{This of course implies that there will be a whole hierarchy of possessive pronouns with the Possessive Relation specified as an e-site, sisters to construals like D.2.1 under schemas neutralizing the differences.} The direction of dependency is clearly from -\textit{pa} to no-, as the e-site within -\textit{pa} is profiled and that within no- is not. -\textit{pa} is clearly the profile determinant, as the composite profile of no-\textit{pa} is clearly that of a Relation (‘on me’) rather than a Thing (‘me, on whom there is something’). Thus we have a canonical predicate-argument type of valence, in fact a
predicate-object valence, since no- is elaborating the landmark of -pa. It is thus quite proper that no- (and other nominals like it in other languages) should be termed the “object” of the postposition. Phonologically no- precedes -pa, and each is strongly dependent on the other; we have in effect a prefix-suffix combination.\textsuperscript{13} As explained in 2.2, however, I would posit a stronger dependency of no- on -pa than vice versa, because the range of possible elements preceding -pa is quite limited (just the possessives, productively) whereas the range of possible elements following no- in this construal, while limited to postpositions (by the fact that the whole possessive Relation functions as an e-site) is quite a bit larger.\textsuperscript{14}

\textsuperscript{13} Contrast this with Noun-Postposition constructions, where the postposition is suffixal.

\textsuperscript{14} Constructions such as no-pa can also be construed easily enough with the possessive taken as a Relation rather than a Thing: the whole postpositional Relation would function as an e-site, as would the possessive Relation. It would be a sort of apposition of two stative Relations, with each elaborating certain facets of the other.
APPENDIX E

Non-Nominal Incorporations

In this section are discussed the incorporation of non-nominal statives (adjectives, adverbs, and postpositions) into verb stems and the incorporation of verb stems into other verb stems.

Adverb Incorporations

It is fairly common in TN for certain adverbial elements to be incorporated onto the beginning of a verb stem, forming a more complex stem.

One example of this is that of the stem ḍeteka-namaka, which is composed of the stem ḍeteka ‘secret(ly)’ and the stem namaka ‘sell’. The composite stem means ‘sell secretly (behind the owner’s back)’. The adverb ḍeteka construes a process (its trajector) as occurring outside of the sphere of knowledge of some relevant person or persons. There is almost always the specification that those persons have a right to know of the occurrence of that process; there is a strong feeling of illegitimacy about the word. Less centrally it involves specifications about the manner (furtive and hurried) in which the process is perpetrated. The verb namaka was described in connection with 4.2.a: it involves someone in possession of some valuable item (goods) offering those goods for sale, and, prototypically, selling them. Prototypically the person owns the goods, but by no means always; in the version of interest to us here the goods belong to someone else. namaka is transitive, taking the seller as Trajector and the goods as Landmark.

In the construction, the trajector of ḍeteka is put in correspondence with the profile of namaka. There is in namaka no similarly salient reference to the manner in which the selling is carried out or to who (aside from the perpetrators) knows of its occurrence. Thus the dependency is from ḍeteka to namaka, with the trajector of ḍeteka functioning as an e-site. namaka is the profile determinant (and semantic heavyweight as well); the whole structure means ‘sell secretly’ rather than ‘secretly (selling/sold)’.

Thus we have a modifier-head type of valence: the autonomous element is the profile determinant. The person(s) from whom the trajector of ḍeteka is concealed is, at least prototypically, identified as the owner(s) of the goods sold, giving the meaning ‘sell off behind the owner’s back’.

Phonologically, as with the prototypical noun incorporations, neither stem is affixal to the other; neither ḍeteka nor namaka has internalized to it the expectation of the other. Their relationship is simply one of juxtaposition and inclusion in the same word.

The structure of ḍeteka-namaka is diagrammed in E.a.

1 Both stems do have internalized to them the expectation of some phonological string in the appropriate spot; however there is a rather high degree of specification of exactly what is expected there (cf. 2.2). ḍeteka expects the suffix -hi ‘diminutive?’, which it always bears as an independent word, while namaka expects either an OP (5.5.a) or one of a fairly small list of incorporated nouns. Neither stem fits the other’s expectations.
Notice that the incorporation of ičteka does not affect the transitivity of namaka; the complex stem remains transitive. ičteka can also be incorporated onto an intransitive verb (e.g. in ičteka-ƛa-htowa (secretly-unspec-say) ‘(lovers) talk secretly’) and leaves it intransitive. There is no reason why this should surprise us, given the kind of semantic integration between the two stems: ičteka is not the profile determinant, and the specifications it adds to those of the verb stem are not of the type that would strongly tend to affect transitivity.

There are a number of other adverbial stems that are commonly incorporated. A good many of them are always or almost always incorporated. The stem yek ‘good, well’ occurs fairly frequently in the adjectival form yek-ti-k (good-conn-adj) ‘good, upright, righteous, holy’ and forms derived from it. Only occasionally is the word used as an adverb (e.g. yek-ti-k ƛa-huskā-owa (good-conn-adj unspec-judge-vr) ‘he judges rightly, fairly’). However, the stem yek with an adverbial meaning is quite commonly incorporated into verb stems; e.g. yek-wikši-tiya (well-cook-caus) ‘cook s.t. well’, yek-tēnēwa (well-mention) ‘speak well of, praise s.o.’, yek-nōča (well-talk.to) ‘talk respectfully to s.o.’, yek-āna (well-take(along)) ‘guide s.o.’, yek-tēmī (well-be.full) ‘be good and full, full to overflowing’ yek-čika-tika (well-stick-dur) ‘be good and stuck’ mo-yek-ā-wiyā (refl-well-water-vr) ‘he rinses himself well’, and so on. This is common enough that I would want to claim that there is a well-established version of yek which has internalized it the expectation of being in this construction. yek is well on its way to becoming a prefix. The process has gone farther with nēn- ‘in vain, for no reason,’ and čikʷa- ‘angrily, strongly, disrespectfully’ (sometimes antonymous to yek), which never occur as independent stems, but are quite common in the same preverbal position where yek appears. For instance nēn-čiwa (vainly-do/make) ‘do/make s.t. to no avail’, nēm-polōwa (vainly-lose) ‘utterly lose s.t., ruin s.t., destroy s.t./s.o.’, čikʷa-ƛa-htowa (strongly-unspec-say) ‘talk disrespectfully, talk with “fighting words”’, čikʷa-kōsa (strongly-emerge) ‘surpass the rest, excel’. I believe that the well-known Nahuatl “directionals” om- and -wāl (originally ‘thither, hence’ and ‘hither’, but now with a variety of different usages and meanings; see B.2) are other examples of what started out as incorporated adverbs of direction and have become true prefixes.²

² There are a number of other features of the class of incorporated adverbs which we will leave basically untouched. There are many of them which seem to be derived via an element -kā (probably the same as a suffix kī ‘adjective? participle?’ that shows up on adjectival and nominal forms). E.g. melāh-kā-powa (true-ly?-recount) ‘testify to s.t., affirm s.t. truthfully’, mah-kā-rēhei (fear-ly?-shout) ‘shout with fear/fearously’ (—note how in one case the fear causes, in the other results from, the shouting: shades of 2.3 and our own ambivalent usage of fearful—), pitshō-kā-sēkīi (pig/dangerous-ly?-be.cold) ‘have malarial chills’, pah-kā-kochi (rejoice-ly?-sleep) ‘sleep well/deliciously, have a good sleep’, ḫosoh-kā-mati (love/dear-ly?-know) ‘be thankful’. [This stem can be either transitive, elaborating the grounds for thankfulness, or intransitive. Most commonly it occurs with no affixes, meaning “thank you!” This may, then, be seen as an exception to the rule that these incorporations do not affect transitivity.]

Compare these with the “manner” noun incorporations (4.1, esp. fn. 6); some of these may be examples of that category. E.g. melāh-kā-powa may be construed as ‘recount s.t. like/in the manner of a truthful man’; compare yek-ƛāka-melāh-ki (good-man-true-prtcp?) ‘good, upright, honest man’.
Adjective Incorporations

Remember that *yek-ti-k* (good-conn-adj) ‘good, righteous, well’ is more commonly used as an adjective than as an adverb. In some of the cases mentioned above of the usage of *yek* as an incorporated element there is a certain amount of indeterminacy: it is not easy to tell for sure whether *yek* is functioning as an adverb modifying the stem or as an adjective modifying a landmark of the stem. In some cases, such as *yek-āna* (well-toke(along)) ‘lead, guide s.o.’, it is pretty clear that it is the taking that is good or right rather than anything else. But *yek-wikši-tiya* ‘cook s.t. well’ might really involve construing the food as good or right rather than construing the cooking as good or right. It is, in fact, rather hard to separate the two ideas: the essence of cooking right is (except perhaps for purists) getting the food to come out right. Similarly in *yek-nōka* ‘speak respectfully to s.o.’ it is by no means clear that it is the speaking in contrast to the thing spoken that is respectful and ‘right’. Again, it is hard to characterize right speaking without recourse to saying the right things. And in at least one very common form with *yek*, *yek-čīwa* (good-make/ do), the *yek* is pretty clearly adjectival; the form means not ‘do s.t. well’ or ‘make s.t. the right way’ but ‘fix s.t., make s.t. right (again), make s.t. nice’.3

There are many other cases of incorporated adjectives. For instance *pec̸-tolow-a* (slippery-swallow-pres) means ‘swallow something slippery’. The adjective stem *pec̸* ‘sick, slippery’ describes the landmark, the thing swallowed. In this construction (and in other adjective incorporations) neither element is clearly dependent on the other semantically. There is within *tolowa* no salient specification of the landmark’s having any salient characteristic (of which *pec̸* could be an elaboration) and there is within *pec̸* no salient specification of anyone’s swallowing or doing anything to its trajector. Thus neither element has a salient sub-structure corresponding to the profile of the other: the only salient linking factor is the correspondence between the trajector of *pec̸* and the landmark of *tolowa*; that is the thing that is slippery is the thing that is swallowed. Phonologically we again have the same sort of case as with *ičteka-namaka*; neither stem is affixal to the other, rather they are simply juxtaposed in the same word. This construal is diagrammed in E.b.

![Diagram](image)

E.b. *pec̸-tolow-a*

There are many other incorporational stems in which the incorporated element modifies the landmark of the verbal stem, sometimes at all points in the time span profiled by the verb, or sometimes only at the end of that time span. For instance *kʷal-hta* (good-see) means ‘like, approve of s.t./s.o.’; the landmark is considered to be good all along.4 Similarly, *wel-mati* (it-delicious-know/taste) means ‘like, consider delicious’; the landmark is viewed as being delicious all along. However, in *wēyi-čīwa* (big-make/ do) ‘make

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3 Notice that in English we can say to a child “You did that nicely”, when we are more concerned with the finished product than with the manner of execution. Again, the manner of producing and the finished product are closely if not inextricably connected.

4 This account of *kʷal-hta* is not entirely satisfactory; a more complete analysis is suggested at the end of this section (E.e), in which the adjective corresponds to the active zone of the verbal landmark, with the result that the verb is dependent on it to some extent.
big, praise, aggrandize’ or in wehka-λa-λāli-y-a (far-down-land-vr-pres; = deep-place) ‘sink deep, lower very much’ or laŋtīh-kā-māwa (lazy-adj-infect) ‘infect with laziness’, the landmark is viewed as being big or deep or lazy only after (and as a result of) the making or placing or contagion.

In intransitive verbs such adjectival elements usually modify the trajector: contrast kĭś-λah-pač-λah-kali (him-eye-down-towards?-down-hurl) (the adjectival element is kĭś-λah-pač ‘facing downwards’ and the verbal element is λah-kali ‘hurl down’) ‘he throws, dumps him down face-downwards’, with kĭś-λah-pač-weği (where weği means ‘fall’) ‘he falls face-downwards’, or māšo-kīsa (tame-emerge) ‘come out tame, become tame’ with māšo-kiś-tyi-a (tame-emerge-cause-pres) ‘tame s.t.’. In sen-λah-iy-a (one-ground-vr-pres; ƛāliya means ‘place’) ‘gather together, bring together’, the adjective sen ‘one’ modifies the location of the landmark rather than the landmark; the things gathered are located in the same place but are not united into the same Thing. This contrasts with the verbs sē-ti-liy-a (one-vr-caus-pres) ‘unite’ and sen-kâwa (one-leave) ‘finish (leave whole), where the landmark is viewed as being one Thing at the end of the process.

**Postposition Incorporations**

There are also cases of incorporated postpositional stems: pa-weği (on-fall) ‘go up, ascend’ is apparently an old formation of this type, and so is pan-kīsa (on-emerge) ‘come out into the open, become plainly apparent’, with its causative form pan-kiś-tyi-a (on-emerge-caus-pres) ‘reveal, lay out plainly’. In all three cases the postposition pa(n) ‘on’ describes the final state achieved by the trajector at the end of its trajectory. In these cases the landmark of the postposition is left unspecified: the postposition is being used intransitively, becoming equivalent to an adjectival of place. However, the landmark of the postposition may also be specified, as in the cases of nakas-ika-tēka (ear-with-lay) ‘lay down on its side’ and mā-teč-āna (hand-touching-take/lead) ‘lead by the hand’. In the first case of the postposition with its specified landmark describes the final state of the landmark; in the second it describes the state in which the process was carried out rather than the final state.

Perhaps the most prolific incorporator of postpositional and adjectival elements is the verb stem ka ‘be’. It incorporates a number of demonstrative locative stems (whether pronominal or adjectival, see D.2.g-h discussion). E.g. nān-ka, nēkä, on-ka, on-kān-ka; (prox-be, dist-be, med-be, med-loc-be); ‘here is’, ‘(over) there is’, ‘here is’, and ‘there (still) is’, respectively. It incorporates basically locative postpositions and postpositional constructions; e.g. om-pa-ka, nē-pa-ka, ī-λān-ka, ī-λah-ka, ī-pan-ka, ī-hteh-ka (med-on-be, dist-onge, his-near-be, his-next-to-be, his-on-be, its-belly-be) ‘there (it) is’, ‘(over) there (it) is’, ‘(in) there him’, ‘it’s next to him’ ‘it’s on him’ ‘it’s inside it’, respectively. It also incorporates adjectives, whether or not of a locative nature; e.g. kwal-i-ka (good-abs?-be) ‘it’s good, OK’, ahweyoh-ka (fragrant-be) ‘it smells nice’.
nenkʷah-ka (alone-be) ‘he is alone’, wehka-λañ-ka (far-down-be) ‘it is deep’. In fact, ka occurs so often in constructions such as these that it has a strong expectation of preceding element; for this reason (and others) it feels like a suffix in these usages and may properly be represented as such.

Dependency of the Verb Stem on the Incorporated Element

For many of the examples in the last few paragraphs it is not the case that the verb has no sub-structure corresponding to the profile of the adjectival or postpositional element. When one is tasting the taste of the landmark is a salient part of the meaning of the process; to the extent that mati is construed as meaning specifically ‘taste’ rather than ‘know’, the taste will be a salient part of its meaning, and an adjective such as wel which describes that taste as delicious will be elaborating on a salient sub-structure within the verb stem. When one puts something somewhere or moves or is somewhere else (māwa), the place where one puts the thing or is or comes to be oneself is a salient element in the semantic structure. When someone infects someone else (māwa), the contagious condition is an important factor in the situation, and when one is or becomes, or makes something else come to be (ka, kiswa, čiswa), the final state achieved is very salient. And in all these cases this salient piece of the meaning corresponds schematically to the profile of the incorporated element. Thus, for instance, in wehka-λañ-λāl-iy-a ‘sink s.t. deep, lower s.t. very much’ the salient Relation of the landmark being in some specific place after being placed is what is elaborated by the adjectival element wehka-λañ ‘deep’. Thus the verb stem is dependent on the adjectival stem: ‘place’ involves the landmark being in a place, but ‘deep’ does not involve anyone causing its trajector to be deep. The structure of wehka-λañ-λāl-iy-a (ignoring the internal structure of wehka-λañ and of λāl-iy-a) is diagrammed in E.c.

Or in kʷali-ka ‘be good’, the verb stem ka contains salient reference to a certain Relation which is construed as holding with respect to the trajector. In effect, ka, like one (prototypical) version of its English counterpart be (Langacker 1982a, fig. 25), takes as an e-site a Relation, construing it as a process. And as stated above, -ka is actually suffixal in that it has a strong phonological expectation of an incorporated stem. The structure of kʷali-ka is diagrammed in E.d.

Thus in many adjective incorporations the adjective can be seen as an autonomous element elaborating a salient substructure (an e-site) within the verb stem. Not all adjective incorporations will have such a construal, however. For instance, in peq-tolowa (slippery-swallow) ‘swallow s.t. slippery’ (E.b) it is not clear that the tactile quality of the Landmark is a salient or central part of the concept of swallowing. Similarly, it

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8 Among the other factors are (at least) the facts that -ka is a phonological lightweight compared to the stems with which it combines, and that it is also semantically light: the semantic weight is in just about every case on the adjectival stem; we do not care to know that he is alone, but rather that he is alone.
is hard to see the relative final position (facing up or facing down) of the landmark as a salient, integral part of the structure of a predicate of throwing; thus \(\text{īš-Dƛah-Dpač-Dƛah-Dkali}\) ‘throwing s.t. down face-down’ is probably to be analyzed like E.b rather than like E.c.\(^9\)

**Active-Zone Adjective Incorporations**

\(kʷal-ihta\) ‘like, approve of’ and \(wel-mati\) ‘like, find delicious’, could be analyzed as in E.b, with neither the verb stem nor the incorporated adjective dependent on the other. However, there is more to their meaning than this would imply.

Another analysis for these stems would have the verb stem dependent and the adjective stem relatively autonomous. The adjective stem \(kʷal\) (or, in the parallel case \(wel\)) can be viewed as not just an incidental quality of the landmark, but as in some sense the landmark itself. That is, rather than the adjective designating an incidental quality, it designates the quality directly involved in the interaction of the landmark with the verb, the quality which is seen or noticed above the other qualities.

The notion of “active zones” (1.5, 4.1[2) is useful here. The goodness of the landmark is construed as its active zone, the aspect of it through which it interacts with the trajector in the Relation prescribed by the verb. The trajector is not construed as seeing the landmark per se, but as seeing the good(ness) of the landmark.

The notion of seeing (or perceiving, as this verb embodies a usage of \(ihta\) where the visual nature of seeing is de-emphasized) quite commonly (if not always) involves such active zones. When we see a person we only see that subportion of the outer surface of his body which is turned towards us and is not obscured by something else (such as clothes, though they can also be counted as part of “him”, i.e. as part of his active zone). When we perceive or understand or “see” a concept, we may be seeing only certain aspects of it, at least at first. Yet although these active zones are present generally and are obvious when you think about them, it is not entirely clear that they are naturally salient. In general they may be below the threshold of prototypical perception, so all-pervasive and usefully ignorable that we systematically do ignore them. However, to the extent that they are cognitively available and naturally salient, the valence involved in cases like \(kʷal-ihta\) will be from the verb stem to the incorporated element.

To the extent that the active zone of the landmark of \(ihta\) is a salient and separable piece of the structure, it will function as an e-site in the construction, and \(ihta\) will depend on \(kʷal\). Thus the structure will be as represented in E.e (with the active zone marked AZ), as contrasted with E.b.\(^{10}\)

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\(^9\) I do not mean to claim that such a specification could not be salient, and in fact I believe that one of the differences among languages is exactly how important specifications of this sort are in the semantic systems. For instance in Cora (Casad 1982) directionals are much more important than in English, and specifying them is elaborating a salient e-site whereas functionally equivalent English expressions like the glosses given will not be elaborating a salient pre-existent e-site but rather supplying extra information which is no more strongly expected than are dozens of other possible specifications.

\(^{10}\) E.b and E.e are not to be taken as alternative analyses in the sense that we should argue for one against the other. They represent, if you will, varying degrees of schematicity or delicacy in the representation, lowering the threshold of salience in E.e to allow a less salient element into the structure and raising it in E.b to achieve a more schematic view.

If the threshold is lowered far enough, every predicate in a language will have an e-site corresponding to every other predicate. For a more or less normal threshold of salience I would judge that the e-site within let us say \(lāl-iya\) for \(wehka-ƛ-ƛāl-iya\) ‘sink down deep’ would be salient enough to be noticeable. The e-site within \(ƛāh-kali\) for \(iš-ƛah-pač-ƛah-kali\) ‘throw down face down’, however, would not be salient enough to be noticeable; and the e-site within \(ihta\) for \(kʷal-ihta\) would be on the borderline.

But it is all a matter of degree. And, of course, the salience of the active zone e-site will vary from speaker to speaker and for one speaker from time to time, so that E.b and E.e might each be true in different cases of the same form at the same threshold of salience.
There are other cases where the active zone of the landmark of a transitive verb stem acts as an e-site for an adjective; one example is Ĥahko-Dposteki (half-break) ‘break something in two in the middle’. And the active zone may also be the active zone of the trajector in an intransitive verb stem; an example would be Ĥahko-kotoni (half-break) ‘break in two in the middle’. And in all the many cases we have seen which involve a change in the modified Thing, with the adjective modifying that Thing in its final state (e.g. ye-k-čiwa, māšo-kīsa, ‘fix s.t. up, become tame’) the adjective can be viewed as that aspect of the changing Thing which changes, i.e. its active zone.

Note that in the case of lātih-kā-māwa (lazy-adj-infect) ‘infect with laziness’ the being lazy can be viewed as the active zone of either the trajector or of the landmark or of both. This is one of the kind of cases mentioned at the end of 2.3, where the same Relation can be construed as either cause or result. It is paralleled by noun incorporations such as mā-kwi (hand-grasp), which can mean either ‘take s.o. by the hand’ (Landmark’s active zone) or ‘take s.t./s.o. with the hand’ (Trajector’s active zone). There are also parallels to this among causative and applicative suffixes (e.g. 6.3.a-b).

**Adjective Incorporations may be Construed as Noun Incorporations**

It was noted in D.2 that adjectives are often construed as nouns, profiling their trajector but fading their landmark back into the base. Most if not all of the adjective incorporations we have seen in this section can be construed as noun incorporations of the various sorts described in Chapter 4. Thus e.g. peč-tolow-a (D.4.b) can be taken to mean (slippery.thing-swallow-pres) ‘swallow s.t. slippery’, and be an object incorporation (4.5.a). A problem would arise as to why the stem should remain transitive, but it could be gotten around; cf. the Active Zone cases in 4.2 (e.g. 4.2.d). Perhaps an even better case could be made for Ĥa-ōme-piya (unspect-two-have) ‘be a bigamist’, where the Ĥa- presumably means ‘generalized/canonical activity’ (5.4), and ōme functions as the direct object, producing an intransitive construal translatable literally as ‘do two-having, be a two-haver’.

Although I think it possible for many of these incorporations to be so analyzed, I do not think it by any means likely that this would be the most salient analysis in most cases; the adjective incorporation analyses presented earlier are probably much more important to the characterization of most of these constructions.

**Summary**

Among incorporated adverbs, adjectives, and postpositions there are some that are dependent on the verb, modifying it, some can be construed as equal with it in terms of dependency, and some are relatively autonomous, elaborating an e-site within the dependent verb. The adverbial incorporations we examined were clearly dependent on the verb stem. The cases of equality included adjectival specifications whose trajector coincided with a Thing profiled in the verbal stem. In the case of the autonomous incorporated
elements, the e-site within the verb stem was sometimes a location (from among several involved in the process in some cases) of a profiled Thing in the verb stem, sometimes a quality which the Thing had or came to possess, and sometimes its active zone; sometimes perhaps the adjectives are construed as Things themselves and as arguments of the verb. There is a fairly strong tendency for the location or quality (or Thing) involved to have to do with the trajector of an intransitive or the landmark of a transitive verb stem.\(^{11}\)

In every case the verb stem is profile determinant: the profile of the composite structure is that of a process rather than that of the stative Relation profiled by the incorporated adverb, adjective, or postposition.

**Verb Incorporations**

It is not uncommon to have what looks like a verb incorporation. Sometimes the incorporated verb is a concomitant of the incorporating verb.

Examples would be \(\text{čōki-s-\text{-lah-\text{-lahto-wa}} (\text{cry-fut-\text{-rdp-\text{-unspec-say-pres}}})\) ‘talk while crying/wailing’, \(\text{čōki-s-wē-wē-\text{-eka}} (\text{cry-fut-\text{-rep-smile}})\)\(^{12}\) ‘smile/laugh through tears’, and \(\text{koč-\text{-la}-\text{-čiya}} (\text{sleep-\text{-unspec-\text{-look.for}}})\)\(^{13}\) ‘wake up (repeatedly) in the middle of the night’. In these cases the relationship between the two verbs is little more than coocurrence and coincidence of trajectors: the main connection between the crying and the talking/smiling or the sleeping and the waking seems to be that they occur within the same span of time and the same person does them.

In \(\text{čōkis-wē-wē-\text{-eka}}\) and \(\text{koč-\text{-la}-\text{-čiya}}\) the component verbs are opposites, alternate possible configurations against the same base. Thus each has within it a fairly salient substructure corresponding to the profile of the other which can be viewed as an e-site. However, those e-sites are not more schematic than the other verb; thus there is no strong dependence, let alone any clearly asymmetrical dependence, phonologically or semantically, of one on the other.

The questions of profile determinance and semantic weight are not easy to determine either. In \(\text{čōkis-\text{-lah-lahto-wa}}\) both elements could be viewed as profile determinant; the action designated is at the same time both a crying and a speaking. I believe that \(\text{\text{-lah-lahto-wa}}\) ‘speak’ is the semantically heavier, “main”, element in this construction, but I am not sure. As for the other two cases, neither element in an oxymoron can be profile determinant in the canonical sense: to the extent that one element contributes to the composite structure the specifications of the other element will be violated, since the two are opposites. Thus in \(\text{čōkis-wē-wē-\text{-eka}}\) neither crying nor smiling is really schematic for the mixture of half-crying and half-smiling that is intended, and in \(\text{koč-\text{-la}-\text{-čiya}}\) neither sleeping nor waking is fully schematic for the combination of sleeping and waking that is designated. \(\text{wē-wē-\text{-eka}}\) does seem to be semantically heavier and thus more nearly schematic for the composite structure (and thus more nearly profile determinant); the complex stem designates a kind of smiling more than a kind of crying (I think). In \(\text{koč-\text{-la}-\text{-čiya}}\), however, it is by no means

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11 This of course coincides with the distribution of absolutive case in languages with ergative/absolutive case markings, and it is well known that many phenomena involved in incorporations as well as in causation and causative constructions tend to follow this same distribution.

12 It is unusual that \(\text{čōka}\) ‘cry’ ends in an \(\text{i}\) in these forms: apparently it has undergone Deactivation (A.1), which normally occurs only before causatives and applicatives and the nominalizer \(-\text{lis}\). As mentioned in the appendix, this switch may be connected with a decrease in some factor related to transitivity. For the use of the future \(-\text{s}\) (which elsewhere does not condition Deactivation), see the discussion ahead.

13 In all the examples the incorporated verb stems are either future (as in the previous examples) or truncated (as \(\text{koč}\) here). Elsewhere such truncation often signals perfectionity (A.5, B.1) but in some cases (e.g. with aspect markers) it may be just a convenient combining form. That may be all that is involved here—it is under that assumption that I have refrained from glossing \(\text{koč}\) as \(\text{sleep-perf}\) (and similarly for later examples). Another possibility is that the truncation is symbolic (even iconic) of a nominalization.
clear to me whether a kind of sleeping or a kind of waking is being designated. Perhaps it is neither, but is a case of neither element being strongly schematic for the composite structure and therefore neither being profile determinant, and neither semantically heavier than the other.

The structure of koč-λa-čiya (ignoring the internal structure of λačiya) is given in E.f below: the second diagram is a morphologically unmotivated but representationally almost necessary explosion of the composite stem.

Other examples of the same sort of construction are koč-hta (sleep-see) ‘see s.t. in a dream’, and koč-tē-miki (sleep-unspec.hum-die.) tē-miki is literally ‘suffer concerning s.o.’, but as a composite it means ‘dream about s.o./s.t.’. Like tē-miki, koč-tē-miki means ‘dream about s.o/s.t.’. In some ways these constructions parallel the “manner” noun incorporations (4.1).

The verb may be taken as a causal factor in koč-kama-koyow-i (sleep-mouth-open(a.hole)-intrns) ‘yawn’. Perhaps a mixture of the two construals (cause and concomitant or manner) is involved in ki-koko-pāt-mik-tiy-a (him-throat-squeeze-die-caus-pres) ‘he strangles him’. (This stem has a noun incorporated into the incorporated verb, or perhaps, depending on constituency, into the incorporational verb-verb stem.) These “cause” incorporations again parallel a “cause” noun incorporation pattern (4.1).14

Another interesting case is that of the verb stem la-koč-melāwa (unspec-sleep-be.true) ‘be sound asleep’. It is not clear whether melāwa should be taken as an adjective, adverb, or noun stem (cf. melāwa-k (true-adj) ‘true, truth, truly’) or as an irregularly intransitive verb stem (cf. ki-melāwa ‘he straightens, trues it (up)’, mo-melāwa (refl-straighten) ‘he straightens out/up’). This last possibility (as reflected in the gloss) seems the most probable to me: it avoids an otherwise unattested type of construction (V + Adj/Adv = V). It would be a survival (I am fairly sure it is not the only one, though I do not have others documented) of an intransitive form of melāwa which is attested in Classical Nahuatl, meaning ‘be straight’ (Andrews 1975:452). It is clear that the norm to which the (ultimate) trajector is compared (corresponding to the straight in ‘straighten’ or the true in ‘be true’) is prototypical sleep. koč then can be taken as a sort of landmark incorporation, where it elaborates that norm. Or it can be taken as the trajector’s active zone, that aspect of him which is compared

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14 As with the Trajector’s Active Zone incorporations (4.1 g-h cf. 4.2), these incorporated verbs can be thought of as elaborating the trajector of the verb, thereby introducing a new Thing into the conceptual scene which takes over as a Trajector. Thus koč-pāt, squeezing the throat, since it is what kills the landmark in koč-pāt-mik-tiy-a, can be construed as the trajector of mik-tiya ‘kill’. (It is not a subject incorporation only because we have defined subjects as being Things, and this is not clearly construed as a Thing. If we adjust the definitions we can certainly call it a subject.) In any case, it introduces into the scene its own trajector, which is a natural choice for Trajector and so is chosen.

In koč-kama-koyow-i the process is apparently even more complex: kama is introduced as a subject incorporation (koyow-i is intransitive); koč, perhaps construed as a process which begins before it is consummated in falling asleep, is introduced (as a “cause” incorporation) on top of that; and finally the sleeper, who is now introduced into the scene, is construed as the final Trajector. He corresponds, of course, to the owner of the mouth as well; it would be quite odd for another’s sleepiness to make my mouth open.
to the norm. Both stems could be viewed as profile determinant, as both are schematic for the composite stem. However, the semantic weight is heavily on the sleeping, giving the feeling that \textit{melāwa} is a modifier, with \textit{koč} as its head.

In other cases the incorporated verb is clearly a landmark in the verb stem. In \textit{koč-pač-\text{-}iwī} (sleep-\text{-}come.near-\text{-}intrns) ‘he gets enough sleep’ the verb stem \textit{koč} corresponds to the landmark toward which the trajector approaches.\textsuperscript{15} This particular landmark of \textit{pač} is not (directly) elaborated elsewhere, even in transitive versions (e.g. \textit{ki-pač-\text{-}owa} (it-move.near-trns) means ‘he moves it over (near to s.t.)’, not ‘he moves (s.t.) near to it’).

**Verb-\textit{neki} Constructions**

With the stems \textit{kočiDsDneki} (sleep-fut-want) ‘be sleepy’ and \textit{ihtōDsDneki} (say-fut-want) ‘mean s.t.’,\textsuperscript{16} and a few other forms with \textit{neki}, we have the incorporated verb elaborating the Landmark of the other verb. Sleep, or communication, is what the trajector wants.

The verb stem \textit{neki} is a notionally imperfective transitive process profiling a Relation of desire and taking the experience of that desire as Trajector, and the thing arousing the desire as Landmark. I would claim that the Landmark is normally construed as a Thing even when it is an imagined or anticipated situation rather than a physical object; this is why a 3 pers sg OP is used with \textit{neki} in such cases. Thus \textit{ki-neki iyā-s} (it-want go-fut) means ‘he wants to go’.\textsuperscript{17} The future tense is used on \textit{iyā-s} in this construction presumably because the going is anticipated rather than (being) accomplished at the time of the wanting; I assume the future tense on the incorporated verbs is there for the same reason.\textsuperscript{18}

Another result of setting a process off into the future (and thus another reason for doing so) may be that it is easier to construe it as a Thing, a bounded area, let us say, in event space. In any case, \textit{iyā-s} in the clausal construction above is Thing-like enough to be identified with the designatum of \textit{ki-} ‘it’.

I will assume here, then (though an alternate account is given in E.h), that \textit{koči-s} and \textit{ihtō-s} are nominalized, construed as Things.\textsuperscript{19} We can diagram \textit{kočis-neki}, then, as in E.g below. I have represented \textit{neki} as a suffix here, since these forms, though not many in number, are of very frequent occurrence, and I think there is a well-established version of \textit{neki} which has internalized the construction and expects a stem to precede it. This is the version of \textit{neki} diagrammed here.

\textsuperscript{15}As has probably been noticed, \textit{koč} seems to be the most prolific incorporated verb stem. It may even have an essentially prefixal version with some degree of salience, expecting to be incorporated by a following stem.

\textsuperscript{16}Cf. Spanish \textit{querer decir} (want to say) ‘mean s.t.’, which may have influenced this construction.

\textsuperscript{17}It cannot mean ‘he wants him to go’; non-corresponding trajectors require a subjunctive clause rather than the indicative (future) here used. This can be given a certain degree of explanation in that his wanting e.g. me to do something is less likely to guarantee that it will happen than is his wanting himself to do it. It would be surprising if things were the other way around, if different subject constructions were indicative and same subject constructions were subjunctive. This specification (that indicative future marks the same subject) holds for the incorporational as well as for the clausal construction.

\textsuperscript{18}Compare the stem \textit{mačiDsDtiya} (announce (s.t.) to s.o.).

\textsuperscript{19}Andrews (1975:139) claims essentially the same thing for Classical Nahuatl, where this construction was apparently more nearly productive.
E.g. \textit{kočis-neki}

(Incorporated Object Analysis)

E.g is of course an Object incorporation, and the composite structure is, as we should expect, intransitive. But note that \textit{ihtōs-neki} is transitive. This can be treated as another case of the incorporated element introducing into the structure a Thing that is a natural choice for Landmark, as we posited for 4.2.c-d. But, as we have seen, this means that \textit{neki} is not profile determinant in the canonical degree; its Landmark is not taken as Landmark of the composite structure, rather the Landmark of \textit{ihtō-s} (and its Trajector as well, since the two Trajectors correspond) is adopted.

This suggests another analysis, which may be at least as salient, in which \textit{ihtō-s} (and similarly then, though with less reason, \textit{koči-s}) is construed as a process rather than as a Thing and is profile determinant and thus semantic heavyweight, making it the “main” verb, and \textit{neki} its satellite. The notion of “meaning” is under this analysis construed as a kind of saying (i.e. communicating), namely communicating which is desired. Under the analysis parallel with E.g it would be rather a kind of desiring, namely a desiring to communicate. Similarly being sleepy can be viewed as a kind of sleeping, namely sleeping that is desired, rather than a desiring which is for sleep.\(^{21}\) Under this construal the compacting of \textit{ihtōs-neki} would not involve any shifting of the profile: \textit{ihtō-s} would be profile determinant in the canonical manner and \textit{neki} would be a sort of modifier on it. \textit{-neki} would in fact take its place along with the aspect markers (B.2) as a “desiderative” suffix. This construal of \textit{ihtōs-neki} is diagrammed in E.h. In E.i is a diagram of \textit{koči-s-neki} in a similar analysis; it differs from E.h in that both \textit{neki} and \textit{kočis} are schematic for the composite structure and thus profile determinant, but like it in that \textit{kočis} is taken as the heavier of the two, and thus as the “main” element.

\(^{20}\) Another possible construal would be to incorporate the verb stem \textit{ki-htō-s} ‘will say it’ rather than just the stem \textit{ihtō-s}. This would not work so well with other cases such as e.g. \textit{tēč-ilwi-s-neki} (us-say.to-fut-want) ‘he is trying to tell us, it signifies for us’, where the direct object need not be 3 pers sg but could be any person (1 pers pl in the example). One would have to claim that each OP-\textit{ilwi-s} combination was incorporated as a separate construction.

\(^{21}\) An argument against this construal would be that the temporal profile of the composite structure is more dependent on that of \textit{-neki} than on that of the stem. However, this is not fatal. In e.g. \textit{I’m going to town tomorrow} the time specification of \textit{tomorrow} takes precedence over that of \textit{I’m going}, but that does not make \textit{tomorrow} profile determinant. It just underlines the fact that profile determinance is not an absolute thing. Cf. the discussion in 7.1 about clausal elements “warping” the structure of the verbal.
I think that both kinds of analyses, those like E.g and those like E.h-i, are probably correct to varying extents. I think that this is an important part of the explanation of the fact that there is vacillation, sometimes even by the same speaker, as to where to put 3 pers honorific suffixes (B.3) on these forms. Usually they are put on the “incorporated” stem (koči-wa-s-neki, ki-htō-lō-s-neki ‘he hon is sleepy, means it’), which indicates that the stem is the “main” stem and neki is a suffix. But not infrequently they are put on neki (koči-s-nekī-wa, ki-htō-s-nekī-wa), indicating that it is the “main” verb stem.

Summary

To sum up, there are a number of constructions in which it appears that a verb stem is incorporated into a verb, much as noun and stative Relational (adverb, adjective, and adpositional) stems are incorporated. Some of these seem to be a type of “manner” incorporation; the two verbs are linked in that they occur during the same span of time and each modifies the action of the other. koč-λa-čiya (sleep-unspec-look.for) ‘wake up (repeatedly) in the middle of the night’ (E.f) was one example. Some are apparently “cause” incorporations: e.g. koč-kama-koyow-i (sleep-mouth-open-intrns) ‘yawn’. In a number of cases the incorporated verb stem can be taken as elaborating a landmark, e.g. in λa-koč-melāwa (unspec-sleep-be.true) ‘be truly asleep’, or in the verbs with a future stem and neki ‘want’, such as koči-s-neki (sleep-fut-want) ‘be sleepy’ (E.g.) or ihtō-s-neki (say-fut-want) ‘mean s.t.’. Many of these examples can also be viewed as having the first stem be the “main” stem, both profile determinant and semantically heavier than the second, which then becomes satellite to it. Such analyses are diagrammed for ihtō-s-neki and koči-s-neki in E.h-i. In these construals -neki (or perhaps -s-neki) is, in effect, a desiderative suffix, parallel in this and other ways to the aspect markers (B.2).

The Relation Incorporation Construction

All of the incorporational constructions we have considered in this section can be subsumed under E.j, the Relation Incorporation construction, which specifies the incorporation of a Relation (either processual or stative) into a verb. The verb is prototypically profile determinant, though in certain construals (e.g. E.f, E.h) it may not be. Typically the verb depends on the incorporated Relation but in certain cases (E.a-b, E.f) it does not. In every case the incorporated Relation phonologically precedes the incorporating verb; in most cases there is no strong asymmetry of phonological dependence between them.
Ej. Relation Incorporation Construction
APPENDIX F

Subject Pronouns (SP’s) and SP-Stem Constructions

The SP’s

TN has a class of prefixes parallel to the OP’s (5.1) which instead of identifying a participant in the Speech Situation as landmark of a process identify him as trajector. For instance, *ni* is a 1 pers sg nominal with the internalized specification that it is the trajector of some Relation. Since the internalized Relation is always elaborated in a construction, there will be internalized reference to its being elaborated; it is expected to be an e-site. This structure is the topmost schema in F.a.

![Diagram](image)

F.a, *ni*-

The e-site Relation in the schema just discussed was indeterminate as to processuality or stativity. In fact *ni* sometimes combines with verbs and sometimes with stative Relations. Thus there are prominent subschemas under that schema which specify a verbal (processual) as opposed to a stative Relation of which the designated Thing in *ni* is the trajector. These two sub-schemas are also represented in F.a. The first would be a sub-version of the *ni*-Verb construction which is a sub-version of F.f, and the second an internalization of the *ni*-Adjective construction subsumed under F.h. Similar versions will exist for the other SP’s like *ni*.

In F.a the phonological shape of *ni* is given as *n(i)*-. This is intended to represent a neutralization of the two (surface) phonological shapes of the morpheme we have called *ni*, namely *ni*, which occurs before consonants,¹ and *n*- which occurs before vowels. In other words, each of the schemas in F.a will have two sub-versions which specify *ni* before a consonant-initial stem and *n* before a vowel-initial stem.² Three

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¹ Rarely *ni* may occur before a vowel which is part of a borrowed or incorporated element. This usage is quite a bit more common in *ni*-Noun constructions.

² In Tuggy (1981) it is argued that this alternation (and the many others like it) must be able to be viewed as at once suppletive, epenthetic (by the phonological rule A.6), and deletive (by A.8). The suppletive motivation for the alternation is expressed
other prefixes in this section (ti- ‘we’, ti- ‘you sg.’, and ši- ‘imperative’) have parallel phonological alternations.

As we might expect, ni- is paralleled by a whole set of similar prefixes. All of them, including ni-, are referred to in this work as Subject Pronouns (SP’s). They include the following: ti- ‘we (1 pers pl subject)’, ti- ‘you (2 pers sg subject)’, and ne- ~ na- ‘you (2 pers pl subject)’.3 ti- ‘we’ and ne- ‘you pl’, like their OP, possessive, and independent counterparts, have sub-cases specifying the presence or absence of one or more Other participants or Hearers (in the case of ti-) along with the profiled Speaker(s) or Hearer(s).

No 3 pers SP’s were listed above; this is because you never see any. There is no overt prefix to mark stems with either 3 pers sg or 3 pers pl trajectors. However, a verb with no prefix is understood to be a verb with a 3 pers trajector. This situation is to be contrasted with, for instance, nominalized verbs, where there is again no overt SP, but neither is there any priori expectations as to who the trajector is: the person crying in čōki-lis-Dƛi (cry-nr-abs), ‘crying, weeping’ could be the Speaker, the Hearer, or anyone else. This situation could be handled in a couple of ways.

In one there would simply be no provision for marking these stems: they are the unmarked case. Stems do not have to have a prefix marking their trajector, and that is that.4 The problem with that is that it does not account for the fact that such an unmarked stem can only occur when there is a 3 pers trajector. However, if you state that you always have a prefix when the trajector is 1 pers or 2 pers, that is equivalent to stating that you will use the bare stem only when there is a 3 pers trajector, and that will, by internalization, mean that the meaning ‘3 pres trajector’ will be associated with the bare stem construction. This in turn will explain the fact that the bare stem construction cannot be used with 2 pers or 1 pers trajectors. Thus what we wind up stating in the end is that such stems are in a construction in which a 3 pers trajector is specified, which makes a 1 or 2 pers trajector semantically incompatible.

This construction can be viewed as having that information specified by a semantic element which is phonologically null: it is even possible (and reasonable, though not absolutely necessary) to claim that it is prefixal to the verb. What we have, then, is a zero prefix, the limiting case of affixation where instead of adding phonological segments to a stem (canonical affixation) or modifying the stem in some other way (as do process morphemes), it simply leaves the stem alone. This analysis of the 3 pers sg SP is represented diagrammatically in F.b below.

![Diagram](attachment:image.png)

simply by listing versions of both types as units in the grammar. The epenthetic analysis would involve viewing ni- as an extension of n-, while the deletive analysis would involve viewing n- as an extension of ni-.

3 There are also archaic forms nen- and nan-. ne- is the most common form.

4 Thus (at least apparently) Carochi (1645:411) “… para tercera persona no ay nada, basta la rayz del verbo...”
Plurality of 3 pers trajectors is not indicated by an SP, though it may be indicated (indirectly) by reduplication of the verb stem or by various plural marking verbal suffixes. The constructions involved are listed in B.3 and will not be discussed here. They are also used with the other plural SP’s.

A final prefix which I will classify as an SP is the prefix ši-, which is used on imperatives and other subjunctive verbs with 2 pers trajectors. However subjunctivity is to be represented, ši- will have it specified with respect to the e-site Relation.\(^5\) This form is used on nouns and adjectives in subjunctive or imperative clauses as well as on verbs. ti- and ne- are not used in any of these places.\(^6\) Thus there will be an internalized specification in ti- and in ne- that they deal with non-subjunctive forms only.

All of these various SP’s will be united under schemas in which the person, number, and mood distinctions are nullified, but in which it is specified that the profiled Thing is the trajector of a Relation, which will be elaborated by a stem. The schema for 2 pers SP’s will include ši- as well as ti- and ne-; it is probably to be viewed as having sub-schemas specifying singular (ti- and ši-) versus plural (ne- and ši-), and subjunctive (ši-) versus non-subjunctive (ti- and ne-). All of these schemas will be subsumed under F.c, the defining schema for the class of SP’s.

**SP-Verb Constructions**

As a typical example of an SP-Verb construction, let us take ni-koči (I-sleep) ‘I sleep’. The composite semantic structure of this expression construes the Speaker as trajector experiencing or undergoing processually (in present time) the state of sleep. Componentially, the ni- designates the speaker and koči designates the process of sleeping, and their phonological combination symbolizes the semantic identification of the speaker as the trajector of the process.

ni- was discussed in F.a and koči was represented in 3.1.b. Their combination is effected as follows: Phonologically the sequence koči elaborates the stem implied by ni-. Semantically, the concept SLEEP elaborates the stem implied by the SP. Also, the SP elaborates the trajector of the process SLEEP. Since this latter case is elaboration of a profiled element whereas the former is not, the dependency as a whole is of SLEEP on the SP. SLEEP is also the profile determinant; the composite structure bears the profile of a process of sleeping. The phonological integration bears a symbolic relationship to the semantic integration; thus the composite semantic structure is symbolically related to the composite phonological structure. These elements are diagrammed in F.d below.

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\(^5\) The concept “subjunctive” must have in its base some reference to the “real world” functional assembly of the Speaker and also his conception of the “real world” of the Hearer. Subjunctives place the subjunctivized entity out of at least one (usually both) of these “real worlds”. Imperatives can easily be viewed as a sub-set of subjunctives, involving the will of the Speaker that the subjunctive entity come to be in the “real world”.

\(^6\) Some speakers sometimes use ti- and ne- (or whichever of its variants they prefer; this seems to be more common among those who use something other than ne-) in non-imperative subjunctive forms (rarely) and (more commonly) to mark nouns and adjectives in both subjunctive and imperative constructions. For speakers who do this consistently, ši- would specify an imperative verb rather than a subjunctive-including-imperative Relation, and ti- and ne- would specify non-imperative rather than non-subjunctive, with the non-imperative requirement holding only for verbs.
Verb construction would be rather than (Verb construction which will be, and once more designates the speaker (as trajector), and the Verb, phonological pole specifications peculiar to particular verb stems such as formations such as the last two above. In this schematic construction the semantic and phonological which would characterize as a class those which have independent unit status and would sanction novel formations such as the last two above. In this schematic construction the semantic and phonological specifications peculiar to particular verb stems such as koči or k-neki or ki-m-bakēroh-kiš-tiy-a are bleached out, leaving only the intransitive Verb Stem schema (3.1.a) in their place.

Parallel to the units such as ni-koči and ni-k-neki there exist many SP-Verb units in which the other SP’s combine with specific intransitive verb stems. Some of these units are listed below.

<table>
<thead>
<tr>
<th>ti-ya</th>
<th>‘you are going’</th>
<th>ti-yā-s-ki</th>
<th>‘we will go’</th>
</tr>
</thead>
<tbody>
<tr>
<td>you-go</td>
<td></td>
<td>we-go-fut-pl</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ne-ki-htoh-ki</th>
<th>‘you (pl) said it’</th>
<th>ši-ye-ta-kā</th>
<th>‘(you pl) Be! (= Shut up!)’</th>
</tr>
</thead>
<tbody>
<tr>
<td>you.pl-it-say-pl.perf</td>
<td></td>
<td>2.pers.impv-be-dur-pl.impv</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ki-hta-s-ki</th>
<th>‘they will see it’</th>
<th>ki-k*al-hta</th>
<th>‘he (they) like(s) it’</th>
</tr>
</thead>
<tbody>
<tr>
<td>it-see-fut-pl</td>
<td></td>
<td>it-good-hta</td>
<td></td>
</tr>
</tbody>
</table>

(Notice that I am claiming that the last two examples above actually have the 3 pers SP Ø– and thus are examples of SP-Verb constructions, even though they do not have any overt morpheme preceding the stem.)

For each of the SP’s there will be a construction parallel to the ni-Verb construction which will be schematic to many constructions, both units and novel constructions, such as those just given above. In this
schematic construction the SP will be combined with the Intransitive Verb Stem schema. Thus there will be two *ti*-Verb (one 1 pers pl and one 2 pers sg), a *ne*-Verb, and a *o*-Verb and a *ši*-Verb constructions. These are organized under schemas neutralizing person, number, and mood distinctions, and they in turn are under the SP-Verb construction F.f (=5.5.g), which defines the class as a whole.

In this construction the SP schema F.c combines with the Intransitive Verb Stem schema in the same way that *ni*- is combined with *koči* (excepting the requirement for a C-initial stem) or *ne*- with *ki-heo-hi*.

To resummarize the relevant points, phonologically the stem elaborates the e-site within the prefix. Semantically the stem elaborates the stem implied by the SP, and the SP elaborates the trajector of the stem. Since the trajector is a profiled e-site while the implied stem is not, the overall dependence is of the stem on the SP. The stem is profile determinant: the overall profile is that of a Process rather than that of a Thing.

**SP-Adjective Constructions**

SP’s also appear in constructions with adjectives. As an example, let us take *ni-wēyi* (I-big), which can usually be glossed as ‘I am big’. The composite structure construes the speaker (being) big. Componentially (as implied by the morpheme glosses), *ni-* designates the speaker, while *wēyi* designates the Relation of bigness. *ni-* is discussed in F.a, and *wēyi* in D.3.a. Since *wēyi* is an adjective rather than a verb, it is a stative configuration rather than a processual one. It does not present a semantic structure in which the trajector becomes, or ceases to be, BIG (perfective processes), or even IS BIG (imperfective process), but rather the construal is of the trajector being BIG (state). Thus the whole expression is perhaps more accurately glossed as ‘I/my being big’ rather than as ‘I am big’.7

In the construction *ni-wēyi*, *wēyi* is integrated with the version of *ni-* that has a stative Relation implied (F.a). *wēyi* elaborates that implied Relation, and *ni-* elaborates the trajector of *wēyi*. Since the e-site within *wēyi* is profiled and that within *ni-* is not, the overall semantic dependence is of *wēyi* on *ni-.8 *wēyi* is the profile determinant: the profile of the whole is that of a stative Relation rather than a Thing. Phonologically, *ni-* is prefixal; *wēyi* elaborates the schematic stem it implies.9 These elements are diagrammed in F.g below.

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7 Note however that it can be used as a clause (7.1), and there, I claim below, receives epistemic grounding, making it equivalent to ‘I am(was) big’.

8 [Note that the e-site in *ni-* is much more schematic than that in *wēyi*, which makes the direction of dependence less obvious than is claimed in the text. The same is true of the SP-Relational Noun analyses such as the one diagrammed in F.k]

9 Again, *ni-* as opposed to *n-* implies a C-initial stem, irrelevantly for our purposes here.
There are, of course, many other \textit{ni}-Adjective units, among them \textit{ni-ʃi-ʃiki-ʃi} (1-rdp-little-dim) ‘I (being) little’ and \textit{ni-čikak-ti-k} (1-strong-conn-adj) ‘I (being) strong’, and other presumably non-unit constructions, such as \textit{ni-wēl-ik} (1-delicious-adj) ‘I (being) delicious’ or \textit{ni-neší-ti-k} (1-osh-conn-adj) ‘I (being) gray’. Schematic to all of these, and sanctioning the formation of the non-unit constructions, is the productive \textit{ni}-Adjective construction, in which the semantic and phonological specifications peculiar to particular adjective stems are bleached out, leaving only a schematic adjective (Stative Intransitive Relation) in their place.

For each of the other SP’s there are many constructions, both units and non-units, parallel to \textit{ni-wēyi} and \textit{ni-ʃi-ʃiki-ʃi}. some of these are listed below.

<table>
<thead>
<tr>
<th>ti-ye-te-me</th>
<th>‘we (being) three’</th>
<th>ti-čikāwa-k</th>
<th>‘you (being) powerful’</th>
</tr>
</thead>
<tbody>
<tr>
<td>we-3-num-pl</td>
<td></td>
<td>you-strong-adj</td>
<td></td>
</tr>
<tr>
<td>ne-ahweyo-ti-k</td>
<td>‘you pl (being) fragrant’</td>
<td>ne-kʷah-kʷal-i</td>
<td>‘you pl (being) good’</td>
</tr>
<tr>
<td>you.pl-fragrant-adj</td>
<td></td>
<td>you.pl-rdp-good-abs</td>
<td></td>
</tr>
<tr>
<td>pisik-ti-k</td>
<td>‘it (being) full to bursting’</td>
<td>tē-λah-yel-ti-k-i</td>
<td>‘they (being) noxious’</td>
</tr>
<tr>
<td>fat-conn-adj</td>
<td></td>
<td>unspec.hum-unspec-vomit?-caus-adj-pl</td>
<td></td>
</tr>
<tr>
<td>ši-tōnto</td>
<td>‘you (imperatively being) foolish’</td>
<td></td>
<td></td>
</tr>
<tr>
<td>you.impv-foolish</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As with the verbs, I am claiming that many (if not all) adjectives with no overt SP prefix are actually examples of an SP-Adjective construction with the SP \textit{e-} ‘3 pers’.

For each of the SP’s, then, there will be a construction parallel to the \textit{ni}-Adjective construction, in which the SP combines with a schematic adjective stem. This construction will be schematic to all instances such as those above which have that SP, and will sanction novel constructions.

These will be organized under schemas neutralizing the person, number, and mood distinctions, and those in turn will again be organized under an SP-Adjective schema, in which the SP schema (F.c) is combined with the Adjective schema in the same way that \textit{ni-} combines with \textit{wēyi}. That is, phonologically the SP is prefixal to the adjective stem, with the stem elaborating the e-site of the prefix; semantically the stem elaborates the schematic Relation implied by the SP and the SP elaborates the trajector of the stem, the stem is, overall, dependent on the SP, and the stem is the profile determinant. This construal is diagrammed in F.h.
SP-Stative Constructions Used as Clauses

Clauses, I claim in 7.1, typically have as their profile determinant a verbal. One common type of simple clause appears to violate this expectation, consisting instead of an SP-Adjective (or an SP-Noun) construction, which I claim above (and below) are stative rather than processual. However, these cases can be (and are, spontaneously) translated by imperfective (usually present) clauses, and I assume that in these cases there is a warping or transformation of the basic stative construal to the kind of meaning demanded by clausal use, i.e. to a processual construal (cf. the discussion of such warpings in 7.1). Thus ni-wēyi (F.d) was glossed ‘I being big’, but in clausal use I am claiming that it shifts in meaning to ‘I am (or was/will be imperfectively) big’. Where the speaker wants to specify overtly the tense, aspect, or mood, especially (but not exclusively) where these are different from what would otherwise be expected, a form of a verb such as ka/ye ‘be’ or mo-čiwa (refl-make) ‘become’ is used together with the SP-Stative construction: e.g. ni-ka ni-wēyi (I-be 1-big) means ‘I am big’; ti-yeh-ye-ni ti-čih-čikak-ki-ki (we-rdp-be-irr we-rdp-strong-conn-adj/pl) means ‘(if) we were/had been strong’. The same patterns hold true for the SP-Noun Constructions presented below: they are normally to be taken as statives, but use as clauses warps them into becoming imperfective processes.

SP-Noun Constructions

As a typical example of an SP-Noun construction let us take ni-ƛāka-ƛ (I-man-abs) which often translates as ‘I am a man’. ni- is familiar by now; ƛāka-ƛ is discussed in D.1.a-b. The composite semantic structure of the expression profiles the speaker being a man. This means that neither component, as we should expect to construe it, would be profile determinant in this construction, since neither one profiles a Relation.

The integration of the components is as follows: phonologically the sequence ƛāka-ƛ elaborates the schematic stem implied by the prefixal nature of ni-. At the semantic pole, the concept MAN is construed as the landmark of a stative Relation of identity, whose trajector is identified as the speaker. This case is parallel to the case of nouns combining with causative or applicative suffixes such as -tiya in that the noun does not fit the Relational e-site of the affix, and, as in those cases (6.2.b, e, f) there are at least three possibilities for conceptualizing what is happening. Either the noun changes so it fits the affix, or the affix changes so the noun fits with it, or the construction makes up the difference between them.
Thus we could claim, paralleling 6.2.f, that in this construction there is a silent Relation of identity, acts as profile determinant mediating between the noun and the Relation specified as e-site within ni-. This “silent Relation” analysis is diagrammed in F.i.

To the extent, however, that usage in such a construction is associated with either of the other elements involved, the “silent Relation” will tend to internalize to them. If it internalizes to ni-, ni- will be construed as a (profile determinant) Relation of identity between the Speaker and the designatum of a schematic noun stem, which will be elaborated by the noun stem λāka-λ. This “extended ni-” analysis is diagrammed in F.j.

If the “silent Relation” internalizes to the noun, the noun will be construed as a Relation, ‘being a man’, rather than as a Thing ‘man’, and thus will be able to elaborate the e-site within ni- in the expected way. This is the “extended noun” analysis; it is diagrammed in F.k.

For future discussion I will usually assume, as I did with the Noun-Causative constructions, the Extended Noun analysis. This involves the claim that virtually every noun in the language has an extended sense in which a Relation of identity to its designatum (potentially available in the meaning of every Thing predicate, given encyclopedic meaning) is profiled. I am, however, emphatically not claiming that the other analyses are wrong, nor even that they are less salient generally or in any given case.

Under this analysis, then, the noun is construed as a stative intransitive Relation, essentially an adjective. As such it can enter into a construction precisely like an SP-Adjective construction. In the case at hand (F.k), the relation of identity with the concept MAN has its trajectory elaborated by the concept of the

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10 Actually, the relationship may be viewed as ‘membership in the category defined by the noun’ [a relationship of full schematicity] rather than strictly ‘identity with the noun’. For convenience I will continue to term this an identity Relation.

11 The “silent Relation” is given as an interfix in F.i, for ease of representation. Actually, I would predict, on the analogy of the verbalizer and noun incorporation patterns, that, were it to achieve overt phonological representation, it would be a suffix. It is actually possible (though far from demonstrable) that the absolute suffix -λ of λāka-λ bears this meaning.

12 It is interesting in this regard that such constructions can be found in the comparative/superlative construction used for adjectives. A beautiful example is the following: āšā naḥa kāti ni-rey ke nion taha (now I more 1-king than even you), which one is tempted to gloss ‘I’m kinger than you are’.
Speaker, and that Relation itself elaborates the schematic Relation implied by the SP. Since the e-site within the Relation is profiled whereas that within the SP is not, the overall dependence is of the Relation on the SP [but see fn. 8]. The Relation is profile determinant; the composite structure profiles a stative Relation rather than a Thing. As with the adjectives, the Relation is stative rather than processual; it is more accurate to gloss ‘I/my being a man’ than ‘I am a man’.

There are many other constructions in which ni- combines with a noun; some are doubtless units, while others are unlikely to have achieved unit status. Some examples would be ni-pilalak-ƛi (I-lad-abs) ‘I (being) a boy’, or ni-presidente (I-president) ‘I (being) president’, or ni-ʔawaka-ƛa-kʷa-ƛi (I-avocado-unspec-eat-dim) ‘I (being) avocado-eating possum’.¹³ There will be a ni-Noun construction schematic to all of these, structurally like the ni-ƛāka-ƛ construction but with the phonological and semantic specifications peculiar to ƛāka-ƛ bleached out, leaving only a schematic Noun stem in its place.

Parallel to the units such as ni-ƛāka-ƛ and ni-ʔawaka-ƛa-kʷa-ƛi there exist many SP[Noun units and non-unit constructions in which the other SP’s combine with specific noun stems. Some examples are given below.

<table>
<thead>
<tr>
<th>ni-phrase</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ti-no-tah-ƛi</td>
<td>‘you (being) my father’</td>
</tr>
<tr>
<td>ti-māsēwal-te</td>
<td>‘we (being) Tetelcingans’</td>
</tr>
<tr>
<td>ne-sī-siwan-kō-kone</td>
<td>‘you pl (being) girls’</td>
</tr>
<tr>
<td>nōc-ƛa-kʷa-ƛi</td>
<td>‘he (being) a cactusfruit-eating possum’</td>
</tr>
<tr>
<td>ƛāka-ƛi-ƛiń-te</td>
<td>‘they (being) lords’</td>
</tr>
<tr>
<td>toka-ƛ</td>
<td>‘it (being) a spider’</td>
</tr>
</tbody>
</table>

Once again, note that I am claiming this construction for at least some cases where there is no overt prefix, maintaining that they are examples of the construction with the ø ‘3 pers SP’. It may be the case that all independent nouns in TN are examples of this construction; see the discussion in 7.1.

For each one of the SP’s there will be a construction parallel to the ni-Noun construction, in which the SP is combined with the schematic Noun stem. This schema will characterize as a class the unit constructions and sanction the formation of the non-unit constructions. Thus there will be a ne-Noun construction and two ti-Noun constructions, and so on. These are again to be organized under schemas according to person, number, and mood, which in turn have a schematic SP-Noun construction over them, in which the SP schema combines with the schematic Noun just as ni- combines with ƛāka-ƛ. This construction is diagrammed in F.1 below.

¹³ Note that ni- rather than its expected prevocalic variant n is found here; this is usual for SP-Noun constructions, although n-Vowel does occasionally occur.
There are a few cases of SP-Noun constructions where the relationship between the SP and the noun is not quite one of identity.

Occasionally the following formula is used in giving one’s name: ni-no-tōkā šowā (1-my-name John) ‘My name is John.’ (The more usual formula is naha ni-šōwa (1 I-1John) ‘I am John’.) Similarly one can say ti-mo-tōkā šowā (you-your-name John) ‘Your name is John’, and the very common formula ī-tōkā šowā (his-name John) ‘His name is John’ could perfectly well be an example of the same construction with the o-3 pers SP. I do not think that the relationship in TN between a person and his name is one of identity: I would think that glossing ni-no-tōkā šowā as ‘I (being) my name (namely) John’ would be a misrepresentation of the semantics of the expression (besides bad English). I would prefer to claim that we have here a construction like F.I except that the profiled relationship is not one of identity but one of ‘having’ or ‘being called by’ or whatever we want to call the relationship of a person to his name.

Another case involves use of an SP-Noun construction to tell the material of which something is made. Thus yaha kʷaw-īl (it tree/wood-abs) can mean ‘it’s a tree’, or ‘it’s wood’, or ‘it’s made of wood / it’s wooden’. This differs from cases with mass noun like ā-čēn-īli ‘water’ in that the expression can be felicitously used with reference to objects (e.g. a table) which cannot be designated by kʷaw-īl. One could say of a subpart of the mass of “water” ši-nēč-wal-iki-li īn-ō ā-čēn-īli (imv-me-hither-carry-applic dem-dist water-dim/hon-abs) ‘Bring me that water’, but to say ši-nēč-wal-iki-li īn-ō kʷaw-īl with the intended meaning ‘Bring me that table’ would be deviant. I would claim that we have another SP-Noun construction, one involving a relationship of origin or composition rather than one of identity.

These constructions imply a schema which has all the features of F.I except that the profiled Relation is left unspecified rather than stated to be one of identity. This schema is given here as F.m. F.m is schematic to all the SP-Noun constructions we have seen so far.

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14 At least one version of kʷaw-īl is a mass noun. You can call an arbitrarily sized subpart of the mass (a log or a stick or a splinter) a kʷaw-īl, and you can quantify kʷaw-īl with the kinds of quantifiers used on mass nouns (e.g. meyak ‘much, lots of’ or tepi-či (little-dim) ‘a little’). But this is possible only to the extent that the form or function of the subpart as a subpart is not construed as central to its characterization. [I do not now know what I meant by this last sentence.]

15 It is probably exactly equivalent to say that the nouns in these cases have adjectival versions, such that kʷaw-īl means ‘wooden’ as well as ‘tree/wood’.
F.m. and the two schemas for names and for Noun-made.of.Substance will also presumably have a full complement of sub-variations according to person, and number of the SP and mood of the construction it is in.

The schematicity relations among representatives of the various constructions discussed in this section are diagrammed below in F.n.

**F.n. Schematic Hierarchy of SP-Noun Constructions**

**Nominal Construals of SP-Noun Constructions**

In some usages, perhaps most notably appositive usages with personal pronouns (e.g. *tehwā ti-māsēwal-te* (we we-Tetelcingan-pl) ‘we Tetelcingans’), but also “predicate nominative” constructions (e.g. *ti-ka-te ti-māsēwal-te* (we-be-pl we-Tetelcingan-pl) ‘we are Tetelcingans’), it is reasonable (though by no means necessary) to construe an SP-Noun construction as a Thing rather than as a Relation.

In such a construal, the e-site within *ni-* would be downgraded from a Relation to a Thing. The designatum of *ni-* would still be put in correspondence with the trajector, i.e. the most prominent Thing figure in the profile, of the stem, but since the stem is a Thing that figure constitutes the whole profile. Thus both the SP and the Noun stem would be profile determinant for the composite structure, with the Noun
stem bearing the heavier semantic weight. The construction \textit{ti-māsēwalte} is diagrammed in F.o below, and a Non-Relational SP-Noun construction, schematic to F.o, is diagrammed in F.p.

![Diagram of ti-māsēwalte](image)

\textbf{Summary of SP-Stem Constructions}

The use of SP-Noun constructions as clauses is discussed in 7.1.

It should be clear that all the constructions we have seen using SP’s (and I know of no others) are related. All except those ranged under F.p are cases where the SP elaborates the trajector of a Relation. These should be united as a class under an SP-Relation schema. All of the constructions with adjectives and nouns, including F.p, can be grouped together as profiling a stative entity. A sub-case of both of these schemas would be an SP-Stative Relation construction, which would be identical to F.h, the SP-Adjective construction. It would include as a special case F.m, the Relational SP-Noun construction.

Overshadowing all of these will be the SP-Stem construction, F.q, which neutralizes the distinctions of stativity or processuality or of Relationality vs. Thingness, and functions as the defining schema for the whole class.

Its specifications are as follows: The composite structure construes the Speaker, the Hearer, or some Other in their epistemic neighborhood, identified as trajector (most prominent Thing) in some predication. This entity is represented by an SP; the predication is represented by an intransitive predicate, which is the stem. That stem may or may not profile a Relation (prototypically it does) and may or may not be stative. The stem may be dependent overall on the SP (prototypically it is) or it may not. The stem is the profile determinant. Phonologically the SP is prefixal to the stem, i.e. it precedes and presupposes it. This schema is diagrammed below.

![Diagram of SP-Stem Construction](image)

The schematicity relations among the major SP-Stem constructions (ignoring person and number distinctions) are represented in F.r.
F.r.  Schematicity Relations among SP-Stem Constructions
APPENDIX G

Other Causative/Applicative Suffixes

There are other TN suffixes with meanings in the causative/applicative area besides -tiya and -liya (Chapter 6). These are treated very briefly here, with examples of the usages of each.

-liya ‘Causative’

The prototypical usage of -liya is as a causative: it is used much more often than -tiya on transitive stems, though it often occurs on intransitive stems as well. Some examples of its usage are given below. Sometimes -liya carries the idea of forceful causation, in contrast to -tiya, but in many constructions this notion is not salient. E.g. a-ř-ř-liya below means ‘give s.o. a drink’, not ‘force s.o. to drink’, ƛa-kʷ-liya does not imply forcing the Landmark to take a loan, and tolō-liya does not, at least nowadays, imply any coercion on the part of the priest in giving the Host to the communicants.

<table>
<thead>
<tr>
<th>wē-wecka</th>
<th>‘laugh’</th>
<th>weḵk-liya</th>
<th>‘make s.o. laugh/smile’</th>
</tr>
</thead>
<tbody>
<tr>
<td>rdp-smile</td>
<td></td>
<td>smile-caus</td>
<td></td>
</tr>
<tr>
<td>weh-kâ-wi</td>
<td>‘delay, tarry’</td>
<td>wehkâ-wi-liya</td>
<td>‘make s.o./s.t. take a long time’</td>
</tr>
<tr>
<td>big-loc?-vr</td>
<td></td>
<td>far-vr-caus</td>
<td></td>
</tr>
<tr>
<td>neh-nemi</td>
<td>‘walk’</td>
<td>neh-nen-tiya</td>
<td>‘make/help s.o. walk’</td>
</tr>
<tr>
<td>rdp-walk</td>
<td></td>
<td>rdp-walk.perf-caus</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>neh-nemĩ-liya</td>
</tr>
</tbody>
</table>

The composition of this suffix is assumed by many analysts (e.g. Whorf 1946, Andrews 1975:92, cf. Caroqui 1645:465) to have been -lo-liya, where -lo is the passive/impersonal suffix which is now a 3 pers hon marker in TN (B.3), and -liya is the familiar causative. This explains why the stem forms which appeared before -lo and -liya were the same. It also illuminates certain semantic patterns: e.g. wìk-a-liya (carry-caus) means not ‘cause s.o. to carry (s.t.)’, as we might expect, but rather ‘commission (s.o. to get) s.t.’, which can be viewed as an extension of ‘cause s.t. to be carried’. It is likely not irrelevant that -liya is the prototypical causative for transitive stems. However, the passive/impersonal meaning does not fit the strongly prototypical cases of causative usage exemplified below (or parallel examples in Classical Nahuatl) and -lo only marginally bears a passive/impersonal meaning in TN.

Some cases might be analyzable as -li, with -li being the expected form of -liya. Applicative construals (see below) might fit in with this idea, and so might aki-liya (fit(intr)-caus) ‘jam (s.t.) onto s.t., put (s.t.) into something forcefully’, conjecturally ‘cause to fit + applic’ > ‘cause s.t. to be fitted into (by s.t.)’.

More likely (to my mind) is the analysis, of at least some cases, into -l ‘nominalizer’ + -tiya, giving a Noun-tiya construction. E.g. ƛa-h tł-tiya (unspec-say-nr?-caus) ‘read s.t.’ can thus be analyzed as ƛahtōl-tiya (word-caus) ‘give s.t. words’ rather than as ƛahtōl-liya ‘make s.t. talk’, and ƛa-ḵʷ-liya (unspec-say-nr?-caus) ‘feed s.o.’ can be taken as ƛakʷal-liya ‘give s.o. food’ rather than ƛakʷal-liya ‘make s.o. eat’.

All of which notwithstanding, I believe that for the vast majority of cases the construal of -liya as an unanalyzable unit is by far the most salient. The final -a is of course, as with -tiya and -liya, the imperfective -a (which we have often glossed pres) that marks Class III verbs (B.1). I do not mark that suffix in this appendix.

-liya conditions Deactivation (A.1) at least sometimes (e.g. weḵk-liya below). It apparently makes Deactivation work backwards in ti-mo-kʷalän-iya (you-refl-anger-caus) ‘you hon get angry’, from the stem kʷalän ‘get angry’. kʷalän-tiya is the normal non-hon causative; Sullivan (1976:214) gives yet another alternate for Classical Nahuatl; kʷalän-tiya. -liya also conditions Palatalization (A.3), Tensing (A.4), and Contraction (A.5): such alternations are exemplified below.

---

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In a few cases -ltiya is used as an applicative. In other cases the usage is obscure but may be some kind of applicative.

<table>
<thead>
<tr>
<th>verb</th>
<th>meaning</th>
<th>-ltiya</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>asi</td>
<td>‘arrive, be enough’</td>
<td>ašī-ltiya</td>
<td>‘bring s.t. up to the desired amount’</td>
</tr>
<tr>
<td>ā-λ-ī</td>
<td>‘drink, (intrns)’</td>
<td>ā-λ-ī-ltiya</td>
<td>‘give s.o. a drink’</td>
</tr>
<tr>
<td>šōla</td>
<td>‘(fuel) burn’</td>
<td>šōla-ltiya</td>
<td>‘burn s.t.’</td>
</tr>
<tr>
<td>λa-pol-owa</td>
<td>‘lose out, go pot’</td>
<td>λa-pol-ā-ltiya</td>
<td>‘ruin s.t.’</td>
</tr>
<tr>
<td>mati</td>
<td>‘know s.t., feel s.t. (discomfort)’</td>
<td>ā-mačī-ltiya</td>
<td>‘give s.t. (a plant) too much water’</td>
</tr>
<tr>
<td>kwi</td>
<td>‘grab s.t.’</td>
<td>λa-kwi-ltiya</td>
<td>‘loan (s.t.) to s.o.’</td>
</tr>
<tr>
<td>čīwa</td>
<td>‘do s.t.’</td>
<td>čīwa-ltiya</td>
<td>‘make, force s.o. to do (s.t.)’</td>
</tr>
</tbody>
</table>

-ltiya is used as a (causative) verbalizer in a few cases.

<table>
<thead>
<tr>
<th>verb</th>
<th>meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>ah-ā-ltiya</td>
<td>‘bathe s.t./s.o.’</td>
</tr>
</tbody>
</table>
**-wiya** ‘Applicative/Verbalizer’ and **-lwiya** ‘Applicative’

-**lwiya** is the applicative used on most Class III stems ending in *owa*. It most commonly occurs on 2 person forms.

<table>
<thead>
<tr>
<th>Stem</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>iš-peq-owa</em></td>
<td>smooth s.t. down</td>
</tr>
<tr>
<td><em>čikawa</em></td>
<td>stick</td>
</tr>
<tr>
<td><em>łapowa</em></td>
<td>open</td>
</tr>
<tr>
<td><em>ilakač-owa</em></td>
<td>rolled-vr</td>
</tr>
<tr>
<td><em>či-lwa</em></td>
<td>stick (to s.t.)</td>
</tr>
<tr>
<td><em>łapa-lwa</em></td>
<td>open</td>
</tr>
<tr>
<td><em>ti-m-ilakač-i-lwa</em></td>
<td>you-refl-rolled-vr-applic</td>
</tr>
</tbody>
</table>

**-wiya** occurs (replacing the *owa*) on Class III stems ending in -*lowa* or -*rowa*. (These are rather common: most borrowed Spanish verbs end in *r-owa*).

<table>
<thead>
<tr>
<th>Stem</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>šel-owa</em></td>
<td>distribute s.t.</td>
</tr>
<tr>
<td><em>łal-nelow</em></td>
<td>earth-mix</td>
</tr>
<tr>
<td><em>negar-owa</em></td>
<td>deny-vr</td>
</tr>
<tr>
<td><em>yewalowa</em></td>
<td>surround-s.t.</td>
</tr>
<tr>
<td><em>la-poh-pol-owa</em></td>
<td>unspec-rdp-loose-vr</td>
</tr>
</tbody>
</table>

---

3 *-wiya* and *lwiya* form Class III stems (B.1); i.e. they end (like -*tiya*, -*ltya*, and -*ltya*) in the imperfective -*a* that disappears in perfective tenses. *-wiya* is not otherwise clearly analyzable; *-lwiya* is likely from -*l* (the expected form of -*ltya* + *lwiya*). Çanger (1980:100-131) suggests that it is historically (but not synchronically) from metathesis of *w* + *ltya*. A similar analysis for TN is toyed with (and rejected) in Tuggy 1979b. The expected *ow* of stems before -lwiya switches idiosyncratically to *o, a*, or *i* (see examples below); similar things occasionally happen with *wiya*. 

---

<table>
<thead>
<tr>
<th>Stem</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>rdp-water-caus</em></td>
<td></td>
</tr>
<tr>
<td><em>iš-lal-ltya</em></td>
<td>give s.o. breathing room (e.g. more time to pay)</td>
</tr>
<tr>
<td><em>čikawa-ltya</em></td>
<td>strengthen s.o./s.t.</td>
</tr>
</tbody>
</table>
-\textit{wiya} also occurs as an applicative or causative on the small sub-class of Class II verbs which end in -\textit{o} or \textit{ō}.

\begin{center}
\begin{tabular}{|l|l|l|}
\hline
\textit{pano} & \textit{pass} & \textit{pass-applic} & \textit{‘cross, pass s.t.’} \\
\hline
\textit{temo} & \textit{descend} & \textit{temō-wiya} & \textit{‘bring, get s.t. down, lower s.t.’} \\
 & \textit{descend-applic} & & \\
\hline
\textit{λēhko} & \textit{ascend} & \textit{λehka-wiya} & \textit{‘raise s.t., put s.t. up’} \\
 & \textit{ascend-applic} & & \\
\hline
\end{tabular}
\end{center}

\textit{wiya} occurs commonly as a verbalizer of nouns, usually with the applicative-type meaning ‘put Noun on s.t., apply Noun to s.t.’, and only rarely as a clearly causative verbalizer, as in the first example below.

\begin{center}
\begin{tabular}{|l|l|}
\hline
\textit{ƛāl-wiya} & \textit{‘stick s.t. into the ground’} (contrast 6.2.a) \\
& \textit{earth-applic} \\
\hline
\textit{mah-pil-wiya} & \textit{‘signal to s.o. with one’s finger’} \\
& \textit{hand-child/appendage-applic} \\
& \textit{finger} \\
\hline
\textit{meskāl-wiya} & \textit{‘put alcohol on s.t. (e.g. a wound)/s.o.’} \\
& \textit{liquor-applic} \\
\hline
\textit{īsta-wiya} & \textit{‘salt s.t.’} \\
& \textit{salt-applic} \\
\hline
\textit{so-soki-wiya} & \textit{‘get s.t. muddied up’} \\
& \textit{rdp-mud-applic} \\
\hline
\textit{mo-yek-ā-wiya} & \textit{‘get well rinsed’} \\
& \textit{refl-well-water-applic} \\
\hline
\end{tabular}
\end{center}

Two interesting stems with -\textit{wiya} are the following: \textit{ƛīn-ƛʊɬa-wiya} (\textit{base-dung-applic}) ‘(a plant) rot at the base’, is intransitive and is also Class II (B.1), undergoing y-Assibilation (A.9) in perfective stem forms. It is the only intransitive with \textit{wiya} I know of: one could of course claim that it involves a different morpheme, but I wouldn’t want to do so too strongly. Another analysis would be to claim that ƛʊɬa-\textit{wiya} is transitive, with its Landmark being the place where the rot sets in, and that \textit{ƛīn} is an Object Incorporation on that stem, accounting for the intransitivity.

The other case is \textit{mo-kiya-m-āna-wiya} (\textit{refl-rain-refl-take.up-applic}) ‘shelter oneself from the rain’, where I cannot decide if the Trajector is taking himself out of the rain (in which case why the applicative?) or making the rain take itself off of him, in which case -\textit{wiya} is a causative, and \textit{kiya} is one of those incorporated nouns that causes a switch in transitivity.
-owa and -iwi ‘Verbalizers, Loan Nativizers’

There are very many transitive verbs ending in owa which likely had this suffix historically but are not clearly analyzable any more. However, it still occurs as a causative verbalizer on some native stems, contrasting with intransitives in -iwi or -ēwi. Most of those stems are likely adjectival (see glosses on first four forms below) but it is often not clear that the cognate clearly adjectival forms (e.g. īlakac̸DtiDk (twist(ed)- conn?prtcp?-adj?prtcp?) ‘twisted’) are not adjectivized verbs. Both -owa and -iwi are used productively as nativizers of Spanish verbs, -owa on transitive verbs and -iwi on intransitive verbs.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Gloss</th>
<th>Verb</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>īlakac̸-iwi</td>
<td>twisted-νr</td>
<td>īlakac̸-owa</td>
<td>twisted-νr</td>
</tr>
<tr>
<td>ƛa-čipā-wi</td>
<td>(the weather) clean up’</td>
<td>čipā-wa</td>
<td>clean-νr</td>
</tr>
<tr>
<td>peq̤-iwi</td>
<td>‘be(coming) slippery’</td>
<td>kʷa-peq̤-owa</td>
<td>head-slippery-νr</td>
</tr>
<tr>
<td>pol-iwi</td>
<td>‘be(coming) lost’</td>
<td>pol-owa</td>
<td>lost-νr</td>
</tr>
<tr>
<td>pasār-iwi</td>
<td>‘happen’ (Sp. pasar)</td>
<td>pasār-owa</td>
<td>happen-νr</td>
</tr>
<tr>
<td>susedēr-iwi</td>
<td>‘happen’ (Sp. suceder)</td>
<td>susedēr-owa</td>
<td>happen-νr</td>
</tr>
<tr>
<td>markār-ih-tika</td>
<td>‘be marked’</td>
<td>markār-owa</td>
<td>mark-νr</td>
</tr>
</tbody>
</table>

-awi is used as a noun verbalizer in a very few forms: as might be expected, they are intransitive, with ‘come to have/be (like) N’ as the meaning, rather than ‘cause to have/be (like) N’.

<table>
<thead>
<tr>
<th>Verb</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>.Compose-i</td>
<td>‘a cold, the grippe’</td>
</tr>
<tr>
<td>kʷiḷaš-ƛi</td>
<td>‘leather, skin’</td>
</tr>
</tbody>
</table>

-owa is also used as a noun verbalizer in a few forms; surprisingly, many of them are intransitive as well, with the same ‘come to have/be (like) N’ meanings. One possible analysis is that these are Object incorporations, that -owa is here a verb meaning ‘have’, so that e.g. ƛāl-owa means ‘have dirt’. -owa also verbalizes a postposition in at least one case, forming a transitive verb.

---

4 -owa may historically be composed of -o(w) —‘passive/ impersonal’ in Classical Nahuatl but ‘3 pers hon’ in TN — and -o(wa) ‘trms’ (discussed below). All verbs in -owa are Class III (B.1). -iwi is not clearly analyzable (there are forms, doubtless related, with -ēwi, see exx. below); the fact that it is so strongly intransitive links it with -i ‘intrns’ (3.2). -iwi verbs are Class II (B.1). The suffixes appear as -wa and -wi following vowels: such V-wa verbs are likely to be Class II rather than III.
-Dya ‘Causative’

This suffix is (or was) likely a morphological component of -tiya, -liya, -lwiya, etc. It is used as a causative: it seems the most common causative on verbs ending in ni, particularly those in ōni. It forms verbs of Class III (B.1).

<table>
<thead>
<tr>
<th>aki</th>
<th>‘fit’</th>
<th>aki-ya fit-caus</th>
<th>‘fit s.t. in’</th>
</tr>
</thead>
<tbody>
<tr>
<td>ihte-trīni</td>
<td>‘eat to bursting’</td>
<td>trīni-ya be.compressed-caus</td>
<td>‘squeeze s.t.’</td>
</tr>
<tr>
<td>la-čilini</td>
<td>‘(bell) ring’</td>
<td>čilini-ya ring-caus</td>
<td>‘ring s.t. (e.g. a machete against a wall)’</td>
</tr>
<tr>
<td>koyōni be.pierced</td>
<td>‘be pierced’</td>
<td>nakas-koyōni-ya ear-be.pierced-caus</td>
<td>‘pierce s.o.’s ears’</td>
</tr>
<tr>
<td>molōni boil</td>
<td>‘flower, boil’</td>
<td>molōni-ya boil-caus</td>
<td>‘boil s.t.’</td>
</tr>
<tr>
<td>goyōni fry</td>
<td>‘fry (intrns)’</td>
<td>goyōni-ya fry-caus</td>
<td>‘fry s.t.’</td>
</tr>
</tbody>
</table>

-ya is used as a causative on the stem lāka-ti (man-inchoa) ‘be born’, giving lāka-ti-ya ‘give birth to s.o.’. This could also be parsed lāka-ti-ya. with -tiya being the familiar causative from 6.1-4.

-(i)ya is used as an applicative in a few forms.
ƛah-ƛani /LtnSmU/LtnSmN/LtnSmS/LtnSmP/LtnSmE/LtnSmC/QstnMrk/LtnSmR/LtnSmD/LtnSmP/QstnMrk/HyphenMinus/LtnSmA/LtnSmS/LtnSmK
‘inquire, ask’

ƛah-ƛani-diya /LtnSmU/LtnSmN/LtnSmS/LtnSmP/LtnSmE/LtnSmC/QstnMrk/LtnSmR/LtnSmD/LtnSmP/QstnMrk/HyphenMinus/LtnSmA/LtnSmS/LtnSmK/HyphenMinus/LtnSmC/LtnSmA/LtnSmU/LtnSmS
‘ask s.o. (a question, a favor)’

kowa /LtnSmB/LtnSmU/LtnSmY
‘buy s.t.’
kow-ia /LtnSmB/LtnSmU/LtnSmY/HyphenMinus/LtnSmC/LtnSmA/LtnSmU/LtnSmS
‘buy (s.t.) for s.o.’

It is used as a (causative) verbalizer on adjectives in ki, most of which probably were historically related to verbs in ni. (Some of the forms above, such as ‘fry s.t.’ or ‘pierce s.o.’s ears’, could also be viewed as verbalizations from adjectives such as coyōn-ki ‘fried’ and koyōn-ki ‘pierced’.)

yemān-ki /LtnSmS/LtnSmO/LtnSmF/LtnSmT/HyphenMinus/LtnSmA/LtnSmD/LtnSmJ
‘soft, bland’
yemān-ia /LtnSmS/LtnSmO/LtnSmF/LtnSmT/HyphenMinus/LtnSmC/LtnSmA/LtnSmU/LtnSmS
‘soften s.t.’

to-tōn-ki /LtnSmR/LtnSmD/LtnSmP/HyphenMinus/LtnSmH/LtnSmE/LtnSmA/LtnSmT/HyphenMinus/LtnSmA/LtnSmD/LtnSmJ
‘hot’
to-tōn-ia /LtnSmR/LtnSmD/LtnSmP/HyphenMinus/LtnSmH/LtnSmE/LtnSmA/LtnSmT/HyphenMinus/LtnSmC/LtnSmA/LtnSmU/LtnSmS
‘heat s.t.’

köpēl-ki /LtnSmS/LtnSmW/LtnSmE/LtnSmE/LtnSmT/HyphenMinus/LtnSmA/LtnSmD/LtnSmJ/FullStop/LtnSmP/LtnSmL
‘sweet (pl)’
küpēl-ia /LtnSmS/LtnSmW/LtnSmE/LtnSmE/LtnSmT/HyphenMinus/LtnSmC/LtnSmA/LtnSmU/LtnSmS
‘sweeten s.t.’

It is rarely used to verbalize nouns.

ƛa-xǐn-ia /LtnSmW/LtnSmA/LtnSmT/LtnSmE/LtnSmR/HyphenMinus/LtnSmD/LtnSmI/LtnSmM/Solidus/LtnSmH/LtnSmO/LtnSmN/HyphenMinus/LtnSmA/LtnSmB/LtnSmS
‘paddle s.o., whack s.o. on the bottom’

-ći and -ćiya ‘Inchoative Verbalizers’

There are two inchoative verbalizers, -ći and -ćiya. Both suffixes form intransitive verbs usually meaning ‘become a Noun’ or ‘become Adj’. The forms in -ći can be causativized by liya. This inchoative -ćiya differs from the -ćiya ‘causative’ discussed in 6.1[4 in that it forms Class I intransitive verbs rather than class III transitive verbs.5 I am by no means claiming that they can not or should not be united under a single schema at some point. However, the combination of a morphological with the semantic distinctions will naturally emphasize the differences. Some examples follow:

bēs-kokoś-ki /LtnSmE/LtnSmY/LtnSmE/HyphenMinus/LtnSmS/LtnSmI/LtnSmC/LtnSmK/HyphenMinus/LtnSmP/LtnSmR/LtnSmT/LtnSmC/LtnSmP/QstnMrk
‘blind man’
bēs-kokoś-kā-ściya /LtnSmE/LtnSmY/LtnSmE/HyphenMinus/LtnSmS/LtnSmI/LtnSmC/LtnSmK/HyphenMinus/LtnSmP/LtnSmR/LtnSmT/LtnSmC/LtnSmP/QstnMrk/HyphenMinus/LtnSmI/LtnSmN/LtnSmC/LtnSmH/LtnSmO/LtnSmA/Space/Space
‘go blind’
bēs-kokoš-śe /LtnSmE/LtnSmY/LtnSmE/HyphenMinus/LtnSmS/LtnSmI/LtnSmC/LtnSmK/HyphenMinus/LtnSmP/LtnSmR/LtnSmT/LtnSmC/LtnSmP/QstnMrk
‘(candle) melt’

wē-wela-ći /LtnSmS/LtnSmW/LtnSmE/LtnSmE/LtnSmT/HyphenMinus/LtnSmA/LtnSmD/LtnSmJ/FullStop/LtnSmP/LtnSmL
‘cripple, paraplegic’
wē-ćiya
‘become crippled, paraplegic’

5 Brewer and Brewer 1962 list bēs-kokoś-kā-ściya (eye-sick-prtcp?-inchoa) ‘go blind’ as Class III; I have been given the Class I forms for the same verb.
<table>
<thead>
<tr>
<th>rdp-crippled-dim</th>
<th>cripple-inchoa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ṽāka-ƛ</td>
<td>‘man’</td>
</tr>
<tr>
<td>man-abs</td>
<td>man-inchoa</td>
</tr>
<tr>
<td>išľaka</td>
<td>‘lying, lie’</td>
</tr>
<tr>
<td>lie</td>
<td>lie-inchoa</td>
</tr>
<tr>
<td>teki-ƛ</td>
<td>‘work (Noun)’</td>
</tr>
<tr>
<td>cut/work-abs</td>
<td>work-inchoa?</td>
</tr>
</tbody>
</table>

Notice that where, as in the last two examples, the noun designates an event rather than a more prototypical Thing, the suffix means ‘(begin to) do Noun’ rather than ‘begin to be Noun’.
APPENDIX H

Abbreviations and Other Conventions

The following abbreviations are used in this dissertation.¹

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 pers</td>
<td>first person</td>
</tr>
<tr>
<td>2 pers</td>
<td>second person</td>
</tr>
<tr>
<td>3 pers</td>
<td>third person</td>
</tr>
<tr>
<td>A</td>
<td>causing Relation</td>
</tr>
<tr>
<td>abs</td>
<td>absolutive</td>
</tr>
<tr>
<td>abstr</td>
<td>abstract(ive)</td>
</tr>
<tr>
<td>adj</td>
<td>Adjective(al)</td>
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<td>adverb(ial)</td>
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<td>ant</td>
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</tr>
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<td>applicative</td>
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<td>AZ</td>
<td>active zone</td>
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<td>consonant</td>
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<td>footnote</td>
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<td>high</td>
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<td>ultra honorific</td>
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<tr>
<td>hum</td>
<td>human</td>
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<td>id</td>
<td>identity Relation</td>
</tr>
<tr>
<td>impf</td>
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<td>imperative</td>
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<td>inchoative</td>
</tr>
<tr>
<td>incorp</td>
<td>incorporat(ion)</td>
</tr>
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<td>intrns</td>
<td>intransitiv(izer)</td>
</tr>
<tr>
<td>irr</td>
<td>irrealis</td>
</tr>
<tr>
<td>lit.</td>
<td>literal(ly)</td>
</tr>
<tr>
<td>lm</td>
<td>landmark</td>
</tr>
<tr>
<td>LM</td>
<td>Landmark</td>
</tr>
<tr>
<td>loc</td>
<td>locative</td>
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<tr>
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<td>medial</td>
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<tr>
<td>N</td>
<td>noun</td>
</tr>
<tr>
<td>nr</td>
<td>nominalizer</td>
</tr>
<tr>
<td>num</td>
<td>number</td>
</tr>
<tr>
<td>O</td>
<td>Other (i.e. 3 pers)</td>
</tr>
<tr>
<td>OP</td>
<td>Object Pronoun</td>
</tr>
<tr>
<td>perf</td>
<td>perfective</td>
</tr>
<tr>
<td>pers</td>
<td>person</td>
</tr>
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<td>pl</td>
<td>plural</td>
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<td>possessed</td>
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<tr>
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<td>possessor</td>
</tr>
<tr>
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<td>syllabic</td>
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¹ Certain fairly standard abbreviations used in Appendix A are not listed here.

Various other standard abbreviations are used in the References; three that might be troublesome are ILV (Instituto Lingüístico de Verano) and SIL (Summer Institute of Linguistics) (the same organization in Latin America and in the U.S.) and UNAM (Universidad Nacional Autónoma de México).
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<td>transitiv(izer)</td>
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</table>

**Conventions for Citing Data**

Semantic elements are referred to in text by small-capitalized words (e.g. TOE-PL), symbolic elements by representations in green italics (e.g. toe-s) and phonological elements occasionally by enclosing them in slashes (e.g. /to-z/) but usually by green italics (e.g. verbs ending in ni).

Examples cited in the text are normally followed by a morpheme-by-morpheme gloss in parentheses (and this font) and a translation gloss in single quotes. Morphemes within a word are separated by a hyphen, except in some cases where the compositionality is irrelevant or purposely being ignored; occasionally an equals sign (=) is used when the linkage is more like cliticization than affixation. When two elements in a morpheme-by-morpheme gloss are joined by a period (e.g. cry.perf), they represent a portmanteau morpheme with both meanings included. When they are separated by a slash (/) (e.g. run/jump), they are alternate meanings.

In translation glosses of stems the abbreviations “s.t.” and “s.o.” indicate the transitivity of the stem; they designate the expectation of a direct object, prototypically non-human or prototypically human, respectively. Such a designation in parentheses indicates an object (landmark) that is conceptually present but not expected to occur as a direct object. Thus e.g. maka (give) ‘give s.o. (s.t.)’ tells us that the stem maka is transitive, expecting a direct object which is prototypically human, and involving another object which is prototypically non-human.

Examples cited in tables have the morpheme-by-morpheme glosses directly underneath each word, with the translation gloss in the next table cell to the right. Sometimes two or more morphemes are underlined, and a gloss is placed under them; in such cases the gloss represents the meaning of the entire underlined unit.

“He”, “him”, and “his” are used to gloss prototypically human 3 pers sg subject, object, and possessor, respectively, unless they are prototypically female as well. E.g. ki-kiye is glossed “(him-tell) ‘he tells him’” although the form (e-ki-) does not actually specify the sex or the animacy of either the subject or the object.

“You” and “your” in glosses mean 2 pers sg, unless specified as “you pl” or “your pl”.

Technical terms, especially those defined in Appendix I, are often underlined and italicized, in blue, in their first appearance in the text or in other places where it is useful to remind the reader that they are being used in their technical senses.
APPENDIX I

Definitions, Symbols, and Formalisms

In this appendix is given a glossary of technical terms and Cognitive grammar characterizations of traditional notions, together with a brief summary, for convenient reference, of a number of symbols and formalisms of CG.

Glossary

**adjective**  
Stative Relation with a Thing trajector.

**adposition**  
Transitive stative Relation.

**adverb**  
Stative Relation with a Relation as trajector.

**analyzability**  
The extent to which other units, particularly symbolically established units such as predicates, morphemes, words, etc., are salient as components of a unit or element. See analyzed/composite and exploded/compacted.

**analyzed**  
Represented in terms of well-motivated component parts and their relationships. Opposed to composite. E.g. *dog-s* is analyzed, *dogs* is composite. See exploded/compacted.

**autonomy**  
The degree to which a predicate (or larger structure) “exists on its own”, not presupposing another structure (which it might be put into construction). Opposite of dependency.

**base**  
The cognitive structure against which the designatum of a semantic structure is profiled; the ground relative to which it is the figure. The base includes specifications in one or more domains, which collectively are called the matrix of the semantic structure.

**compacted**  
Represented as a whole, as not separated into components. Distinguished from composite in that the relevant components are not claimed to be salient in speakers’ minds. Opposite of exploded. E.g. WOLF is compacted; FIERCE LARGE UNDOMESTICATED CANINE would be a possible explosion of the same concept.

**composite**  
= compacted, except that the componentiality is claimed to be salient to speakers, part of the grammar. Opposite of analyzed. E.g. *dogs* is composite; *dog-s* is analyzed.

**constituency**  
The relative order in which component parts of a complex structure are combined with each other.

**conventional**  
Shared and known to be shared by all members of the relevant speech community.

**conventionalized**  
Established and entrenched as conventional by linguistic usage.

**dependency**  
The degree to which one predicate (or larger structure) presupposes another with which it is constructed. Opposite of autonomy.

**direct object**  
A structure profiling a Thing which in a construction elaborates the main Landmark of a Relation (prototypically of a process or verb).
‘distance’ (in quotes) The degree to which a schema and its instantiation differ from each other. The “distance” between DOG and THING is greater than between DOG and ANIMAL.

domain A coherent area of conceptualization relative to which semantic units may be characterized. Three dimensional space, smell, color, touch sensation, kinesthetic sensation, etc., are basic domains. Any coherent functional assembly (e.g. the human body, the rules of chess, the political structure of the society of Zimbabwe, the kinship network) can function as an abstract domain.

e-laborate = instantiate, be a sub-case of a schema. E.g. DOG elaborates ANIMAL.

e-site = “elaboration site”, the sub-portion of a structure which is schematic for a companion structure (one with which the first is (expected to be) in construction).

element A coherent conceptual structure, whether or not (and especially if not) a unit.
encyclopedia A term used to describe the open-ended character of meanings: one cannot exhaustively characterize the meanings of words by a short, dictionary-like definition.
ente A either a Thing or a Relation.

epistemic grounding An entity is epistemically grounded when it grounding is located relative to the speaker and hearer and their spheres of knowledge. For verbs tense and mood are epistemically grounding elements: for nouns definite/indefinite specifications accomplish epistemic grounding.

exploded Separated, for representational or linguistic purposes, into components, which may not be salient as units in the speakers’ minds. Contrasts with analyzed, in which the componentiality is claimed to be salient, effectively part of the grammar. Opposite of compacted. E.g. LARGE FIERCE GREGARIOUS UNDOMESTICATED CANINE is an explosion of the compacted notion WOLF.

functional assembly A coherent conceptual complex which can function as an abstract domain for characterizing a semantic unit.

grammaticality The extent to which a structure is entrenched in the grammar of a language, i.e. is a conventionalized linguistic unit. Opposite of “non-grammatical” rather than (just) “ungrammatical”; not to be confused with “sanctioned by the grammar”. E.g. scissor-s is grammatical; polytheism-s, while sanctioned, is non-grammatical. (See sanction).

heavy See weight.

instantiate = elaborate; be a sub-case of a schema. E.g. DOG instantiates ANIMAL.

internalization The process by which a concept originally so peripheral as to be negligible to the meaning of a symbolic unit becomes, especially through constant association and usage, central to the meaning. Prototypically, what at first was an apparently external Relation becomes internally specified.

imperfective Of processes, profiling a Relation as unchanging through time. Opposite of perfective. E.g. John was sick is imperfective; John got sick(er) is perfective.

landmark A lesser profiled entity in a Relation, serving as ground relative to which the trajector is the figure.

Also: A salient, though non-profiled, entity relative to which a Thing (e.g. a Relational noun) is characterized.

Landmark (capitalized) The most salient landmark in a complex Relation.

matrix The set of domains in the base of a predicate.
modifier A semantic structure dependent on the profile determinant.

morpheme A non-analyzable symbolic structure. The semantic pole of a morpheme is called a predicate.

nominal Epistemically grounded structure with the profile of a Thing.

noun A structure with the profile of a Thing, usu. epistemically ungrounded. (Pronouns and noun phrases are epistemically grounded members of the category.)

perfective Of processes, profiling a Relation as changing through time. Opposite of imperfective. E.g. John was sick is imperfective; John got sick(er) is perfective.

process A Relation having a positive temporal profile; the passage of time is profiled. Perfective and imperfective processes are in this category.

productiveness The extent to which a schema habitually sanctions novel formations; i.e. the extent to which its sanctioning usage has achieved unit status.

profile The designatum of a semantic structure, the substructure which is viewed as figure against the rest of the structure, which functions as base or ground. As a verb, to view as profile, or set up as profile.

profile determinant In a construction, the component whose (semantic) profile is inherited by the whole construction. The profile determinant is schematic for the composite structure. E.g. in the man is tall the unit IS TALL (and, in a derivative sense, is tall) is profile determinant; in the tall man, the profile determinant is MAN (and thus, derivatively, man).

prototype That unit in a schematic hierarchy which is naturally most salient, most often thought of, most likely to be chosen as representative of, the category.

predicate The semantic pole of a morpheme.

Relation (capitalized) A configuration involving the profiling of at least two Things or entities.¹

sanction A schema sanctions a novel formation to the extent that it (a) is well-entrenched, (b) is productive, and (c) is directly and closely schematic for the novel formation. E.g. the schema N-z sanctions the (non-grammatical but not ungrammatical) element polytheism-s. (See grammaticality).

schema Cognitive structure A is schematic for structure B when it contains the essential outlines of B but specifies less detail. B is said to instantiate (or elaborate) A.

scope The breadth of coverage of a cognitive structure. Structure A has greater scope than Structure B when it includes as broad a structure as does B and also includes other salient elements. E.g. kill, by including a causing Relation, has broader scope than die.

semantic a. Any conventionalized cognitive structure is a semantic structure. By this definition symbolic and phonological structures are sub-cases of semantic structures.

b. Any conventionalized cognitive structure which is symbolically associated with a phonological structure is semantic.

stative Lacking a temporal profile. The passage of time may be in the base, but it is not profiled.²

¹ [A better definition would refer to profiling cognitive interconnections rather than the entity those interconnections constitute. See Langacker 1987.]

²
subject A structure profiling a Thing which in a construction elaborates the Trajector of a Relation, prototypically a process (verb).

symbolic Having to do with the association of a phonological with a semantic structure.

Thing (capitalized) A bounded region in conceptual space.

trajector The most highly profiled entity in a Relation, the figure with respect to which the landmark is ground.

Trajector (capitalized) The most salient trajector in a complex Relation, relative to which other trajectors (sub-trajectors) serve as landmarks.

transformation The effecting of a change in the profile of a structure, often through construing it with a schematic profile determinant morpheme of a different profile type (a transformational morpheme).

transitivity a. (external) The extent to which a Relational structure has internalized to it the expectation that it will be construed with a direct object.
b. (internal) Whether or not a Relational structure such as a clause contains a profile-determinant Relation together with its direct object.

unit A cognitive structure which has achieved unit status, i.e. which the speaker can manipulate as a whole without concentrating on its internal construction. Units are well entrenched habits of perception, thought or action. Units and non-units are collectively called elements.

valence The relationship a structure bears to another structure in construction with it. Dependency, schematicity, profile determinance and relative weight, together with internalized expectations as to the existence and nature of the companion structure, are important factors in valence.

verb Process, whether or not it is epistemically grounded.

verbal Epistemically grounded process.

weight a. (semantic) The extent to which the semantic specifications of a component element are crucial to the characterization of the construction as a whole. Profile determinance is an important factor in semantic weight. In BIG-DOG DOG is profile determinant and bears the most weight; in DOG-PL PL is profile determinant but DOG bears virtually all the rest of the weight. Semantic weight is a major factor in our intuitions as to which is the “main” component of a construction.
b. (phonological) The extent to which a component is phonologically more salient than its companions. Typical parameters for phonological weightiness are length, stress attraction, and permitting or having unusually complex syllable or other phonological structures.

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2 [A better definition would refer to different ways of scanning through time as the distinction between stative and processual concepts. Some stative or “atemporal” concepts do profile the passage of time, but scan it in “summary” fashion. See Langacker 1987 and other publications.]
### Diagramming Conventions

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<td><img src="image1.png" alt="Diagram" /></td>
<td>A is a component of B</td>
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<tr>
<td><img src="image2.png" alt="Diagram" /></td>
<td>A is a schematic for B; B instantiates A</td>
</tr>
<tr>
<td><img src="image3.png" alt="Diagram" /></td>
<td>A is partially schematic for B</td>
</tr>
<tr>
<td><img src="image4.png" alt="Diagram" /></td>
<td>A corresponds to B; there is an identity Relation between A and B</td>
</tr>
<tr>
<td><img src="image5.png" alt="Diagram" /></td>
<td>In construction C, B is profile determinant</td>
</tr>
<tr>
<td><img src="image6.png" alt="Diagram" /></td>
<td>B is an e-site, in correspondence with and elaborated by C. A is dependent on C; C is (relatively) autonomous.</td>
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<tr>
<td><img src="image7.png" alt="Diagram" /></td>
<td>B is expected to be used as an e-site; A bears a valence relative to B</td>
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<tr>
<td><img src="image8.png" alt="Diagram" /></td>
<td>A in composite form is B; B can be analyzed (or exploded) into A</td>
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<td><img src="image9.png" alt="Diagram" /></td>
<td>A causes B; B is a result of A</td>
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<td><img src="image10.png" alt="Diagram" /></td>
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<td><img src="image" alt="Entity (either a Thing or a Relation)" /></td>
<td>= Entity (either a Thing or a Relation)</td>
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<tr>
<td><img src="image" alt="Non-unit specified Relation between two entities" /></td>
<td>= Non-unit specified Relation between two entities</td>
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<td><img src="image" alt="Symbolic (unit) relationship between semantic unit A and phonological unit B" /></td>
<td>= Symbolic (unit) relationship between semantic unit A and phonological unit B</td>
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<tr>
<td><img src="image" alt="Symbolic Relation between semantic non-unit A and phonological non-unit B" /></td>
<td>= Symbolic Relation between semantic non-unit A and phonological non-unit B</td>
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<tr>
<td><img src="image" alt="Unit profiling a schematic Relation (bright-colored boldfacing indicates profiling)" /></td>
<td>= Unit profiling a schematic Relation (bright-colored boldfacing indicates profiling)</td>
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<tr>
<td><img src="image" alt="Unit profiling a Thing with a Relation in its base" /></td>
<td>= Unit profiling a Thing with a Relation in its base</td>
</tr>
<tr>
<td><img src="image" alt="A (a Thing) is profile determinant for C, which is profile determinant for E: thus E profiles a Thing. One of the Things in D (a schematic Relation) corresponds to the profiled Thing in A." /></td>
<td>= A (a Thing) is profile determinant for C, which is profile determinant for E: thus E profiles a Thing. One of the Things in D (a schematic Relation) corresponds to the profiled Thing in A.</td>
</tr>
<tr>
<td><img src="image" alt="In Relation C, A is the trajector and B is the landmark" /></td>
<td>= In Relation C, A is the trajector and B is the landmark</td>
</tr>
</tbody>
</table>
= in Relation C, schematic Relation A causes schematic Relation B. D is overall Trajector of C, E is overall Landmark; F and G are sub-landmarks.

= the Speech Situation. S (Speaker) communicates with H (Hearer); O (Other(s)) may be in the sphere of their shared knowledge.

= A consists of unspecified (schematic) phonological material

= A profiles a human being (and similarly other pictorial mnemonic representations)

= Thing unit: noun (including pronouns, nominals)

= Adjective: stative intransitive Relation with a Thing trajector

= Adverb: stative intransitive Relation with a Relational trajector

= Adposition: stative transitive Relation
<table>
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<td>= Verb: processual Relation</td>
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<td><img src="image2.png" alt="Icon" /></td>
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<td>= Relation, specifically abstracting away from processuality</td>
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<td><img src="image6.png" alt="Icon" /></td>
<td>= Transitive verb (process)</td>
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</tbody>
</table>
= In construction EF, morpheme AC and morpheme BD combine as follows: B is dependent on A; D is dependent on C and thus is suffixal. B and D are semantic and phonological profile determinants, respectively.

= (Same structure, in constituency-tree notation.)

= (same structure, in abbreviated notation.)

= B is more nearly profile determinant than A in construction C: it is almost, but not quite, schematic for C.
# APPENDIX J

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