Chapter 2

Surveying Lexicalization Patterns

1 INTRODUCTION

Using different perspectives and scopes, the three sections that follow in this chapter survey the material that was presented in chapter II-1.[1] The first two sections below employ a crosslinguistic scope, while the last section surveys material within a single language. In particular, section 2 tabularizes and augments the meaning-form associations described in chapter II-1. An analysis of this sort will be necessary for the goal within cognitive semantics of determining the patterns in which conceptual content is structured for the language system. Section 3 summarizes the typological and universal findings of chapter II-1. This summary, containing 67 entries, sets forth the findings in that chapter as a significant contribution to typological and universalist research. And section 4 lays out and exemplifies the system of Cause and related satellites in Atsugewi, which played a major role in the development of the theoretical framework of chapter II-1. This comprehensive treatment may be especially useful since a morphological system of this sort is relatively rare in the languages of the world.

2 COMPENDIUM OF MEANING-FORM ASSOCIATIONS

The investigation of meaning-form associations carried out in chapter II-1 is only a beginning. Among further endeavors, it calls for a thorough crosslinguistic determination of which semantic categories are represented with what frequencies by which surface constituents. For cognitive linguistics, the purpose of this endeavor will be to let us discern the patterns in which conceptual content is structured by the language system. The fine-grained cataloging thus called for is initiated here in a more modest

Table 2.1
Which semantic categories are expressed by which verb-complex elements

Semantic categories	Expressed within the verb-complex by		
	Verb root	Satellite	Inflections
A. Main event			
1. main action/state	+	[+/−]	−
B. Co-event			
2. Cause	+(M)	+	[+]
3. Manner	+(M)	+	−
4. Precursion, Enablement, ...	+(M)	(+)	−
5. Result	−	[−/+]	−
C. Components of a Motion event			
6. Figure	+(M)	+	[−]
7. Path	+(M)	+	−
8. Ground alone	(+)	+	[−]
7 + 8. Path + Ground	+(M)	+	−
D. Essential qualities of the event (and of its participants)			
9. *hedging	−	[−]	−
10. ˣdegree of realization	[−]	(+)	−
11. polarity	+	+	+
12. phase	+	+	[±]
13. aspect	+	+	+
14. ˣrate	[−]	[±]	−
15. causativity	+	+	+
16. personation	+	+	[±]

17. number in an actor	+	[+]	+
18. distribution of an actor	−	+	[−]
19. *symmetry/*color ... of an actor		−	−
E. Incidental qualities of the event or its participants			
20. *relation to comparable events	−	−	−
21. ˣlocale (qualitative spatial setting)	[+]	(+)	−
22. ˣperiod (qualitative temporal setting)	(+)	(+)	−
23. ˣstatus of the actors	[−]	−	−
24. gender/class of an actor	[−]	+	+
F. Relations of the referent event or its participants to the speech event or its participants			
25. path deixis (deictic spatial direction)	+(M)	+	−
26. *site deixis (deictic spatial location)	[−]	[−]	[−]
27. tense (deictic temporal location)	−	[−]	+
28. person	−	[+]	+
−relations to the speaker's cognitive state (namely, to the speaker's-)			
29. valence/voice (-attention)	+	+	+
30. factivity/evidentiality (-knowledge)	(+)/+	+	+
31. attitude (-attitude)	+	+	−
32. mood (-intent)	−	+	+
−relations to the speaker-hearer interaction			
33. speech-act type	(+)	+	+
G. Qualities of the speech event			
34. status of the interlocutors	[+]	+	+
H. Factors pertaining neither to the referent event nor to the speech event			
35. *speaker's state of mind, *yesterday's weather, ...,	−	−	−

format in table 2.1 and in the annotations that follow in section 2.2. Included here are the meaning-form occurrence patterns presented in chapter II-1. But these are here augmented so as to further include a number of additional semantic categories as well as one additional verb-complex constituent beyond the verb root and satellite, namely, verbal inflections.

While the table's indications are based only on the author's linguistic experience and must be amplified by a thorough cross-language survey, such a survey might nevertheless lead to very few major upsets. For if a language comes to attention with a meaning-form association formerly thought nonexistent, that association will likely be rare. If the table's discrete plus/minus indications are then simply converted to frequency indications, these will exhibit roughly the same pattern as before.

Given such an array, the major issue to be addressed next, of course, is whether the array shows any regular patterns and, if so, what factors might explain them. The data at hand here suggest only partial regularities and, in fact, there are exceptions to every explanatory factor considered. (See Bybee 1980, 1985, for work on related issues.) However, answers may emerge in the future as more pieces come into place

• with the inspection of more languages
• with a more principled determination of which surface forms are to be considered satellites and how these are to be distinguished from other verb-complex constituents
• with the inclusion of the remaining verb-complex constituents such as adverbial particles and auxiliaries (some of table 2.1's semantic categories that are not represented in the root, satellite, or inflections—for example, 'hedging' and 'spatial location'—*are* in fact represented in other verb-complex constituents)
• with the consideration of further semantic categories and the remaining sentence constituents

2.1   Table of Semantic Categories and Their Expression

Symbols used in Table 2.1

+   This semantic category shows up in this surface constituent either in many languages or with great elaboration in at least a few languages.

(+)   This category shows up in this constituent in only a few languages, and there with little elaboration.

This category does not show up in this constituent in any languages known to the author, and may possibly never do so.

+/−   This category shows up in this constituent in one capacity or by one interpretation, but not another, as explained in the annotations that follow.

[ ]   There is some question about this assignment of + or −, as explained in the annotations that follow.

×   This category has only slight representation in the verb-complex constituents treated here.

*   This category is possibly never expressed in the verb-complex constituents treated here.

(M)   This category can join alone with the 'fact-of-Motion' category in the verb root and there forms an elaborated system for the expression of Motion events. (The category may also be able to show up in the verb root in other capacities.)

2.2 Brief Descriptions and Illustrations of Semantic Categories

In the following annotations, (a), (b), and (c) refer to the categories' occurrence in verb roots, satellites, or inflections, respectively.

1. *Main Action/State.*
   a. This semantic category—which includes motion and locatedness—is the one most identified with the verb root. It is joined there by the other categories given a "+" in column (a). Thus, in *kill*, agent causativity (no. 15) joins the main action of 'dying' and, in *lie*, a Manner notion (no. 3), 'with a horizontal supported posture', joins the main state of 'being located'.
   b. But there may be an exception to the preceding. By the interpretation favored here for the resultative construction in Indo-European and Chinese languages, the satellite presents its expression of a resulting event as the main action or state, while the verb root, generally expressing a cause, presents this as a subordinate event. Thus, we consider English *melt/rust/rot away* to be best interpreted as meaning 'disappear [= ◄away] by melting/rusting/rotting' and German *sich er-kämpfen/-streiken* as meaning 'obtain [= ◄er-] (e.g., territory, wages) by battling/striking'. The alternative interpretation would consider the Result expressed by the satellite as the subordinate event

and the verb's Cause as the main one, with the reading of (say) *rust away* then taken to be 'rust with the result of disappearing'.

   c. This category is not indicated by inflections.

2. *Cause*. This category refers to the qualitatively different kinds of causing events such as can be expressed by an English subordinate *from-* or *by*-clause. It is distinguished from causativity (no. 15), which corresponds to a superordinate clause of the type "NP CAUSES S."

   a. Cause is regularly incorporated in the verb roots of most Indo-European languages expressing either motion or other action. Thus, English *blow* in *The napkin blew off the table* means 'move from (due to) the air blowing on [it]'.

   b. Atsugewi has some two dozen prefixal satellites expressing cause, for example *ca-* 'from the wind blowing on [it]'.

   c. Causing-event types are generally not expressed in inflections. However, by one analysis, the distinct agentive and inducive inflections of some languages (e.g., Japanese) do indicate different causing events of the types: '[the Agent CAUSES S] by acting physically' versus '... by inducing another Agent (to act physically)'.

3. *Manner*. Manner refers to a subsidiary action or state that a Patient manifests concurrently with its main action or state.

   a. It is regularly incorporated in most Indo-European languages' verbs of Motion (as well as other kinds of action), as in English *float* in *The balloon floated into the church*, which means 'move, floating in the process'.

   b. Nez Perce has over two dozen prefixal satellites indicating Manner—for example, *ʔiyé·* 'floating in the process'.

   c. Manner is not indicated inflectionally.

4. *Precursion, Enablement,...* In addition to a relation of Cause or of Manner, an associated event can bear any of a number of further relations to a main event. The additional relations discussed in the text are Precursion, Enablement, Concomitance, Consequence, and Purpose.

   a. In English, a Co-event with each of the relations cited above can be conflated with the verb in a Motion event. Thus, we have Precursion in *Glass splintered over the food*, Enablement in *I grabbed the bottle down off the shelf*, Concomitance in *She wore a green dress to the party*, Consequence in *They locked the prisoner into his cell*,

and Purpose in *I'll stop down at your office on the way out of the building*. Events with these relations can also conflate with non-Motion-event verbs. Thus, Purpose is incorporated in *wash* 'apply liquid to, in order to clean' and in *hunt (I hunted deer)* 'search for, etc., in order to capture'.

  b. Purpose is expressed in 'benefactive' satellites (for example the Atsugewi suffix *-iray*), which have the meaning 'in order to benefit/give [it] to [the actor named by the direct object nominal]'.

  c. The relations from Precursion through Purpose are seemingly not expressed inflectionally.

5. *Result.* A causing event (no. 2) always has a resulting event paired with it because the two are conceived in terms of a single larger causal interaction.

  a. When both a causing event and a resulting event are expressed together in a verb root, as they can be, the question here is, which of them is taken as the main event and which as the subordinate event? Thus, in *I kicked the ball along the path*, does *kick* mean 'move by booting' with the Result as main event and Cause as subordinate, or instead 'boot with the result of moving', with the reverse ascriptions? We favor the former interpretation (the same as in no. 2). Thus, it may be that Result never incorporates in a verb root as a subordinate event (hence the "−" in table 2.1 in the (a) column), but only as a main event.

  b. In the resultative construction, Result *is* expressed in the satellite, in many languages with numerous distinctions. However, by the interpretation favored here and already discussed in no. 1(b), it appears there not as a subordinate event but as the main event. Our conclusion is that *all* incorporation of Result, whether in verb root or satellite, is as main event.

  c. Result is not expressed inflectionally.

6. *Figure.* The Figure is the salient moving or stationary object in a Motion event whose path or site is the relevant issue.

  a. It is systematically incorporated in Atsugewi's motion verb roots—for example, in *-t-* 'for a smallish planar object (shingle, button, stamp, etc.) to move/be located'. The occasional English examples include *rain (It rained in through the window)* 'for rain(drops) to fall'.

b. A set of Atsugewi prefixes, overlapping with the causal set, indicates Figures. A set of Caddo prefixes indicates Patient, which sometimes coincides with a Motion event's Figure.

c. Inflections do not represent the Figure qua Figure, but they can indicate properties of subject and object—grammatical roles in which the Figure often occurs.

7. *Path.* This category refers to the variety of paths followed or sites occupied by the Figure object in a Motion event.

a. It is a regular component in the Motion-verb systems of many language families—for example, Polynesian, Semitic, and Romance —as in forms like Spanish *entrar* 'move in', *salir* 'move out', *subir* 'move up', *bajar* 'move down', *pasar* 'move past/ through'.

b. Path is the main category expressed by the satellites of most Indo-European languages outside of Romance, as in English with forms like *in, out, up, down, past, through.*

c. Path is not indicated inflectionally.

8. *Ground.* The Ground is the reference object in a Motion event, with respect to which the Figure's path/site is characterized.

a. The Ground does not appear alone with the (fact of) Motion component in any language's most characteristic Motion verb-root system, but only in occasional forms, like English *(de-/em-)plane,* or in combination with additional components (see following paragraph 7 + 8).

b. A set of Atsugewi prefixes, overlapping with that for Causes, indicates various body-part Grounds—for example 'finger' or 'buttocks' as when used with a verb root meaning 'get a splinter'. A set of Caddo prefixes indicates Patient, which often coincides with a Motion event's Ground.

c. Inflections do not represent a Ground object per se but only insofar as it serves as a grammatical subject or object.

7 + 8. *Path + Ground.* The combination of Path and Ground is privileged in that it occurs more than other combinations of Motion event components (except for those with the 'fact of Motion' component itself) and certainly more than the Ground alone.

a. Many languages have a series of verb roots in which this combination joins with 'MOVE'—for example, English *berth (The ship berthed)* 'move into a berth' or causative *box* (I boxed the apples) 'cause-to-move into a box'.

    b. Atsugewi has a major system of suffixal satellites that express some two-score instances of the Path + Ground combination—for example, -*ict* 'into a liquid'. English has a few examples, such as *aloft* 'into the air', *apart (They moved apart)* 'away from each other', and *home (I drove home)* 'to one's home'.

    c. Inflections do not represent this combination.

9. *Hedging.* Among other functions, hedges qualify the categoriality of a linguistic element's referent. They are mostly indicated around verbs by adverbs or special expressions, like those in *He sort of danced/She danced after a fashion.*

    a,b,c. However common they may be in that form, they are seemingly not incorporated in verb roots nor expressed by satellites or inflections. As possible exceptions, one may wish to consider as hedges such diminutivizing verb satellites as Atsugewi -*inkiy*, which changes 'to rain' into 'to drizzle'; or Yiddish *unter-*, which in *unter-ganvenen* changes 'to steal' into 'to pilfer a bit every now and then'.

10. *Degree of Realization.* This category divides a referent action or state—almost anywhere along its semantic continuum—into a more central core of essential aspects and a periphery of commonly associated aspects, and indicates that only one or the other of these is realized. Languages regularly indicate this with adverbs or particles near the verb—for example, English *almost* and *(just) barely.* Thus, *I almost ate it* can suggest lifting an item to the mouth and perhaps even inserting and chewing it but excludes at least the essential aspect of swallowing it. Conversely, *I just barely ate it* suggests getting an item down the gullet but without the usually attendant gusto in chewing and tasting.

    a. It is doubtful that a genuine sense of 'almost' or 'barely' is ever really incorporated in a verb root. But perhaps coming close are forms like *falter* and *teeter*, as in *He teetered on the cliff edge*, which suggests 'almost falling'.

    b. Atsugewi has a suffixal satellite -*iwt*, which indicates 'almost' in all the customary senses. It is the only such form known to the author.

    c. This category is apparently not indicated inflectionally.

11. *Polarity.* Polarity is the positive or negative status of an event's existence.

a. Verb roots can incorporate polarity of two types. One type pertains to the root's own referent action/state—for example, as in English *hit* or *miss* (= not hit) *the target*. The other type pertains to the action/state of a complement clause. In the latter type, incorporated polarity has some of the same syntactic consequences as independent polarity elements (like *not*)—for instance, in requiring either *some* or *any:*

I managed to/ordered him to/suspect I'll -see someone/*anyone.
I failed to/forbade him to/doubt I'll -see anyone/*someone.

b. Cheyenne indicates the negative with a prefix *saa-* in its poly-affixal verb (Dan Alford, personal communication).

c. Some languages incorporate positive and negative in two distinct sets of inflections that otherwise indicate tense, mood, person, and so on. Thus, in one part of its verb paradigm, Tamil has separate positive and negative inflections for the future neuter.

12. *Phase*. Distinguished from aspect because of its different behavior, the category of 'phase' refers to changes in the status of an event's existence. The main member notions for any type of event are 'starting', 'continuing', and 'stopping'. Bounded events also have the phase notions of 'inaugurating' and 'finishing'. To exemplify the two notions of termination, *I stopped reading the book* refers to a change from reading to not reading at any point in the book, while *I finished reading the book* refers to reading *all* of the book, and only then not reading.

a. Phase notions can be incorporated in verb roots or collocations, as in *strike up* 'initiate the playing of [a tune]'—and, by one interpretation, also in *reach* (e.g., *reach the border*) 'finish going toward', *shut up* 'stop talking', and *halt* 'stop moving'. Phase notions can also appear as the sole meaning of a verb without the incorporation of further semantic referents, as in English *start, stop, finish*. Strikingly, the particular phase concept of 'stopping' can appear only in verbs—whether alone or with other semantic material—not as an auxiliary, satellite, or inflection.

b. Phase notions other than 'stopping' can be expressed by satellites. For example, 'finishing' is expressed by German *fertig-*, as in *fertig-bauen/-essen* 'finish building/eating' (or, more literally, 'build/eat to completion'). The concept of 'inaugurating' is expressed by German *an-*, as in *an-spielen* 'open play (e.g., at cards)'

or *an-schneiden* 'make the initial cut in'. And 'starting' in the specific sense of 'bursting out' is expressed by Yiddish *tse* (+ *zikh*), as in *tse-lakh zikh* 'burst out laughing'.

c. Depending on the interpretation, phase either is or is not expressed in inflections. Thus, a preterite inflection seems to indicate stopping or finishing in conjunction with an unbounded or bounded event, as in *She slept/She dressed*. But it may be better interpreted as being basically a tense/aspect indicator, 'wholly occurring before now', that merely *implies* cessation. There is also the "inchoative" inflectional indication of 'entry into a state'—that is, 'becoming'—but it is not clear whether this should be classed together with 'starting'.

13. *Aspect*. Aspect is the pattern of distribution through time of an action or state.

a. It is regularly incorporated in verb roots—for example, in English *hit*—which can refer to a single impact, as against *beat*, which indicates an iteration.

b. It also appears frequently in satellites, as in the Russian prefixal system for indicating perfective/imperfective distinctions.

c. It appears regularly in inflections as well, as in the Spanish conjugational forms indicating the preterite and imperfect.

14. *Rate*. Rate refers to whether an action or motion takes place faster or slower relative to some norm.

a. Though some verb roots obviously indicate different rates of speed—for instance, the range from slow to neutral to fast is seen in the English verbs *trudge, walk, run* or *nibble, eat, bolt* (one's food)—languages seem to include them haphazardly and in conjunction with further semantic differences, rather than base a regular system of lexical distinctions on rate alone.

b. Satellites generally appear not to indicate rate, with some potential exceptions: an Atsugewi suffix *-iskur*—which has the same form as an independent verb 'to hurry' and, with a verb root, was in elicitation always translated as 'hurry up and V'—might actually or additionally there mean 'V quickly'. Dyirbal (Dixon 1972) has a suffix *-nbal/-galiy* said to mean 'quickly' but only as part of a semantic range that also includes 'repeatedly', 'start', and 'do a bit more'. We have heard one report that Yana may have had affixes with precisely the meanings 'quickly' and 'slowly'.

c. Rate is not indicated inflectionally.

15. *Causativity*. With the notions in this category, an event is conceived either as occurring by itself or as resulting from another event, where this latter event is either initiated by an agent or not, and such an agent is either intentional or not.

    a. Causative notions are regularly incorporated in verb roots. Thus, English *die* indicates only an event of death itself, while *murder* indicates that an intentional agent has initiated an action that has caused that event.

    b. As an example for satellites, the Yiddish prefix *far-* can be combined with a comparative adjective in a verb formation meaning 'to cause to become (more) [Adj]', as in *far-besern* 'to improve (transitive)', from *beser* 'better'. If the reflexive *zikh* can be considered a satellite, then it too is an example, for it changes a causative form into a noncausative: *farbesern zikh* 'to improve (intransitive)'.

    c. In Japanese, separate inflections indicate agent causation, inducive causation, and decausitivization.

16. *Personation*. Personation refers to the configuration of participants that an action is conceived to be associated with.

    a. Different languages' verb roots tend to incorporate different personation types. Thus, typical for French, the verb for 'comb the hair', *peign-*, intrinsically refers to one's doing the action to another (dyadic). The corresponding Atsugewi verb, *cu-spal*, refers to one's manifesting the action in oneself (monadic).

    b. Satellites can reverse a root's personation type. The Atsugewi benefactive suffix makes the 'comb' verb dyadic, and the French reflexive—considered here as a satellite—converts its verb to monadic.

    c. Inflections otherwise involved with causativity may also serve in switching personation types.

17. *Number in an Actor*. This is the numerosity of the participants—from one to many—behaving as any single argument of an event. It is listed under category "D" as an essential aspect of an event because such numerosity affects how the event is manifested.

    a. Many Amerindian languages have distinct roots for an action manifested by different numbers of Patients. Thus, the Southwest Pomo verb roots -*w*/-*ʔda*/-*pʰil* mean, respectively, 'for one/two or

three/several together ... to go'. It is a possible universal that the Patient is the only semantic role characterized for number in the verb root.

b. It is not clear whether satellites indicate number. The closest case known to the author is an Atsugewi dual verb clitic, -*hiy*.

c. Inflections in many languages indicate the number of the subject nominal and sometimes also of the direct object nominal. Interestingly, inflectional indications of number seem always to be linked to a particular *syntactic* role, such as subject or object, while those in the verb root correlate instead with a *semantic* role, the Patient.

18. *Distribution of an Actor.* This refers to the arrangement of multiple Patients—whether they form an aggregate or a linear distribution in space and/or time (in the latter case correlating with aspect).

a. Different distributions are incorporated systematically in certain Southwest Pomo roots: -*pʰil*/-*hayom* 'for several together/separately to go', -*hsa*/-*ʔkoy* 'act on objects as a group/one after another'.

b. The Atsugewi suffix -*ayw* indicates 'one after another' for multiple Patients. Though less freely usable, the English satellite *off* can do the same: *read off*/*check off* (items on a list), (animals) *die off*.

c. There is some indeterminacy as to whether a type of affix like Atsugewi's -*ayw* might not be better considered inflectional. Other than this, though, inflections seem not to indicate distribution.

19. *Symmetry, Color of an Actor.* Many characteristics of an event's participants are not marked anywhere in the verb complex, even though they seem as reasonable (from an a priori perspective) as the qualities that *are* marked. Thus, while an argument's numerosity and distribution can be marked, there will be no marking for its color or whether it has a symmetrical arrangement, even though these very qualities are important in other cognitive systems, such as visual perception.

20. *Relation to Comparable Events.* Many adverbial or particle forms indicate whether an action or state has occurred alone, or in addition to, or in place of another one of a comparable category, like the forms in English *He only danced*/*also danced*/*even danced*/*danced instead*. These notions, however, seem never to be expressed as satellites or inflections, or incorporated in the verb root.

21. *Locale* (qualitative spatial setting). This category pertains to the type of area or physical setting in which an event takes place.

   a. This category is not obviously conflated in verb roots. To exhibit it, a language would need to have distinct verb roots with meanings like 'to eat indoors' and 'to eat outdoors', or like 'to perish at sea' and 'to perish on land'.

   b. Kwakiutl has a small set of verb suffixes with meanings like 'in the house' and 'on the beach'. Klamath's locative suffixes may be an additional example, though these seem really more to indicate Ground than locale—that is, to indicate something more like *She hit him in the nose* (Ground) than *She hit him in the kitchen* (locale). The satellites in English *eat in/eat out* (suggested by Martin Schwartz) are perhaps a real, if limited, example.

   c. Locale is not expressed inflectionally.

22. *Period* (qualitative temporal setting). This category locates an event within a particular time period, especially a cyclic one.

   a. There may be small systems of verb roots differing principally as to temporal setting. Thus, English *to breakfast, brunch, lunch, sup/dine* could be interpreted as meaning 'to eat in the morning/late morning/midday/evening'.

   b. Yandruwandha verbs optionally take the suffixal satellites *-thalka* 'in the morning', *-nhina* 'by day', or *-yukarra* 'at night' (Bernard Comrie, public presentation). It is possible that only the day's cycle is ever thus represented and not, say, that of the month or year.

   c. Inflections appear not to indicate this category.

23. *Status of the Actors.* This refers to either absolute or relative social characteristics of the animate participants in a referent event (and does not pertain to the interlocutors of the speech event, which is treated below).

   a. Japanese verbs of giving differ according to the relative social rank of the giver and the receiver, and so incorporate status.

   b,c. Actors' status does not seem to appear in satellites or inflections.

24. *Gender/Class of an Actor.* This refers to category memberships based on sex or other characteristics and associated either with an event's actors themselves or with the nouns that refer to them.

   a. It appears that no verb roots are lexicalized specifically for use with nouns of a particular *grammatical* gender or class. Thus, for

example, Spanish could not have two different verbs for 'to fall', one for use with feminine-noun subjects and the other with masculines. While there do exist verb roots associated with nouns of a particular *semantic* gender (or various other properties), for example roots referring to pregnancy, the association seems less one of systematic categorial distinctions involving selectional features or the like than a matter of individual pragmatic applicability. Thus if a man were in fact to become pregnant, one could simply proceed to say 'The man is pregnant'.

b. The grammatical class of the subject and at times also the direct object noun is marked by affixal satellites in Bantu languages.

c. The subject's grammatical gender is indicated in the inflections in all Hebrew tenses and in the Russian past tense forms—for example, in *Pes layal/Sabaka layala* 'The hound barked/The dog barked'.

25. *Path Deixis* (deictic spatial direction). This refers to whether the Figure in a Motion event is moving toward the speaker or in some other direction.

a. It is found incorporated in verb roots, such as English *come/go* and *bring/take*.

b. It is frequently marked by satellites, like the pair in Atsugewi, *-ik·/-im*, and in Mandarin, . . . *lái/* . . . *qù*.

c. It is not marked inflectionally.

26. *Site Deixis* (deictic spatial location). This category would characterize the location of an event's occurrence with respect to the speaker or hearer (e.g., near or away from one or the other, in or out of their range of vision). It is readily indicated by adverbs or particles, such as English *here* and *there*. But it appears not to occur otherwise in the verb complex. As possible exceptions: We have heard a report that some Northwest Coast Amerindian languages have distinct verb roots meaning 'to be here' and 'to be there'. And the evidential satellites or inflections for visual versus other-sensory information, in Wintu as well as other languages, might be used for inferences about spatial deixis.

27. *Tense* (deictic temporal location). Like the preceding category, but for time instead of space, tense characterizes the temporal location of an event with respect to the moment of the speaker-hearer interaction.

a. By our interpretation, tense is not incorporated in verb roots. We consider a possible candidate such as English *went* not as a conflation of semantic 'go' + 'past' but as a suppletive form standing in the place of the morphemes *go* and *-ed*. The reason is that *went* can only appear in environments where other verb roots are followed by *-ed*. And if *went* genuinely incorporated a past sense, one might expect it to be used as well in expressions like **I am wenting* to mean 'I was going', or **I will went* to mean 'I will have gone'.

b,c. Tense is marked by affixes and particles (as well as auxiliaries) in many languages. It is not clear that any of these should be taken to be satellites; the affixes among them would normally be taken to be inflections.

28. *Person.* Person refers to the relation between an actor in a referent event and a participant in the speech event (i.e., the speaker or hearer). Thus, in English, if an actor is the same individual as the speaker, the form *I* is used; if the same as the hearer, *you*; and if neither, *he/she/it* or a full nominal is used.

a. No verb roots appear to be specific to a particular person. Distinct forms like English *am/is* invite the same objection as was raised for *went* above. Japanese verbs of giving, sometimes suggested as incorporating person, seem rather to basically indicate relative status, which in turn has certain canonic associations with personal arrangements. (Note that some *noun* roots do incorporate person—for example, the distinct Kikuyu nouns for 'my father', 'your father', and 'his father'.)

b. If clitics like Spanish *me/te* can be construed as satellites, this part of speech can be given a plus for person.

c. Person is notably indicated by inflections.

29. *Valence/Voice.* This category refers to the particular distribution of attention and perspective point that the speaker assigns to the different actors in an event when this factor is associated with the grammatical relations of the nouns referring to the actors. The two traditional terms for this category differ only in that 'voice' refers to the assignment when it is marked by inflections or auxiliaries and 'valence' otherwise.

a. The category is often incorporated in verb roots, like English *sell* and *buy*, which place the main perspective point at the giver and the receiver, respectively, for the same event.

    b. The German satellite *ver-* redirects the main perspective onto the giver in an exchange, as in *ver-kaufen* 'sell' (vs. *kaufen* 'buy').

    c. The category is frequently marked by inflections, as in Latin *emere* 'to buy' and *emi* 'to be bought'.

30. *Factivity/Evidentiality*. This category distinguishes the speaker's belief in, versus ignorance of, an event's truth. The two traditional terms, factivity and evidence, differ only as to whether this category is indicated in the verb root itself or outside it.

    a. Only rarely, it seems, does a verb root indicate a speaker's state of knowledge as to its own referent event. One example might be English *be*, indicating speaker's certainty of a copular attribution, and *seem*, indicating uncertainty, as in *She was/seemed sad*. But many verbs do indicate state of knowledge pertaining to a *complement* event, as in *Jan (i) realized/(ii) concluded that she'd won:* (i) the speaker believes the winning to be factual, (ii) the speaker is noncommittal about its actuality.

    b. Wintu has a set of 'evidential' suffixes, probably to be taken as satellites, that indicate whether the speaker knows for sure or infers an event, as well as the evidence by which he arrived at his knowledge or supposition (Schlicter 1986).

    c. In Atsugewi, there are two distinct inflectional sets for the 'factual' and the 'inferential'.

31. *Attitude*. The category here is the speaker's attitude toward the referent event.

    a. Attitude is incorporated in verb roots. For example, the verbs in *They raided/marauded the village* refer to roughly the same objective event, but *maraud* additionally indicates the speaker's attitude of disapproval toward the event. The negative attitudinal content of *traipse*, as compared (say) with *walk*, is evident from the leadingness of this question by a trial attorney: *Did you confirm that Ms. Burnett was traipsing around the restaurant?*

    b. The Atsugewi suffixal satellite *-inkiy* indicates the speaker's 'cute' regard for the event. For example, with a root 'flap', it could be used to speak of baby ducklings moving their wings about.

    c. Attitude seems not to be indicated inflectionally.

32. *Mood*. Mood refers to a speaker's feelings or intentions with respect to the actualization of an event. It includes a neutral regard, a wish for

(something unrealizable), a hope for (something realizable), a desire to (realize something), and an attempt at (realizing something).

    a. It appears that no verb roots have an intrinsic mood to them. It might at first be thought that a verb like *want*, as in *She wants to go*, is desiderative, but it really only refers to the *actor's* desire, not to that of the speaker, whose mood toward this event is here neutral.

    b,c. Many languages have affixes—whether taken as satellites or inflections—that indicate mood under terms like indicative, subjunctive, optative, desiderative, conative.

33. *Speech-Act Type*. This category indicates the speaker's intentions with respect to the hearer in referring to an event.

    a. The vast majority of verb roots are neutral with respect to speech-event type. But a few verbs do incorporate a particular type—for example, the Halkomelem roots meaning 'to be where' and 'to go whither' are solely interrogative. And mainly imperative are the English forms *beware*, the collocation *be advised* (which does accommodate modals, but only with an imperative sense: *You should/*can be advised that* ...), and perhaps forms like *whoa, giddiyap, scat*.

    b,c. The category is often marked by satellites and inflections. For example, Atsugewi has distinct inflectional paradigms for these speech-act types: declarative (I tell you that ...), interrogative (I ask you whether ...), imperative (I direct you to ...), admonitive (I caution you lest ...).

34. *Status of the Interlocutors*. Status is the same here as in no. 23 but refers to the participants of the speech event rather than to the actors of a referent event.

    a. The Japanese verbs of giving do not really fit here; they basically indicate the actors' status, and it is only incidental if some of the actors turn out also to be participants in the speech event. However, some of Samoan's distinct status-level verbs (e.g., those for eating) may well have usages sensitive solely to who it is that is speaking and being addressed.

    b. Satellites and clitics are used by a number of languages to indicate the absolute or relative gender (men's and women's speech) and status of the interlocutors.

    c. Inflections for second person in many European languages distinguish degrees of formality that are partly based on relative status.

35. *Speaker's State of Mind,...* It seems that no markers or incorporations indicate notions unrelated to either the referent event or the speech event. If they existed, one might encounter cases like *The chair broke-ka* meaning 'The chair broke and I'm currently bored' or 'The chair broke and it was raining yesterday'.

3 COMPENDIUM OF TYPOLOGIES AND UNIVERSALS

In this section, we abstract out and organize the typological and universal findings discussed in chapter II-1. Our classification of the different types of typologies and universals, set forth next, builds on Greenberg 1963.

3.1 The Different Types of Typological and Universal Principles, and the Symbols Used to Represent Them

A   = a principle of analysis

T   = a typology, involving any factor by which languages differ from each other

    +T = preponderant tendency across languages, involving a factor that holds for most languages, though not for all

    −T = a crosslinguistic rarity, involving a factor that holds for few languages, though not for none

+U = a positive universal, involving a factor that holds either characteristically or without exception within every language

−U = a negative universal (universal exclusion), involving a factor that holds only uncharacteristically or not at all within every language

U′   = an integrated property of universal grammar—that is, of language in general—summed over different language types, involving a factor that *may* occur (is not excluded from occurring) in any language

Statements of the **U′**-type and statements of the **T**-type are interconvertible, incorporating equivalences of the following form:

    U′: "Language displays property P" (i.e., manifests it at least in part, though not uniformly)

$\Longleftrightarrow$ **T:** "Some languages have property P and some do not"

> = a relative principle, involving a factor that pertains only to a set of languages already possessing a particular other factor; hence:

>U = an implicational universal

>T = a subtypology

/ = a principle involving two factors of different "universality" types

In brackets, we indicate the sections or other locations where each finding is described. In 1 to 58, the brackets refer to locations in chapter II-1; 59 to 67 refer to table 2.1.

3.2   Typological and Universal Principles Involving:

3.2.1   Properties of Language Organization

1. **+U:** Language distinguishes the two levels of meaning and of surface form. There are properties pertaining to each level independently, and also to their interrelations (including properties of lexicalization). [1]

2. **A:** Within a language, a property or pattern is "characteristic" if it is colloquial, frequent, and pervasive. [2]

3. **A/U, T:** Morphemes' "usages" or "usage ranges"—a particular subset of their semantic and syntactic properties, wholly exclusive of their core meanings—relate them to each other in systematic patterns within the same language and across languages, even where there is no common core meaning. [1.1]

4. **+U:** For any semantic category of "grammatical"-type meaning (e.g., aspect, causativity) incorporated within lexical items in a language, two kinds of lexical items generally occur: those that incorporate only a single value of the category, and those that can express some range of the category's values. [1.1, 2.5, note 25, 2.6, 2.8, 2.9]

3.2.2   Properties of Semantic Organization

5. **U'/+U:** Language distinguishes the following semantic categories (as determined in the present study): Motion event; (fact of) Motion, Figure, Ground, Path; Vector, Conformation, Deictic (and Contour, Direction); Co-event; Precursion, Enablement, Cause, Manner, Concomitance, Subsequence (Result or Purpose); causativity, agency,

intention, volition, inducement, undergoerhood; personation, primary/secondary focus (as for valence); and aspect; as well as the remaining categories listed in table 2.1 (except nos. 19 and 35). Many of these categories have systematic realization in every language. [body of text]

6. **+U:** A state of locatedness is conceived and subdivided into components in the same way as an event of translational movement. (The term "Motion event" is here used for both.) [1.2]

7. **+U:** A Motion event has four components: Figure, Motion, Path, and Ground. [1.2]

8. **+U:** Regularly in association with a Motion event is a conceptually separable Co-event. The Co-event bears a semantic relation to the Motion event, oftenest that of Manner or Cause, but also Precursion, Enablement, Concomitance, and Subsequence. [1.2, 2.1]

9. **+U:** Languages distinguish between translational and self-contained Motion. The latter encompasses oscillation, rotation, dilation (expansion/contraction), wiggle, local wander, and rest. Languages generally analyze a complex movement into a combination of these two types. [2.1.2.3]

10. **+U:** Some 10 seemingly universal "motion-aspect" formulas constitute the semantic cores of all Motion events. [2.2.2]

11. **U′:** The semantic category of causativity encompasses more and finer distinctions than the generally recognized causative/noncausative opposition. Within the causative are at least the resulting-event, causing-event, instrument, author, agent, self-agent, and inducive types, and within the noncausative are the autonomous and the undergoer types. [2.6]

12. **+U:** Semantic properties involving the different causation types include the following:
    a. An event can be conceptualized as independent of any causal connections (the autonomous type). [2.6]
    b. An agent's intention can extend over different lengths of a causal sequence (the author type vs. the agent type). [2.6]
    c. Agency involves one event of intention, one of volition, and, in the physical realm, one of body(-part) motion. [note 31]

    d. Body motion can be the end goal of agency (the self-agentive type). [2.6]

    e. Agency can itself be externally caused (the inducive type). [2.6]

    f. The Instrument is a derived notion: the Figure of a causing event is the Instrument within the whole causal sequence. [note 30]

    g. The self-agentive type tends to become conceptualized as the autonomous type and, in a parallel way, the inducive type tends to become conceptualized as the simple agentive type. [note 33]

13. **−T:** Ordinary aspect involves the temporal distribution of an action considered directly with respect to the background temporal flow. In addition, a few languages have systematic indication of a secondary aspectlike phenomenon: an action's temporal distribution considered with respect to a separately occurring event of locomotion (executed by the same actor). [3.7]

3.2.3 Properties of Surface Forms

14. **U′:** Language distinguishes at the surface two underrecognized grammatical categories: the verb "satellite" and the "verb complex." The verb root together with all satellites that are present constitute the verb complex. [3]

15. **T:** Some languages have full systems of satellites, while other languages have virtually no satellites. [3, 4]

16. **U′:** Languages have a recurrent tendency to exhibit "satellite formation." By this process, certain morphemes or morpheme classes—especially ones with a more grammatical-type meaning—move into a satellite relation with the verb. They leave their original locations in the sentence, where they had been in construction with other elements, perhaps more logically so. Quantifier float is one example of the process. Polysynthesis is its greatest realization. [note 50]

17. **+U:** In a Motion-event sentence, if the Ground nominal is an anaphoric or deictic pronoun, it can generally be omitted. Any Path-indicating adposition with that pronoun must then also be omitted, whereas any Path-indicating satellites must remain. [3.1]

18. **> −T:** Languages having both satellites and adpositions generally keep them formally distinct. English and Mandarin seem to have in addition a rare part of speech—the "satellite preposition"—that coalesces the two forms. [3.1]

3.2.4   Properties of the Relations Between the Semantic and the Surface Levels

19. **+U/A:** Elements at the semantic and at the surface levels of language do not necessarily correspond one-to-one. Theories of lexicalization have described the following types of semantic-surface relations (i.e., lexicalization types), categorized by the quantities of elements involved.

At the semantic level	*At the surface level*
a. no semantic content	1. no surface element
b. a single semantic element	2. a single morpheme
	3. a combination of morphemes
c. a combination of semantic elements	

Types of semantic-surface correspondence	*Yielding at the surface*
a-1	
a-2/a-3	a "dummy" element/expression
b-1/c-1	a "zero" form or a deleted underlying form
b-2	a simplex morpheme (the prototypical form)
b-3	an idiom or collocation (or a discontinuous form)
c-2	conflation (or a portmanteau)
c-3	conflation occurring over a collocation

[In the last case, the elements of (c) must not correspond one-one with the elements of (3).] [1–1.1]

20. **A:** In addition to the preceding lexicalization types, there are two further ways to account for a semantic component assumed to be present at the surface (aside from syntactic-structural meanings):

   a. It arises by semantic/pragmatic interpretation in accordance with the context and general knowledge. [1.1]

   b. It is not really present after all, once the referent situation is viewed from an alternative perspective by the process of "semantic resegmentation." [note 4]

21. **+U:** A zero form can behave exactly like a normal morpheme, with its own precise meaning (or meaning range) and syntactic properties. [note 2]

22. **+U:** Languages possess a "shifter" type of closed-class element. When used with a lexical item that incorporates notion A of a particular semantic category (e.g., of aspect, causation, or valence), it shifts notion A to notion B within the same category. [2.5, table 1.4, 2.7, 2.8]

23. **>U/+T:** A language's possession of a productively occurring shifter that changes notion A to notion B tends to correlate with a comparative lack in that language of lexical items that incorporate notion B. [2.5, 2.9.1]

24. **A:** The verb root, since it is a single morpheme, is a surface form relevant to the comparison of lexicalization patterns across languages; the whole verb is not, because it can contain varying numbers of affixes. [2]

25. **+U:** The 'fact-of-Motion' component of a Motion event always appears in the verb root. [2.1–2.4]

26. **T:** In its most characteristic expression of a Motion event, a language will usually conflate in the verb root, together with 'fact of Motion', one of these three semantic components: the Figure, or the Path, or the Co-event. [2.1–2.4]

27. **−U:** In its most characteristic expression of a Motion event, no language conflates the Ground component with 'fact of Motion' in the verb root. But this form of conflation can occur as a minor pattern. [2.4.2]

28. **−U:** In its most characteristic expression of a Motion event, no language combines *two* of the Figure, Path, Ground, and Co-event components to conflate in the verb root with 'fact of Motion'. But this form of conflation can occur as a minor pattern. [2.4.3]

29. **−U:** In its most characteristic expression of a Motion event, no language conflates *none* of the other Motion-related components together with 'fact of Motion' in the verb root—that is, 'fact of Motion' does not characteristically appear alone in the verb root. However, this form of nonconflation may occur as a minor system or as one branch

of a split system (here, typically, in the expression of location events). [2.4.4]

30. −T: In its most characteristic expression of a Motion event, a language can approach the "zero-conflation" pattern in that—although it does incorporate one of the three main Motion-related components with 'fact of Motion'—it distinguishes only some two or three senses of that component, rather than the at least dozens of distinctions otherwise typically found. [2.4.5]

31. **T:** In its most characteristic expression of a Motion event, a language can conflate one of the three main Motion-related components in the verb root together with 'fact of Motion' for one category of Motion event, conflate another such component for another category of Motion event, and even conflate the third such component with yet another category of Motion event. This is a "split" or "complementary" system of conflation. [2.4.6]

32. −T: In its most characteristic expression of a Motion event, a language can conflate one of the three main Motion-related components together with 'fact of Motion' in one series of verb roots, and conflate another such component with 'fact of Motion' in another series of verb roots, where both of these series are equally colloquial and pertain to the same categories of Motion event. This is a "parallel" system of conflation. [2.4.7]

33. −U?: Possibly no language fails to have a most characteristic pattern for the expression of a Motion event, instead variously conflating the three main Motion-related components together with 'fact of Motion' in its different verb roots. This would be an "intermixed" system of conflation. [2.4.8]

34. >+U/>T: Languages of the Figure- or the Co-event-conflating type apply their conflation pattern to the expression of both motion and location. Some languages of the Path-conflating type apparently also do so. But most languages of the Path-conflating type apply their conflation pattern only to the case of motion. [2.1–2.3]

35. >+U: Languages of the Co-event-conflating type have a system of polysemous verbs—lexical doublets—with one usage expressing a Co-event referent alone and the other expressing the Co-event conflated with Motion. Verbs with only one or the other usage, as well as

suppletive pairs with complementary usages, generally also occur. Further conflation of this sort with an additional Motion clause can yield lexical triplets (and so on). [2.1]

36. **>T:** Languages of the Path-conflating type can either class together the Deictic component and the Conformation component of Path, or they can treat these two components as structurally distinct and accord priority to one of them. [2.2.2]

37. **>T:** With a particular Motion component characteristically conflated in the verb root, languages form subtypologies on the basis of which of the remaining components appear in the satellite. [2.6]

38. **−U:** No language's verb roots apparently distinguish systematically between the "autonomous" and the "resulting-event" types of causation, although they do do so in occasional instances. [2.6]

39. **−U:** No language's verb roots appear to distinguish between the "causing-event" type and the "instrument" type of causation. [2.6]

40. **>+U:** In a language having them, the verb roots that express the "causing-event" or "instrument" type of causation can generally also express the "author" and "agent" types. [2.6]

41. **T:** Languages differ as to the extensiveness shown by a favored lexicalization pattern (e.g., one involving lexicalized causation, aspect-causation, or valence), both with respect to a particular semantic category and across semantic categories. [2.6 (end), 2.7.1, 2.9.1]

42. **T:** Languages differ as to the type of aspect that they characteristically incorporate in the verb roots that express certain semantic domains. [2.5]

43. **T:** In the main, a language will characteristically conflate in a verb root, together with a 'state' notion, one of these three aspect-causative types: the stative, the inchoative, or the agentive. But in some languages, the same verb root characteristically ranges over the expression of a particular pair of these types. And in some languages, the same verb root can range over the expression of all three of the types, but whether this is ever the characteristic pattern or always only a minor pattern remains to be determined. Finally, by one interpretation, in some languages, the root expresses the 'state' alone, incorporating none of the three aspect-causative types, with accom-

panying morphemes supplying the expression of those types. By another interpretation, though, such verb roots—in fact, all verb roots—incorporate an aspect-causative component (or a range thereof) and do not present their core referent abstracted away from properties of temporal distribution or causality. [2.5, 2.7]

44. **+U/>T:** In all the preceding cases, the aspect-causative type(s) that are not expressed by the root are indicated by accompanying morphemes. In the case of 'state-alone' roots, these additional morphemes themselves either indicate each of the three aspect-causative types separately, or they use one form to indicate a pair of the types and another form for the remaining type. [2.7]

45. **>T:** Languages that are typologically alike in characteristically incorporating a particular one of the three aspect-causative types, in their 'state' verb roots, can form a subtypology by differing in their patterns for deriving the remaining aspect-causative types. [table 1.5 and example (60)]

46. **−U:** Where the same verb root—or nonroot morphemic material—expresses a pair of the three main aspect-causative types, this pair can be either stative + inchoative or inchoative + agentive, but it cannot be stative + agentive. [2.7]

47. **−U:** A verb root can refer to both state location and state entry, but it cannot refer to one or both of these and also to state departure. Possibly, no verb root in fact ever lexicalizes the notion of leaving a state. (Thus, a verb 'die' should be interpreted to mean 'enter death', not 'leave life': in any language, the verb could be cognate with the former noun but not with the latter.) [2.7.2]

48. **−U:** As to their quantity of forms and usages in any language, the grammatical elements and derivational patterns that indicate 'state entry' generally exceed, and may equal, but are never fewer than those indicating 'state departure'. That is, 'state entry' is unmarked relative to 'state departure'. [2.7.2]

49. **T:** In each language, person-involved actions are characteristically lexicalized in verb roots either in the monadic personation type, or in the dyadic personation type, or in a form covering both types. [2.8]

50. **+U:** The valence with which a mental event is lexicalized in a verb root may correlate universally with a particular cognitive-linguistic

principle: When it is the subject, the Experiencer is conceptualized as initiatory in the mental event, whereas when it is not the subject, the Experiencer is conceptualized as reactive in the event. [2.9.2]

51. **T:** Languages differ as to whether predominance is given to the Experiencer as subject or as nonsubject in the lexicalization of valence for mental events and, accordingly, whether the conception of the Experiencer predominates as initiatory or as reactive. [2.9.2]

52. **+T:** Preponderantly, verbs that express certain subcategories of mental events—among them, 'wanting' and 'valuing'—lexicalize the valence so that the Experiencer appears as syntactic subject, functioning in an initiator role. [2.9.2]

53. **+U:** Universally, the Figure is higher than the Ground on a hierarchy of semantic roles. One consequence is that, in every language, the basic "precedence" pattern is for the Figure-expressing nominal to appear higher than the Ground-expressing nominal in the hierarchy of grammatical relations: subject, object, oblique. [2.9, 3.8]

54. **U′:** Either basic or inverted Figure-Ground precedence can be required by a particular lexical item or a particular semantic notion. A requirement of the semantic type can hold over a whole language, over a whole language family, or in some cases perhaps also universally. [2.9, 3.8]

55. **U′:** Often, within a language or across languages, the same semantic element can be represented at the surface with different degrees of salience—that is, more foregrounded or backgrounded. [4]

56. **+U:** Other things being equal, a semantic element is backgrounded in its salience by being expressed in the main verb root or in any closed-class element (including a satellite—hence, anywhere in the verb complex). Elsewhere it is foregrounded. [4]

57. **T:** Languages differ greatly as to the quantity and types of semantic elements that they can express at a backgrounded level of salience. [4]

58. **+U/T:** A greater "cost" attaches to a notion's foregrounded, as against backgrounded, expression within a sentence, due to its greater claim on space, attention, and canons of style. Accordingly, a language tends more often to omit a notion requiring foregrounded expression, leaving it to be inferred from context if possible. Consequently, a language with greater provision for backgrounding regu-

larly expresses more information explicitly than a language with lesser provision. [4]

59. **+U:** By one interpretation, all incorporation of Result, whether in verb root or in satellite, is as main event, not as subordinate event. [section 2.2, descriptions 1 and 5]

60. **−U:** Unlike the other Phase notions, that of 'stopping' does not appear in closed-class elements (such as verbal auxiliaries, satellites, or inflections). (See principles 47–48 about the restrictions on 'state-departure'.) [section 2.2, description 12]

61. **> +U/−U:** 'Number', when appearing in verb inflections, refers to the grammatical subject or object, whereas when incorporated in the verb root, it refers to the semantic Patient—and apparently to no other semantic roles. [section 2.2, description 17]

62. **−U:** Only a limited and small set of semantic categories can appear in the verb complex to qualify the participants in a referent event—mainly 'person', 'number', 'distribution', 'status', 'gender/class'. All other semantic categories, such as 'color', are excluded. [table 2.1]

63. **U′:** For our three verb-complex constituents—the verb root, satellite, and inflections—semantic categories with generally clear representation in all three are 'polarity', 'phase', 'aspect', 'causativity', 'personation', 'number', 'valence/voice', 'factivity/evidence', 'speech-act type', 'status of interlocutors'. [table 2.1]

64. **−U:** Semantic categories excluded from the verb root but not from inflections are 'gender/class of an actor', 'tense', 'person', 'mood'. [table 2.1]

65. **−U:** Semantic categories excluded from verb inflections but not from the root are the main action or state (including 'Result'), Motion event components, and Co-event (table 2.1, nos. 1–8), as well as 'distribution of a (multiple) actor', 'status of the actors', '(deictic) Direction', 'speaker's attitude'. [table 2.1]

66. **U′:** Whereas many semantic categories can appear either in the verb root or in verb inflections but not in both. most of these same categories *can* appear in the satellite. [table 2.1]

67. **−U:** Although readily occurring elsewhere in the verb complex—for example, as particle words—the semantic categories of 'hedging',

'rate', 'relation to comparable events', 'spatial setting', and '(deictic) spatial location' are at best only marginally expressed in the verb root, satellite, or inflections. And the categories of 'degree of realization', 'status of actors', and 'temporal setting' are only rarely expressed there. [table 2.1]

4   ATSUGEWI CAUSE SATELLITES AND POLYSYNTHETIC VERBS

In this section, we set forth and exemplify the system of Cause and related satellites in Atsugewi. In particular, section 4.1 contains a fairly thorough listing of the shapes and meanings of Atsugewi's system of Cause and related satellites. Forms as yet poorly attested are marked with an asterisk. Section 4.2 presents a number of examples of full polysynthetic verbs in Atsugewi, arranged by the semantic type of the verb root. The numbers accompanying the forms in section 4.1 will be used as indices by which they will be referred to in the examples of section 4.2. We include this detailed description of the Cause satellites first because of their intrinsic semantic interest—this morphological category is relatively rare in the languages of the world. Second, it is presented because of their significance for the crosslinguistic typology of the representation of Motion and other events that was presented in chapter II-1. Further, examples of the multiaffixal verbs are presented to provide a broader sense of the patterns in which the components of a polysynthetic form combine their individual meanings into a unified semantic structure.

4.1   Cause and Related Satellites

Atsugewi has a set of prefixal Cause satellites that immediately precede the verb root. These satellites refer to a causal event that includes an Instrument. These satellites are presented in section 4.1.1. In an additional usage, this same set of satellites can refer to a Motion event that includes a Figure. This usage is described in section 4.1.2. Finally, Atsugewi also has a set of Figure/Ground satellites. This set largely overlaps the set of Cause satellites, sharing forms with the same shape and related meanings. But each set has some unshared forms. The Figure/Ground satellites are presented in section 4.1.3.

4.1.1   Cause Satellites   As discussed in section 2.5 of chapter II-1, the Atsugewi Cause satellites generally express a particular kind of instrumentality acting in a particular way on the Figure or Patient so as to

bring about the event expressed by the verb root. In the terms of chapter II-1 and of chapter II-3, a satellite of this type represents a Co-event that bears the relation of Cause to the framing event. In the terms of chapter I-4, it represents the penultimate subevent in a causal chain—that is, the immediate cause of the final result in the chain.

Only satellite 25 for 'heat/fire' has distinct forms for nonagentive and agentive usages. The remaining Cause satelllites can mostly occur in either usage. Accordingly, when occurring in a nonagentive verb, they can best be glossed in English with a clause that begins with *as a result of* or *from*. But when occurring in an agentive verb, they are best glossed with a clause that begins with *by*. For uniformity, though, all the glosses are in the form of a clause beginning with *as a result of*. The satellites are grouped below by the type of instrumentality and event that they specify.

4.1.1.1   Type: Generic or Noncausal

0. i-/a-

'as a result of something/nothing acting on the Figure' (used—though only infrequently—where the event of the verb root is conceptualized as uncaused, or where more specific indication of Cause is undesirable)

4.1.1.2   Type: 'As a Result of a Body-Part Acting on the Figure'   The satellites here prototypically refer to body parts of humans. They can also refer to the body parts of animals, in accordance with analogies to the human parts. These analogies have some flexibility, so that, for example, what English refers to as the 'leg' of a chicken could be covered either by *ma-* (3) for 'leg' or by *ci-* (2) for 'hand'. The satellites refer only to inalienably possessed parts of a body that are activated neuromuscularly, not to severed body parts.

As can be seen, two satellites can refer to the same body part engaged in different kinds of actions. Thus, *tu-* (1) and *ci-* (2) both refer to the hands, but acting centripetally as against manipulatively, while *pri-* (6) and *phu-* (7) both refer to the mouth, but acting ingressively as against egressively. Otherwise, though, a satellite covers reference to a wide range of actions by the body part. In particular, it can cover onset causation, when the body part comes into contact with a Figure (as when a foot kicks a rock across a field), as well as extended causation, when the body part stays in contact with a Figure (as when a foot slides a rock across a field). When a satellite below appears in an agentive verb form, the satellite might accordingly be best represented by any of a range of verbs in a

by-clause, as in 'by hitting, throwing, holding, carrying, putting, taking the Figure (with one's hands, feet, teeth, etc.)'.

1. tu-
   'as a result of the hand/hands of an entity—working centripetally— that is, ward upon itself/toward each other—acting on the Figure' [e.g., by grasping, catching, squeezing, strangling]

2. ci-
   'as a result of the hand/hands of an entity—working manipulatively (other than as for *tu*-)—acting on the Figure'

3. ma-
   'as a result of the foot/feet or leg/legs of an entity acting on the Figure'

4. ti-
   'as a result of the buttocks/pelvic region of an entity acting on the Figure'

5. wi-
   'as a result of the teeth of an entity acting on the Figure'

6. pri-
   'as a result of the mouth-interior of an entity—working ingressively— acting on the Figure' [e.g., by sucking in]

7. phu-
   'as a result of the mouth-interior of an entity—working egressively— acting on the Figure' [e.g., by spitting out]

8. *pu-
   'as a result of the mouth-exterior/lips of an entity acting on the Figure'

9. hi-
   'from the whole/unspecific part/specific part not treated by another satellite—of the body of an entity acting on the Figure'

10.–15.
   'as a result of the arm of a person acting on the Figure'
   [The arm of an entity is treated as a linear object. In accordance with its particular manner of acting on the Figure, it is specified by one or another of those satellites—(10) to (15) in the following section— which specify linear objects acting in various ways on a Figure.]

4.1.1.3   Type: 'As a Result of a Geometric Object Acting on the Figure'
Each of the satellites listed here can have up to three specific types of us-

age. These usages are defined individually and given separate diagrams. The three usages are indicated generically in (1). As discussed in chapter I-5, a "meta-Figure" in a "self-referencing" event is an object that moves with respect to itself or holds a shape characterized with respect to itself.

(1) *When containing a "geometric" Cause satellite, the verb can express*
   a. *A translational motion event*
      'a Figure MOVE + Path + Ground as a result of the Instrument acting on it'
   b. *A self-referencing motion event*
      'a meta-Figure MOVE into/out of a SHAPE [or: "MOVE" into/out of a STATE] as a result of the Instrument acting on it'
   c. *A translational or self-referencing locative event*
      'a Figure BE_{LOC}/$REMAIN_{LOC}$ + Path (site) + Ground as a result of the Instrument acting on it'
      'a meta-Figure BE_{LOC}/$REMAIN_{LOC}$ in a SHAPE [or: "BE"/"REMAIN" in a STATE] as a result of the Instrument acting on it'

Some (a)-type definitions below contain the alternative forms "onto/while contacting." These forms refer, respectively, to onset causation and extended causation (see chapter I-7). Two diagrams are then given for the two cases. And some (b)-type definitions include the alternative forms "onto/into" to indicate that the Instrument may merely come into contact with the meta-Figure or may additionally penetrate it. Again, two different diagrams are provided. Note that in all the definitions, the particular part of the geometric Instrumental object that makes contact with the Figure or meta-Figure is specified within brackets. In the diagrams, "I" labels the Instrument, "F" labels the Figure, and "f" labels the meta-Figure.

10. uh-
   Note: Here, "kinemically" means that the object flies freely along its trajectory without continuing causal control. And "circumpivotally" means that the linear object swings through an arc about a pivot point.
   a. 'as a result of a linear object kinemically moving circumpivotally [with one end] onto/while contacting the Figure' [e.g., by batting/by throwing]
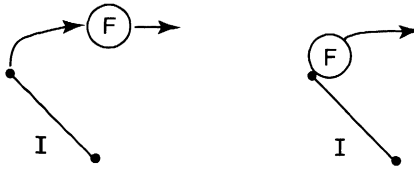
b. 'as a result of a linear object kinetically moving circumpivotally [with one end] onto/into the meta-Figure' [e.g., by pounding/by chopping]

11. cu-

   a. 'as a result of a linear object moving axially [with one end] perpendicularly onto/while contacting the Figure' [e.g., by prodding, striking with a pool cue/by pushing steadily with a stick]

   b. 'as a result of a linear object moving axially [with one end] perpendicularly onto/into the meta-Figure' [e.g., by poking/by piercing, skewering]
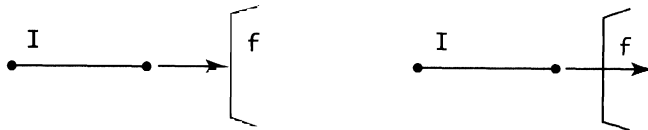
   c. 'as a result of a linear object pressing axially [with one end] perpendicularly on the Figure' [e.g., by holding pinned against a wall, by supporting with a cane]
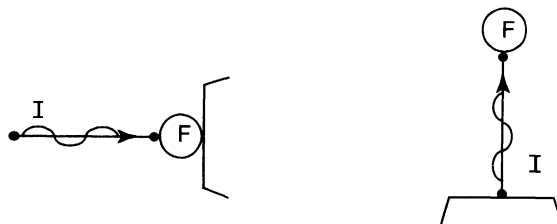
12A. ra-

    a. 'as a result of a linear object moving axially [with one end] obliquely while contacting the Figure' [e.g., by thrusting up at an angle]
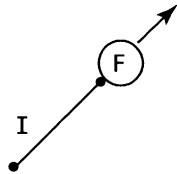
    b. 'as a result of a linear object moving axially [with one end] obliquely onto/into the meta-Figure' [e.g., by digging, awling, sewing]
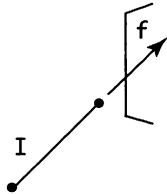
    c. 'as a result of a linear object pressing axially [with one end] obliquely on the Figure' [e.g., by propping, leaning, poling]
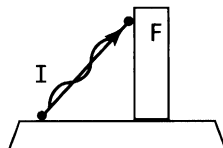
12B. ra-

    a. 'as a result of a linear/planar object moving laterally [with one end/edge] along a surface while contacting the Figure' [e.g., by raking, sweeping, scraping off]
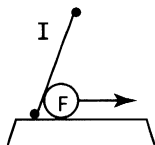
b. 'as a result of a linear/planar object moving laterally [with one end/edge] over/through the meta-Figure (a surface)' [e.g., by smoothing over/by whittling, plowing]

c. 'as a result of a linear/planar object pressing laterally [with its side] on the Figure, meta-Figure' [e.g., by gripping in a vise, hugging, being pinned down by a log]
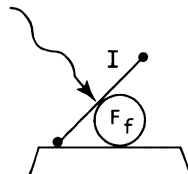
12C. ra-

b. 'as a result of a planar object moving in its own plane [with one edge] into the meta-Figure' [e.g., by scoring, slicing, sawing]
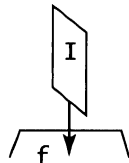
12D. ra-

a. 'as a result of a circular object moving rotationally (i.e., rolling) [with its perimeter] along a surface while contacting the Figure' [e.g., by carting, driving]
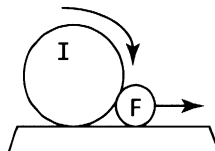
b. 'as a result of a circular/cylindrical object moving rotationally (i.e., rolling) [with its perimeter] along a surface over the meta-

Figure' [e.g., by flattening with a rolling pin or a steamroller, by getting run over]
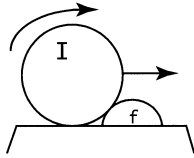
13. ta-

   a. 'as a result of a linear object moving laterally [with one end] through liquid while contacting the Figure [e.g., by paddling (a hot cooking rock around in soup to cook it)]
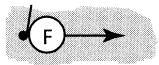
   b. 'as a result of a linear object moving laterally [with one end] through the meta-Figure (a liquid)' [e.g., by stirring]
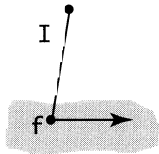
   Note: ra- (12Ba,b) is usually used instead of *ta-*

14. *ka-

   b. 'as a result of a linear object moving with axial spin [with one end] into the meta-Figure' [e.g., by boring]
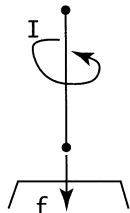
   Note: ra- (12Ab) has been found instead of *ka-* for 'by screw-driving'

15A. ru-

    a. 'as a result of a (flexible) linear object moving axially with axial tension (i.e., pulling) [with one end] while contacting the Figure' [e.g., by pulling on with a rope, by contracting one's muscle]
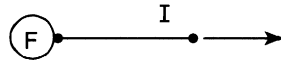
    c. 'as a result of a (flexible) linear object pulling axially [with one end] on the Figure' [e.g., by suspending with a cord]

15B. ru-

    c. 'as a result of a (flexible) linear object (under axial tension) pressing laterally [with its side] circumferentially in on the Figure, meta-Figure' [e.g., by binding, girding]
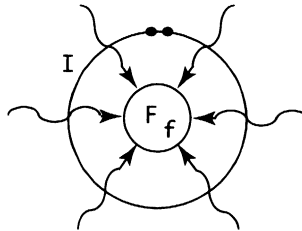
16. mi-

    b. 'as a result of a knife cutting [with its edge] into the meta-Figure'
    Note: ra- (12Cb) may be used instead of *mi-*

4.1.1.4 Type: 'As a Result of a Free-Flying Object Acting on the Figure'

17. uh-
'as a result of a free-flying object [other than that specified by *phu-* (18)] kinemically sailing/falling onto the Figure' [e.g., as a result of being hit by a hailstone or by a thrown, kicked, batted object]

18. phu-
'as a result of matter, propelled by the mouth working egressively [= *phu-* (7)] kinemically sailing onto the Figure' [e.g., as a result of being hit by blown breath, spit, spat-out object]

4.1.1.5   Type: 'As a Result of a Substance/Energy Acting on the Figure'

19. ca-
    'as a result of the wind blowing on the Figure'

20. cu-
    'as a result of flowing liquid acting on the Figure'

21. ka-
    'as a result of falling rain acting on the Figure'

22. ra-
    'as a result of a substance exerting a steady push/pressure on the Figure' [e.g., as a result of pressure from gas in one's stomach, ice fog under the soil]

23. ru-
    'as a result of a substance exerting a steady pull on the Figure' [e.g., as a result of the pull from a stream on an anchored cloth]

24. uh-
    a. 'as a result of the weight of a substance bearing down on the Figure' [e.g., as a result of snow weighing down a limb]
    b. 'as a result of gravity/the Figure's own weight acting on the Figure' [e.g., by falling]

25. miw-
    'as a result of heat/fire acting on the Figure'
    mu:-
    'by the Agent's applying heat/fire to the Figure'

26. *wu:-
    'as a result of light shining on the Figure'

4.1.1.6   Type: 'As a Result of a Sensible Aspect of an Object, Event Acting on the Experiencer'

The satellites in this set often occur with verb roots that specify an emotive or cognitive state. A verb containing such a satellite and root generally exhibits the semantic pattern represented in (2).

(2) *When containing a "sensory" Cause satellite and a "cognitive" root, the verb can express*
    'an Experiencer come into/be in the specified affective/cognitive state of mind as a result of a sensible aspect of an object/event acting on the Experiencer'

27. sa-/su-/si-/siw-
   'as a result of the visual aspect of an object, event acting on the Experiencer'

28. ka-/ku-/ki-/kiw-
   'as a result of the auditory aspect of an event acting on the Experiencer'

29. tu-
   'as a result of the feel of an object acting on the Experiencer'

30. pri-
   'as a result of the smell/taste of an object acting on the Experiencer'

31. tu-
   'as a result of the taste of an object acting on the Experiencer'

4.1.2   Cause Satellites Used as Motion-Event Satellites   In the prototypical verb of Atsugewi, the root refers to the main Motion event, in which a particular kind of Figure moves or is located. And the Cause satellite refers to an event in which a particular kind of entity, functioning as an Instrument, acts in a particular way on the Figure, thereby causing its motion or location.

In addition, though, any of the Cause satellites in the preceding section can also be used to refer to a Motion event. In this case, the same entity that before functioned as an Instrument now functions as a Figure. And this entity acts in the same way as before, but now does so on a Ground object.

In the case where the verb root already refers to a particular kind of Figure object as moving, the shifted satellite simply provides an additional characterization of that same Figure object, as well as an additional characterization of the way this object moves. In the case where the verb root is nonprototypical and makes no reference to the Figure, the satellite provides the only characterization of the Figure and its movement within the verb.

To illustrate the shift in usage, the previously presented Cause satellite *ra-*, 12Ab, is repeated in (3a), though now with its object marked as functioning as the Instrument. And (3b) gives the meaning of the same satellite in its shifted usage.

(3) ra-
   a. 'as a result of a linear object, as Instrument, moving axially [with one end] obliquely into the meta-Figure'

b. 'with a linear object, as Figure, moving axially [with one end] obliquely into the Ground'

4.1.3   Figure/Ground Satellites   Atsugewi has a set of Figure/Ground satellites that occupies the same verb slot as the Cause satellites and that partially overlaps that set, with the common forms having the same shape and related meanings. When occurring in a Motion verb, a satellite of this type indicates the kind of Figure or Ground entity involved. It thus provides an independent specification of the Figure or Ground, alongside any that may be provided by the verb root or an external nominal.

4.1.3.1   Type: 'A Body Part'

32. tu-
    the hand(s), arm(s)

33. ma-
    the foot (feet), leg(s)

34. ti-
    the buttocks

35. wi-
    the teeth

36. pu-
    the mouth, a mouth-shaped object [e.g., a flower]

37. ce-
    the eye(s), an eye-shaped object [e.g., a button, a hailstone]

38. hi-
    the whole/specific part not treated by another prefix/unspecific part—
    of the body

4.1.3.2   Type: 'A Geometric Object'

39. uh-
    a linear/planar object in kinemic swinging motion [e.g., a pendulum]

40. cu-
    a linear/planar object moving/sticking perpendicularly into a surface
    [e.g., a car in collision/the sunshade on a cradleboard]

41. pa-
    a linear object sticking perpendicularly out from a surface [e.g., an erect penis, the target stick in the game of horseshoes]

42. ra-
    a linear/planar object sticking obliquely into/against/out of a surface [e.g., a leaning cradleboard, a shingle]

43. ih-/uh-
    a planar object lying flush against a surface [e.g., a spread-out blanket, a board nailed to the wall]

44. ru-
    a (flexible) linear object attached at one or both ends and involved with suspension/tension [e.g., sinew, a belt, an unerect penis, an icicle]

45. cri-
    a set of linear objects parallelly together [e.g., hairs in a plait, stalks in a sheaf, sticks in a bundle]

46. cu-
    material tightly packed in a space [e.g., caulking material]

4.1.3.3   Type: 'A Free-Flying Object'

47. uh-
    a kinemically free-flying object

4.1.3.4   Type: 'A Substance/Energy'

48. ca-
    wind

49. cu-
    flowing liquid

50. ka-
    rain

51. uh-
    a weightful substance/object, a load

52. miw-
    heat/fire

53. wu:-/ma:-
    light

4.2   Examples of Atsugewi Polysynthetic Verbs

This section presents a number of Atsugewi polysynthetic verbs. These are grouped in accordance with the semantic type of the verb root they contain. Each of the numbered examples in this section begins with the presentation of a single verb root. This root is then followed by several different sets of affixes, lettered (a), (b), and so on, with which it can occur to form a polysynthetic verb. Relative to those in chapter I-1, the Atsugewi examples here are presented in a more formal format with the following features:

• The meaning of the root is always represented in a nonagentive form even though the root is to appear underneath in an example with an agentive interpretation.
• Likewise, the meaning of a Cause satellite is represented in a non-agentive 'as a result of' form, even though the satellite is to appear in an example with an agentive interpretation.
• Each prefixal satellite is followed by a parenthesized number that refers to its listing in section 4.1. In a few examples, the prefixal satellite might have either—or perhaps both—of two different polysemous readings. In that case, both readings and their numbered listings in section 4.1 are provided.
• Where the definition of a prefixal satellite in section 4.1 has included alternative wordings, the definition here usually contains only the alternative relevant to the particular example in which the satellite is to appear. And the definition given for any other affix in an example is generally only the one sense out of its polysemous range that is relevant to that example.
• The inflectional affixes that appear fore and aft on an Atsugewi verb for the most part do not separately represent the subject and the direct object, or person and number and mood. Rather, they must be taken together as a set that represents a particular complex of values for those categories. The definition for each inflectional affix-set shows in order: the personal surface subject, the personal surface object, the mood. The third person in Atsugewi is not distinguished for number or other categories, and so is here represented simply by a "3." An affix set that can represent a transitive with third-person direct object can also represent an intransitive with no object. Accordingly, its direct object is indicated as "(3)."
• To the right of the inflectional affix set, the particular semantic causative type expressed by the example is indicated by one of the following

terms: nonagentive, self-agentive, agentive, and undergoer. The affix set is not provided with this information within its definition because, for the most part, it and the rest of the morphemes in the verb do not distinguish between these causative types and in fact can be used for all of them.

• Under each set of affixes with which the root can occur to form a polysynthetic verb, this verb is shown in both morphophonemic and broad-phonetic form.

• For some examples, a literal translation is then given—that is, a part-for-part rendering into English of the verb's morphemes and their structural interrelations.

• For all examples, there is then given an "instantiated" translation—that is, an English sentence suggested by the native speaker that often contains particular referents not specifically implied by the Atsugewi verb, but that depicts a situation to which the Atsugewi verb could be used to refer.

The following symbols are used in the presentation of the examples:

R: root

CI: a Cause prefixal satellite—that is, one expressing a Cause event with an Instrument

CI → MF: a Cause prefixal satellite that has semantically shifted to express a Motion event with a Figure

F: a Figure prefixal satellite

G: a Ground prefixal satellite

PG: a Path + Ground suffixal satellite(s)

Px: other prefix

Sx: other suffix

Ax: the inflectional affix set

The following phonological symbols are used:

• A colon (:) following a vowel lengthens it and, if the vowel is a high vowel (i/u), lowers it to a mid-vowel (e/o).

• An apostrophe alone in a space (') glottalizes any immediately following consonants. (This form by itself is the phonological shape of a particular inflectional morpheme.)

• A superscript "a" or "u" (^{a}/^{u}) changes a following /i/ to [a] or [u]; or, when final, it becomes an [a] or [u] if it directly follows the verb-initial syllable or any consonant cluster, but otherwise is zero.

4.2.1 Root Type: 'Figure + Motion'

---

1. R: -swal-
   'for a flexible (not stiff/resilient) linear object, especially one
   suspended from one end, to move/be-located'

---

a. CI: ca- (19)   'as a result of the wind blowing on the Figure'
    PG: -mič   'down onto the surface of the ground'
    Ax: '- w- - [a]   '3, (3), factual'—nonagentive

/'-w-ca-swal-mič-[a]/ ⇒ [čwaswálmič]

Literal: 'flexible linear objects suspended from one end moved down
to the surface of the ground as a result of the wind blowing on it'
Instantiated: "The clothes blew down from the clothesline."

b. CI: ra- (12Ba)   'as a result of a linear object moving laterally
                          [with one end] along a surface while contact-
                          ing the Figure'
    PG: -im   'thither'
    Ax: '- -a: '2s, (3), imperative'—agentive

/'-ra-swal-im-a:/ ⇒ [l̀aswalˀwá·]

Literal: 'you AGENT it that a flexible linear object moves thither by
moving a linear object laterally [with one end] along a surface while
contacting it!'
Instantiated: "Slide that dead snake away with this stick."

c. CI: tu- (1)   'as a result of the hand of a person, working in
                          upon itself, acting on the Figure'
    PG: -ič   'up'
    Ax: s- '- w- - [a] '1s, (3), factual'—agentive

/s-'-w-tu-swal-ič-[a]/ ⇒ [s̓tuswalíč]

Literal: 'I AGENTed it that a flexible linear object moved up by
acting on it with my hand, working in upon itself'
Instantiated: "I picked up the rag."

d. CI: uh- (10a)   'as a result of a linear object kinemically
                          moving circumpivotally [with one end] while
                          contacting the Figure'
    PG: -ičt   'into a liquid'
    Ax: '- w- - [a]   '3, (3), factual'—agentive

/'-w-uh-swal-ič-ᵃ/ ⇒ [ẃoswalíčta]

Literal: 'she AGENTed it that flexible linear object's material moved into a liquid by moving a linear object circumpivotally [with one end] while contacting it'

Instantiated: "She threw the clothes into the laundry tub."

e. CI: ti- (4)   'as a result of the buttocks/pelvic region of a person acting on the Figure'

PG: -ič   'up'

Ax: n- w- - ᵃ   '3, (3), evidential'—agentive

/n-w-ti-swal-ič-ᵃ/ ⇒ [ntwiswalíč]

Literal: 'he evidently AGENTed it that flexible linear objects suspended from one end are located up by acting on them with his pelvic region'

Instantiated: "I see where he's carrying the rabbits he killed hung from his belt."

f. Px: p-   'mis-, mal-'

F: ru- (44)   'a flexible linear object attached at one end and involved with suspension, tension'

PG: -iks   'at the lateral surface of a solid'

Ax: '- w- - ᵃ   '3, (3), factual'—undergoer

/'-w-p-ru-swal-iks-ᵃ/ ⇒ [ṗluswalíksa]

Literal: 'he UNDERWENT it that a flexible linear object suspended from one end—which was a flexible linear object attached at one end and involved with tension—was mal-located at the lateral surface of a solid'

Instantiated: "His penis stayed limp (on him), he couldn't get an erection."

---

2. R: -staġ-

'for runny, "icky" material to move/be-located'

---

a. CI: ca- (19)   'as a result of the wind blowing on the Figure'

PG: -ičt   'into liquid'

Ax: '- w- - ᵃ   '3, (3), factual'—nonagentive

/'-w-ca-staq̇-ičt-ᵃ/ ⇒ [čwastaq̇ičta]

Literal: 'runny icky material moved into liquid as a result of the wind blowing on it'

Instantiated: "The guts that were lying on the bank blew into the river."

b. CI: ci- (2)   'as a result of the hands of a person, working manipulatively, acting on the Figure'

   PG: -iƙs   'horizontally onto the lateral surface of a solid'

   Ax: s- ' - w- - ᵃ   '1s, (3), factual'—agentive

/s-'-w-ci-staq̓-iƙs-ᵃ/ ⇒ [sc̓wastaq̓íƙsa]

Instantiated: "I patted some mud against the wall."

c. CI: uh- (10a)   'as a result of a linear object kinemically moving circumpivotally [with one end] while contacting the Figure' 'dually together'

   PG: -i·w

   Ax: same as for (b)

/s-'-w-uh-staq̓-i·w-ᵃ/ ⇒ [sẃostaq̓í·wa]

Instantiated: "I slammed together the hunks of clay I held in either hand."

d. CI: ra- (12Aa)   'as a result of a linear object moving axially [with one end] obliquely while contacting the Figure'

   PG: -im   'thither'

   Ax: same as for (b)

/s-'-w-ra-staq̓-im-ᵃ/ ⇒ [sẃrastaq̓íw]

Instantiated: "I slung away the rotten tomatoes, sluicing them off the pan they were in."

e. Px: :-   'augmentative' [here used idiomatically]

   CI: pri- (6)   'as a result of the mouth-interior of a person, working ingressively, acting on the Figure'

   PG: -ic̓   'up'

   Ax: same as for (b)

/s-'-w-:-pri-staq̓-ic̓-ᵃ/ ⇒ [sṕre·staq̓íc̓]

Instantiated: "I picked up in my mouth the already-chewed gum from where it was stuck."

f. CI: ma- (3)   'as a result of the feet of a person acting on the Figure'

    PG: -ipsnᵘ   'into a volumetric enclosure'

           -im   'thither'

    Ax: same as for (b)

/s-'-w-ma-s̓taq̓-ipsnᵘ-im-ᵃ/ ⇒ [šma·s̓taq̓ípsnu]

Literal: 'I AGENTed it that runny icky material moved thither into a volumetric enclosure by acting on it with my feet'

Instantiated: "I tracked the house up (with the manure I'd stepped in)."

g. *With a metathesized form of the root: -q̓s̓t⁻ᵃ-*

    CI: phu- (7)   'as a result of the mouth-interior of a person, working egressively, acting on the Figure'

    PG: -mik·   'onto a head, into a face, into an eye'

    Ax: same as for (b)

/s-'-w-phu-q̓s̓t⁻ᵃ-mik·-ᵃ/ ⇒ [sp̓hoq̓stím·ik·a]

Literal: 'I AGENTed it that runny icky material moved into a face by acting on it with my mouth interior working egressively'

Instantiated: "I spat in his face."

---

3. R: -lup-

'for a small shiny spherical object to move/be located'

---

a. CI: cu- (11a)   'as a result of a linear object moving axially [with one end] perpendicularly onto the Figure'

    PG: -hiy-ik·   'out of a snug enclosure/a socket; into detachment from moorings'

    Ax: s- '- w- - ᵃ   '1s, (3), factual'—agentive

/s-'-w-cu-lup-hiy-ik·-ᵃ/ ⇒ [sc̓ul·upʰyik·a]

Literal: 'I AGENTed it on him that a small shiny spherical object move out of its moorings, by axially moving a linear object [with one end] perpendicularly onto it'

Instantiated: "I poked his eye out with a stick."

b. CI: pri- (6)   'as a result of the mouth-interior of a
                           person, working ingressively, acting on
                           the Figure'
   PG: -nikiy   'all about, here and there, back and forth'
   Ax: same as for (a)

   /s-'-w-pri-lup-nikiy-ª/ ⇒ [sṗlil·upʰnika·]

   Instantiated: "I rolled the round candy around in my mouth."

c. CI: phu- (7)   'as a result of the mouth-interior of a person,
                           working egressively, acting on the Figure'
   PG: -im   'thither'
   Ax: same as (a)

   /s-'-w-phu-lup-im-ª/ ⇒ [sṗhol·upíw]

   Instantiated: "I spat out the round candy."

---

4. R: -hmuṗ-
   'for a cover for a horizontal surface to move/be-located vertically
   with respect to that surface' [*Note:* A different root treats a cover that
   moves horizontally with respect to its surface, e.g., slipping/sliding
   over it.]

---

a. CI: uh- (10a)   'as a result of a linear object kinemically
                           moving circumpivotally [with one end] while
                           contacting the Figure'
   PG: -cam   'to a position athwart a fire site'
   Ax: s- '- w- - ª   '1s, (3), factual'—agentive

   /s-'-w-uh-hmuṗ-caw-ª/ ⇒ [sẁohmúṗcaw]

   Instantiated: "I threw a blanket over the fire."

b. CI: ra- (12Aa)   'as a result of a linear object moving
                           axially [with one end] obliquely while
                           contacting the Figure'
   PG: -mik·   'onto a head, into a face, into an eye'
   Ax: same as for (a)

   /s-'-w-ra-hmuṗ-mik·-ª/ ⇒ [sẁrahmúṗmik·a]

   Instantiated: "I slung the blanket up over his head."

c. CI: ci- (2)   'as a result of the hands of a person, working
                             manipulatively, acting on the Figure'
    PG: -pik-ayw   'around'
    Ax: same as (a)

    /s-'-w-ci-hmup̓-pik-ayw-ᵃ/ ⇒ [sc̓wehmúp̓pʰkaywa]

    Instantiated: "I tucked the kids in."

d. F: uh- (51)   'a weightful/resting substance/object'
    PG: -cisᵘ   'down onto the upper surface of a solid'
            -ak·   'locative'
    Ax: s- '- w- - ᵃ   '1s, (3), factual'—undergoer

    /s-'-w-uh-hmup̓-cisᵘ-ak·-ᵃ/ ⇒ [sw̓ohmúp̓cʰak·a]

    Literal: 'I UNDERGO it that a cover for a horizontal surface—
    which is an object resting on something—is located [having moved]
    down onto the upper surface of a solid [and now] locatively situated'
    Instantiated: "I have a cap on."

---

5. R: -t̓-
    'for a (smallish) planar object to move/be-located, thereby becoming/
    remaining/ceasing to be functionally attached'

---

a. CI → MF: cu- (11a)   'with a linear object, as Figure, moving
                                 axially [with one end] perpendicularly
                                 onto the Ground'
    PG: -mik·   'onto a head, into a face, into an eye'
    Ax: s- '- w- - ᵃ   '1s, (3), factual'—agentive

    /s-'-w-cu-t̓-mik·-ᵃ/ ⇒ [sc̓ut̓mík·a]

    Literal: 'I AGENTed it that a smallish planar object, as Figure,
    moved into attachment onto (a location at) a head, with a linear
    object, also the Figure, moving axially [with one end] perpendicularly
    onto the Ground'
    Instantiated: "I stuck the sunshade onto the cradleboard."

b. CI → MF: ra- (12Ab)   'with a linear object, as Figure,
                                 moving axially [with one end]
                                 obliquely onto the Ground'
    PG: -wi·sᵘ   'to all over a surface'
                 -ik·   'hither'
    Ax: same as for (a)

    /s-'-w-ra-t̓-wi·sᵘ-ik·-ᵃ/ ⇒ [sw̓rat̓wí·suk·a]

Instantiated: "I shingled the roof."

c. F: uh- (43)   'a planar object lying flush against a
                                   surface'

PG: -a·sẏ   'multiply together'

Ax: same as for (a)

/s-'-w-uh-t̓-a·sẏ-ᵃ/ ⇒ [sẁohtá·sẏa]

Instantiated: "I patched a hole in the wall with boards."

d. Px: p-   'back, reflexive'

F: ce- (37)   'eye, eye-shaped object'

PG: -i·w   'dually together'

PG: -ihiy   'on one's body'

Ax: same as (a)

/s-'-w-p-ce-t̓-i·w-ihiy-ᵃ/ ⇒ [sṗc̓et̓·í·wehè·]

Literal: 'I AGENTed it that smallish planar objects—which were
eye-shaped objects—to come dually together back to me on my body
so as to become attached'
Instantiated: "I buttoned up."

4.2.2   Root Type: Motion + Path + Ground

---

6. R: -sṗaq̓-
'to move into, through mud'

---

a. CI → MF: ra- (12Bb)   'with a linear object, as Figure, moving
                                laterally [with one end] through the
                                Ground'

Ax: s- '- w- - ᵃ   '1s, (3), factual'—agentive

/s-'-w-ra-sṗaq̓-ᵃ/ ⇒ [sẁrasṗáq̓]

Literal: 'I AGENTed it that [a Figure] move through mud, as
Ground, with a linear object, as Figure, moving laterally with one
end through the Ground'
Instantiated: "I worked the stick around in the mud."

b. CI: uh- (10a)   'as a result of a linear object
                                kinemically moving
                                circumpivotally [with one end]
                                while contacting the Figure'

or

CI → MF: uh- (17)   'with a free-flying object, as
                                Figure, sailing/falling onto the
                                Ground'
PG: -im   'thither'
Ax: same as for (a)

/s-'-w-uh-sṗaq̇-im-ᵃ/ ⇒ [sẇosṗaq̇íw]

Instantiated: "I threw the apple into the mud puddle."

c. CI → MF: tu- (1)   'with the hand(s) of a person, as
                                 Figure, (working centripetally),
                                 acting on the Ground'
   PG: -im   'thither'
   Ax: same as for (a)

/s-'-w-tu-sṗaq̇-im-ᵃ/ ⇒ [sṫusṗaq̇íw]

Instantiated: "I stuck my hand into the mud."

d. CI → MF: ma- (3)   'with the foot of a person, as Figure,
                                 acting on the Ground'
   PG: -tip -u·   'into a pit'
                -im   'thither'
   Ax: s- '- w- - ᵃ   '1s, (3), factual'—nonagentive

/s-'-w-ma-sṗaq̇-tip-u·-im-a/ ⇒ [sṁa·sṗáq̇tʰpu·ma]

Instantiated: "I stepped into a deep mudhole."

---

7. R: -kʰok-
'to move into contact with a big stomach'

---

a. CI → MF: hi- (9)   'with the body of a person, as Figure,
                                 acting on the Ground'
   Ax: s- '- w- - ᵃ   '1s, (3), factual'—nonundergoer

/s-'-w-hi-kʰok-ᵃ/ ⇒ [sẇhekʰ·ókʰ]

Literal: 'I UNDERWENT it that [a Figure] moved into contact with
a big stomach, as Ground, with my body, as the Figure, acting on the
Ground'

Instantiated: "I bumped into his protruding belly."

b. CI → MF: uh- (10a)   'with a linear object, as Figure, kine-
                            tically moving circumpivotally [with one
                            end] onto the Ground'
   PG: -wam-im   'into someone's body'
   Ax: s- '- w- - [a]   '1s, (3), factual'—agentive

/s-'-w-uh-kʰok-wam-im-ᵃ/ ⇒ [swohkʰokúʔm̩aw]

Instantiated: "I hit him in his big stomach with my fist."

c. CI → MF: tu- (1)   'with the hands of a person, as
                            Figure, working toward each
                            other, acting on the Ground'

   Ax: same as for (b)

/s-'-w-tu-kʰok-ᵃ/ ⇒ [s̓tukʰ·ókʰ]

Instantiated: "I grasped his protruding belly between my hands." / "I
played with the deer's stomach (that was lying on the ground)."

4.2.3   Root Type: Figure + Motion + Path + Ground

8. R: -luc-
   'for the natural surface growth on a (once-)living object to come
   detached from (part of) that object'

a. CI: ra- (12Ba)   'as a result of a planar object moving laterally
                       [with one edge] along a surface while con-
                       tacting the Figure'
   Ax: s- '- w- - [a]   '1s, (3), factual'—agentive

/s-'-w-ra-luc-ᵃ/ ⇒ [swlal·úcʰ]

Instantiated: "I scraped the fur off the hide."

b. CI: ru- (15Aa)   'as a result of a linear object moving with
                       axial tension [with one end] while con-
                       tacting the Figure'
   Ax: same as for (a)

/s-'-w-ru-luc-ᵃ/ ⇒ [swlul·úcʰ]

Instantiated: "I pulled a handful of hair out of his head."

c. CI: mu:- (25)   'by the AGENT's applying heat/fire to
                       the Figure'
   Ax: same as for (a)

/s-'-w-mu:-luc-ᵃ/ ⇒ [sṁo·lúcʰ]

Instantiated: "I burned the quills off the porcupine." / "I scalded the feathers off the chicken."

d. CI: wi- (5)   'as a result of the teeth of a person acting on the Figure'

    Ax: same as for (a)

/s-'-w-wi-luc-ᵃ/ ⇒ [sẇe·lúcʰ]

Instantiated: "I slid the bark off a willow twig, holding one end in my teeth."

e. CI: ma- (3)   'as a result of the foot of a person acting on the Figure'

    Ax: same as for (a)

/s-'-w-ma-luc-ᵃ/ ⇒ [sṁa·lúcʰ]

Instantiated: "I skinned the rabbit by accidentally stepping on it."

f. G: ti- (34)   'the buttocks'
    Ax: s- '- w- - ᵃ   '1s, (3), factual'—undergoer

/s-'-w-ti-luc-ᵃ/ ⇒ [sṫwil·úcʰ]

Literal: 'I UNDERWENT it that natural surface-growth came detached from a living object—which was buttocks'
Instantiated: "I skinned my behind when I fell."

g. G: hi- (38)   'a specific part of the body not treated by another satellite'

    Ax: same as for (f)

/s-'-w-hi-luc-ᵃ/ ⇒ [sẇhel·úcʰ]

Instantiated: "I scraped some hair off my head when I fell."

---

9. R: -skit-
'for (soft) material to snag on/get lodged in an object'

---

a. CI: cu- (20)   'as a result of flowing liquid acting on the Figure'
    Ax: '- w- - ᵃ   '3, (3), factual'—nonagentive

/'-w-cu-skit-ᵃ/ ⇒ [ċuskítʰ]

Instantiated: "Some brush that was borne along by the stream got snagged on a limb that was jutting up."

b. CI → MF: uh- (17)   'with a kinemically free-flying object, as Figure, sailing/falling onto the Ground'

Ax: '- w- - ᵃ   '3, (3), factual'—nonagentive

/'-w-uh-skit-ᵃ/ ⇒ [ẁoskítʰ]

Instantiated: "A ball sailing through the air got caught in the tree."

c. Px: p-   'mis-, mal-'

    CI: ra- (12Bb)   'as a result of a linear object moving laterally [with one end] over the meta-Figure (a surface)'

    & G: ra- (42)   '(one end of) a linear object sticking obliquely out of a surface'

    Ax: s- '- w- - ᵃ   '1s, (3), factual'—undergoer

/s-'-w-p-ra-skit-ᵃ/ ⇒ [sṗraskítʰ]

Literal: 'I UNDERWENT it that soft material, as Figure, snagged on an object, as Ground—which was (one end of) a linear object obliquely sticking out of a surface—as a result of that linear object, as Instrument, moving laterally [with one end] over the Ground [a surface]'

Instantiated: "I caught my shirt on a nail."

d. CI: wi- (5)   'as a result of the teeth of a person acting on the Figure'

    & G: wi- (35)   'the teeth'

    PG: -im   'into one's body'

    Ax: same as for (c)

/s-'-w-wi-skit-im-ᵃ/ ⇒ [sẁe·skitíw]

Instantiated: "I got a piece of food caught in my teeth."

e. CI: uh- (10a)   'as a result of a linear object kinemically moving circumpivotally [with one end] onto the Figure'

    & G: uh- (39)   '(one end of) a linear object in swinging motion'

    Ax: '- w- - ᵃ   '3, (3), factual'—undergoer

/'-w-uh-skit-ᵃ/ ⇒ [ẁoskítʰ]

Instantiated: "The chicken pecking at the bone got a piece of meat caught in its bill."

---

10. R: -m̊ur-
    'for fluid to come out of a biologic membranous sac'

---

a. CI: hi- (9)   'as a result of the whole body of an entity acting
                        on the Figure'
   PG: -ik·   'hither'
   Ax: '- w- - ᵃ   '3, (3), factual'—nonagentive

   /'-w-hi-m̊ur-ik·-ᵃ/ ⇒ [ẘhe?murík·a]

   Instantiated: "The cow's birth sac (amnion) burst from the baby calf
   inside."

b. CI: tu- (1)   'as a result of the hand of a person, working in
                        upon itself, acting on the Figure'
   Ax: s- '- w- - ᵃ   '1s, (3), factual'—agentive

   /s-'-w-tu-m̊ur-ᵃ/ ⇒ [stu?múrᵘ]

   Instantiated: "I made the milk squirt out of the cow's teat by
   squeezing it in my hand."

c. CI: ci- (2)   'as a result of the hands of a person, working
                        manipulatively, acting on the Figure'
   Sx: -cic   'go and'
   Ax: s- '-   '1s, (3), intentive'—agentive

   /s-'-ci-m̊ur-cic/ ⇒ [sči?múrᵘcicʰ]

   Instantiated: "I'll go milk the cow."

d. CI: ra- (12Bc)   'as a result of a linear object pressing
                           laterally [with its side] on the Figure'
   PG: -im   'thither'
   Ax: same as for (b)

   /s-'-w-ra-m̊ur-im-ᵃ/ ⇒ [sẘra?muríw]

   Instantiated: "I made the milk squirt out by pressing against the
   cow's udder with a stick."

e. CI: pri- (6)   'as a result of the mouth-interior of a person,
                         working ingressively, acting on the Figure'
   PG: -ik·   'hither'
   Ax: '- w- - ᵃ   '3, (3), factual'—agentive

   /'-w-pri-m̊ur-ik·-ᵃ/ ⇒ [p̀ri?murík·a]

Instantiated: "He sucked on the woman's breasts to start the milk flow."

f. CI: phu- (7)   'as a result of the mouth-interior of a person, working egressively, acting on the Figure'

   PG: -im   'thither'

   Ax: same as for (e)

/'-w-phu-mur-im-ª/ ⇒ [pho?muríw]

Instantiated: "The doctor sucked the matter out of the boil and spat it out."

---

11. R: -sċaḱ-

   'for a sharp-pointed linear object to move axially with its point into the substance of yielding material'

---

a. CI → MF: cu- (11b)   'with a linear object, as Figure, moving axially [with one end] perpendicularly into the meta-Ground'

   Ax: s- '- w- - ª   '1s, (3), factual'—agentive

/s-'-w-cu-sċaḱ-ª/ ⇒ [sċusċáḱ]

Instantiated: "I skewered the piece of meat with a fork."

b. CI: uh- (10a)   'as a result of a linear object kinemically moving circumpivotally [with one end] while contacting the Figure'

   PG: -cisᵘ   'down into-the-substance-of a solid resting on the ground'

        -im   'thither'

   Ax: same as for (a)

/s-'-w-uh-sċaḱ-cisᵘ-im-ª/ ⇒ [sẇosċáḱcʰu]

Instantiated: "I swung the pickax down into the tree stump."

c. CI: same as for (b)

   PG: -mik·   'onto a head, into a face, into an eye'

   Ax: same as for (a)

/s-'-w-uh-sċaḱ-mik·-ª/ ⇒ [sẇosċáḱmik·a]

Instantiated: "I threw a nail into his eye."

d. Px: p-   'mis-, mal-'
   G: tu- (32)   'the hand(s), arm(s)'
   PG: -im   'into one's body'
   Ax: s- '- w- - ᵃ   '1s, (3), factual'—undergoer

/s-'-w-p-tu-sčak̓-im-ᵃ/ ⇒ [sp̓tusčak̓íw]

Literal: 'I UNDERWENT it that the end of a sharp-pointed linear object mal-moved axially into the substance of yielding material—which was a hand—into my body'

Instantiated: "I got a thorn stuck in my finger."

e. Px: :-   'augmentative' [here used idiomatically]
   G: ti- (34)   'the buttocks'
   PG: same as for (d)
   Ax: same as for (d)

/s-'-w-:-ti-sčak̓-im-ᵃ/ ⇒ [st̓we·sčak̓íw]

Instantiated: "I got a splinter stuck in my behind."

---

12. R: -puq-
    'for dust to move off a surface (into a cloud)'

---

a. CI: ma- (3)   'as a result of the feet of a person acting on the Figure'
   Ax: s- '- w- - ᵃ   '1s, (3), factual'—agentive

/s-'-w-ma-puq-ᵃ/ ⇒ [sṁa·póqʰ]

Instantiated: "I kicked up the dirt as I walked along."

b. CI: ra- (12Ba)   'as a result of a planar object moving laterally [with one edge] along a surface while contacting the Figure'
   Ax: same as for (a)

/s-'-w-ra-puq-ᵃ/ ⇒ [sẇrap·óqʰ]

Instantiated: "I swept the dust up into a cloud."

c. CI: uh- (10a)   'as a result of a linear object kinemically moving circumpivotally [with one end] while contacting the Figure'
   Ax: same as for (a)

/s-'-w-uh-puq-ª/ ⇒ [sẃohpóqʰ]

Instantiated: "I shook out the blanket."

d. CI: phu- (18)   'as a result of matter propelled by the
                           mouth working egressively sailing into
                           the Figure'
   PG: -uww   'off from over a surface'
          -ihiy   'on one's body'
   Ax: same as for (a)

/s-'-w-phu-puq-uww-ihiy-ª/ ⇒ [sṗhop·oqúw·ehè·]

Instantiated: "I blew the dust off my clothes."

e. CI: i- (0)   'as a result of anything/nothing acting on the
                           Figure'
   PG: -asẃ   'all about within itself' [e.g., hair tousling about,
                           clothes flapping about]
   Ax: '- w- - ª   '3, (3), factual'—nonagentive

/'-w-i-puq-asẃ-ª/ ⇒ [ẃip·oqásẃa]

Instantiated: "There's dust swirling about over the road (where the
horses had ridden past)."

---

13. R: -hapuk-
    'for a body part (or a perceptual sense) to fail in an attempt to
    secure an object (or a sensible aspect thereof) because either the
    object or the body part passed to one side of the other'

This R occurs idiomatically with

Px: :-Sx: -miċ

a. CI → MF: tu- (1)   'with the hands of a person, as Figure,
                             working toward each other, acting on the
                             Ground'
   Ax: s- '- w- - ª   '1s, (3), factual'—undergoer

/s-'-w-:-tu-hapuk-miċ-ª/ ⇒ [sṫo·hapúkʰmiċ]

Literal: 'I UNDERWENT it that a body part, as Figure, failed in an
attempt to secure an object, as Ground, where my hands, as the
Figure, working toward each other, were to act on the Ground,
because my hands and the object passed to one side of each other'
Instantiated: "I missed catching the ball."

b. CI → MF: ma- (3)   'with the foot of a person, as
                                   Figure, acting on the Ground'

Ax: same as for (a)

/s-'-w-:-ma-hapuk-mič-ᵃ/ ⇒ [sṁa·hapúkʰmič]

Instantiated: "I missed a step as I was walking down the stairs."

c. CI → MF: ti- (4)   'with the buttocks of a person, as
                                   Figure, acting on the Ground'

Ax: same as for (a)

/s-'-w-:-ti-hapuk-mič-ᵃ/ ⇒ [sï̇twe·hapúkʰmič]

Instantiated: "As I bent to sit down, I got the chair pulled out from under me."

d. CI → MF: si- (27)   'with the vision of an Experiencer,
                                   as Figure, acting on a Ground'

Ax: same as for (a)

/s-'-w-:-si-hapuk-mič-ᵃ/ ⇒ [sẇse·hapúkʰmič]

Instantiated: "I looked over too late to catch sight of that deer."

4.2.4   Root Type: Meta-Figure + Motion + Path + Meta-Ground   In its basic usage, a verb root of this type refers to a particular kind of object moving in a particular way relative to itself—that is, as a meta-Figure moving with respect to itself as meta-Ground. Hence, it refers to a particular kind of object shifting from one kind of configuration to another. In this usage, a Cause satellite refers to the cause of the configurational shift, while any Path + Ground satellite refers to the spatial characteristics of the shift.

In addition, though, a verb root of this type can participate in two further usages. In one usage, the particular object that the root refers to acts as a Figure that executes translational Motion, while at the same time it acts as the meta-Figure that undergoes its configurational shift. In the third usage, the object again executes translational Motion, but it has already shifted into its final configuration. In these latter two usages, the Cause satellite and the Path + Ground satellite both pertain to the translational motion. The three usages can be summarized as follows.

Usage 1: for the object (as meta-Figure) to shift from its initial configuration to its final one

Usage 2: for the object (as Figure) to move + Path + Ground, while the object (as meta-Figure) shifts from its initial configuration to its final one

Usage 3: for the object (as Figure) to move + Path + Ground, after the object (as meta-Figure) has shifted from its initial configuration to its final one

---

14. R: -miq̓-

Usage 1: 'for an architectural structure to shift from intactness to a lack of structural integrity'

a. CI: uh- (24b)   'as a result of gravity/the Figure's own weight acting on the Figure'

   PG: -tip -asẇ   'apart'

   Ax: n- w- - ᵃ   '3, (3), evidential'—nonagentive

/n-w-uh-miq̓-tip-asẇ-ᵃ/ ⇒ [nohméq̓tʰpasẇa]

Instantiated: "The house fell apart."

b. CI: ci- (2)   'as a result of the hands of a person, working manipulatively, acting on the Figure'

   PG: -ikc -ik -ayw   'into fragments'

   Ax: s- ʼ- w- - ᵃ   '1s, (3), factual'—agentive

/s-ʼ-w-ci-miq̓-ikc-ik-ayw-ᵃ/ ⇒ [sćwim·eq̓íkʰcikaywa]

Instantiated: "I tore the house to pieces, demolished the house."

Usage 2: 'for (part of) an architectural structure to move, thereby shifting from intactness to a lack of structural integrity'

a. CI: miw- (25)   'as a result of heat/fire acting on the Figure'

   PG: -mič   'down onto the surface of the ground'

   Ax: n- w- - ᵃ   '3, (3), evidential'—nonagentive

/n-w-miw-miq̓-mič-ᵃ/ ⇒ [nᵊmwewméq̓mič]

Instantiated: "The house burnt down to the ground."

b. CI: cu- (20)   'as a result of flowing liquid acting on the Figure'

   PG: same as for (a)

   Ax: same as for (a)

/n-w-cu-miq̓-mič-ᵃ/ ⇒ [n̩cum·eq̓mič]

Instantiated: "The house collapsed from the flood."

    c. CI: uh- (24b)   'as a result of gravity/the Figure's own weight acting on the Figure'

       PG: -tip -u·   'down into a pit in the ground'

              -im   'thither'

       Ax: same as for (a)

/n-w-uh-miq̓-tip-u·-im-ª/ ⇒ [nohméq̓tʰpu·ma]

Instantiated: "The house fell all the way down into the cellar."

    d. CI: ca- (19)   'as a result of the wind blowing on the Figure'

       PG: -uww -ay   'off from over a surface'

       Ax: n- w- - ª   '3, (3), evidential'—nonagentive

/n-w-ca-miq̓-uww-ay-ª/ ⇒ [ṇcwam·eq̓úw·e·]

Instantiated: "The roof blew off the house."

    e. CI: ma- (3)   'as a result of the foot of a person acting on the Figure'

       PG: -taw   'out of an enclosure'

       Ax: s- '- w- - ª   '1s, (3), factual'—agentive

/s-'-w-ma-miq̓-taw-ª/ ⇒ [sṁa·méq̓ta·]

Instantiated: "I kicked the door out off its hinges."

Usage 3: 'for an architectural structure to move, having already shifted from intactness to a lack of structural integrity'

    a. CI: hi- (9)   'as a result of the whole body of a person acting on the Figure'

       PG: -ic̓w   'up'

       Ax: '- w- - ª   '3, (3), factual'—agentive

/'-w-hi-miq̓-ic̓w-ª/ ⇒ [ẇhem·eq̓íc̓wa]

Instantiated: "The kid crawling under the pile of boards from the collapsed house lifted them up as he stood."

---

15. R: -ṅuq̓-

Usage 1: 'for a live articulated object to shift by bending at its articulations from an extended conformation into a folded-together shape'

    a. F: tu- (32)   'the hand(s), arm(s)'

       PG: -a·sẏ   'multiply together/into an accumulation'

       Ax: s- '- w- - ª   '1s, (3), factual'—agentive

/s-'-w-tu-n̓uq̓-a·sy̓-ᵃ/ ⇒ [st̓u?ṇoq̓á·sy̓a]

Instantiated: "I made a fist."

b. CI: ci- (2)   'as a result of the hands of a
                                     person, working manipu-
                                     latively, acting on the Figure'

   Optional PG: -a·sy̓   'multiply together/into an
                                     accumulation'

   Ax: same as for (a)

/s-'-w-ci-n̓uq̓ (-a·sy̓)-ᵃ/ ⇒ [sċwi?ṇóq̓] [sċwi?ṇoq̓á·sy̓a]

Instantiated: "I doubled the cat up (by drawing its limbs together)."

Usage 2: 'for a live articulated object to move, shifting from an extended conformation into a folded-together shape in the process'

a. Px: p-   'back, reflexive'
   F: tu- (32)   'the hand(s), arm(s)'
   PG: -a·sy̓   'multiply together/into an accumulation'
   PG: -ihiy   'on one's body'
   Ax: s- '- w- - ᵃ '1s, (3), factual'—agentive

/s-'-w-p-tu-n̓uq̓-a·sy̓-ihiy-ᵃ/ ⇒ [sp̓t̓u?ṇoq̓á·sy̓ehe·]

Literal: 'I AGENTed it that a live articulated object, as Figure—which was my arms—moved multiply together back onto my body, shifting from an extended conformation into a folded-together shape in the process'

Instantiated: "I folded my arms across my chest."

b. CI: ma- (3)   'as a result of the foot of a person acting
                        on the Figure'
   PG: -miċ   'down onto the surface of the ground'
   Ax: same as for (a)

/s-'-w-ma-n̓uq̓-miċ-ᵃ/ ⇒ [sṁa?ṇóq̓miċ]

Instantiated: "As he was sitting there, I bent his head down to the ground with my foot."

c. CI: ma- (3)   'as a result of the foot of a person acting
                        on the Figure'
   PG: -iċt   'into a liquid'
   Ax: same as for (a)

/s-'-w-ma-n̓uq̓-iċt-ᵃ/ ⇒ [sṁa?ṇoq̓íċta]

Instantiated: "I shoved the reluctant cat into the water with my foot, getting him doubled up as I did so."

Usage 3: 'for a live articulated object to move, having already shifted from an extended conformation into a folded-together shape'

a. CI: ci- (2)   'as a result of the hands of a person, working
                             manipulatively, acting on the Figure'
   PG: -wam   'into a gravitic container'
   Ax: s- '- w- - ª   '1s, (3), factual'—agentive

/s-'-w-ci-ńuq̓-wam-ª/ ⇒ [sc̓wi?ņoq̓ú?ma]

Instantiated: "I stuck the doubled-up cat into the basket."

---

16. R: -caqih-

Usage 1: 'for the leg set on a creature to shift from a closed to an open conformation'

a. CI: ci- (2)   'as a result of the hands of a person, working
                             manipulatively, acting on the Figure'
   PG: -tip -asẁ   'apart'
   Ax: s- '- w- - ª   '1s, (3), factual'—agentive

/s-'-w-ci-caqih-tip-asẁ-ª/ ⇒ [sc̓wic·aqéhtʰpasẁa]

Instantiated: "I spread his legs apart with my hands."

b. F: ma- (33)   'feet, legs'
           or ti- (34)   'buttocks'
   PG: same as for (a)
   Ax: s- '- w- - ª   '1s, (3), factual'—self-agentive

/s-'-w-ma-caqih-tip-asẁ-ª/ ⇒ [sma·caqéhtʰpasẁa]
or /s-'-w-ti-caqih-tip-asẁ-ª/ ⇒ [stwic·aqéhtʰpasẁa]

Instantiated: "I spread my legs apart."

Usage 2: 'for the leg set on a creature to move, shifting from a closed to an open conformation in the process'

a. F: uh- (51)   'a weightful substance/object, a load'
   PG: -ikn   'to a position over/astraddle an edge'
           -ik·   'hither'
           -ihiy   'on one's body'
   Ax: s- '- w- - ª   '1s, (3), factual'—agentive

/s-'-w-uh-caqih-ikn-ik·-ihiy-ª/ ⇒ [sẇohcaqék^{h}nikèh·e]

Literal: 'I AGENTed it that a creature's leg set—which was a weightful object/a load—moved to a position astraddle an edge hither on my body, shifting from a closed to an open conformation in the process'

Instantiated: "I set him up on my back with his legs over my shoulders so I could carry him someplace."

Periphrastic usage: in construction with the verb *i*, 'to go', as second element taking all affixation.

a. PG: -im   'thither'
   Sx: -ak   'continuative'
   Ax: '- w- - ª   '3, (3), factual'—self-agentive

/-caqih'-w-i-im-ak-ª/ ⇒ [caqéhẇi?m̥ak^h]

Instantiated: "The frog went jumping along."

4.2.5 Root Type: Takes Sensory Prefixes

---

17. R: -lay-
    'for a person to come into/be in a pleased state of mind'

This root occurs idiomatically with the suffix

Sx: -im

and will here be presented with the same affix set:

Ax: s- '- w- - ª   '1s, (3), factual'

a. CI: sa- (27)   'as a result of the visual aspect of an object acting on the Experiencer'

/s-'-w-sa-lay-im-ª/ ⇒ [sᵊsal·ayíw]

Instantiated: "I find it good-looking, pretty/I like it (e.g., a picture)."

b. CI: ka- (28)   'as a result of the auditory aspect of an event acting on the Experiencer'

/s-'-w-ka-lay-im-ª/ ⇒ [sḱwal·ayíw]

Instantiated: "I find it good-sounding/I like it (e.g., the singing)."

c. CI: pri- (30)   'as a result of the smell/taste of an object acting on the Experiencer'

/s-'-w-pri-lay-im-ᵃ/ ⇒ [sṗlil·ayíw]

Instantiated: "I find it good-smelling, good-tasting/I like it (e.g., the flower)."

d. CI: tu- (31)   'as a result of the taste of a body acting on the Experiencer'

/s-'-w-tu-lay-im-ᵃ/ ⇒ [sṫul·ayíw]

Instantiated: "I find it good-tasting, tasty/I like it (e.g., the food)."

Notes

1. This chapter brings together three separately completed analyses of material otherwise presented in chapter II-1. Section 2 below is a modestly revised version of the compendium of meaning-form associations that first appeared in Talmy 1985b. Section 3 is a moderately revised version of the compendium of typologies and universals that otherwise appeared only as a working paper, Talmy 1987. And section 4, which presents Atsugewi's Cause satellites and many examples of its polysynthetic verbs, is a moderate revision of a section in my dissertation, Talmy 1972:407–467, not previously published. The acknowledgments for the present chapter are the same as for chapter II-1.