

SYNTACTIC COMPRESSION AND SEMANTIC CHANGE

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The current dispute as to how meanings should be related to surface structures in a synchronic grammar has focused attention on some interesting properties of certain kinds of linguistic structure, properties not predictable within the framework of any modern transformational theory. One current theory claims that grammatical operations can be used to relate directly underlying semantic propositions to surface forms. It further claims that the operations required to specify structural relationships among surface syntactic constituents, e.g. SUBJECT RAISING, PREDICATE RAISING, and EQUI, are also those needed to define the structural relations of semantic elements represented within a single lexical item. Grammars so formulated require lexical insertion rules such as that replacing semantic substructures like CAUSE-TO-DIE with the lexical entry kill. Opponents have argued correctly that verbs like kill differ significantly from surface phrases like cause to die in implying a direct connection between the agent and the resulting event. This criticism generally evokes responses that the semantic representation CAUSE-TO-DIE is not to be confused with the surface phrase cause to die, and that the semantic representation embodies just those properties shared by kill and cause to die.

I shall not be concerned here with the merits of such arguments. Instead I shall try to show that the semantic differences distinguishing surface items like kill and cause to die are characteristic of a more general tendency in the DIACHRONIC development of a language. This then is an exercise in diachronic syntax; terms like tendency can be used without suggesting any inability to capture a more comprehensive generalisation. The very irregularities that complicate synchronic theories constitute the vital evidence for hypotheses about syntactic and lexical change. Because the synchronic processes referred to above have been more fully explicated within generative semantic frameworks, it is convenient here to utilise such a framework. Indeed, I know of no lexicalist treatments employing PREDICATE RAISING although, as I shall demonstrate, such a process is well-motivated for certain languages. However, in these languages, as in English, surface structure configurations seem to determine in fairly crucial ways the semantic interpretation of the relations between surface subject noun phrases and either their immediate predicates or those of sentences embedded beneath them.

Besides English, the main languages discussed are Cahuilla, Cupeño, and Luiseño, closely related Uto-Aztec languages spoken in S. California and usually referred to as the Cupan sub-grouping. Verbs in these languages are complex forms made up of roots plus various "auxiliary" suffixes representing tense, aspect, potentiality, desire, and motion. In general these affixes correspond, in these SOV languages, to English auxiliary verbs. I have earlier shown (Jacobs, 1972a) that Cupan finite verb forms were previously nominalised sentences with

higher predicate copular verbs, and that a realised/unrealised aspectual contrast probably preceded the modern tense system. Indeed there is strong morphological and syntactic motivation for such an analysis synchronically in Cahuilla and Cupeño, the underlying BE and DO predicates surfacing usually as verb suffixes.

In any case there is no lack of evidence to support the postulation of processes like PREDICATE RAISING. For example, in these Cahuilla sentences:

1. qečĩĩ-i pe-m-kus-max-ni-ngi-viču-we
 money-ACC her-they-get-BEN-CAUS-go-want-PRES
 EFAC around

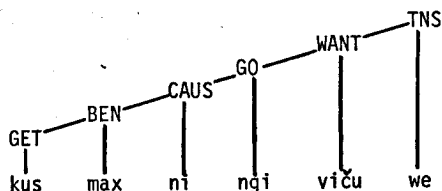
"They want to go around making her get money for him."

2. qečĩĩ-i pe-m-kus-viču-ngi-ni-max-we
 money-ACC her-they-get-want-go-CAUS-BEN-PRES

"On her behalf, they are making him go around wanting to get money."

the same set of auxiliary affixes, except for tense, occur in opposite right-to-left order. The differences in the semantic scope relations in (1) and (2) correspond exactly to the differences in the relative position of the affixes. The rightmost affix, for example, has the other affixes and the verb root within its scope. The next one has in its scope the root and all the other affixes except the one to its right. We might represent the hierarchical scope relations of (1) as (3):

3.



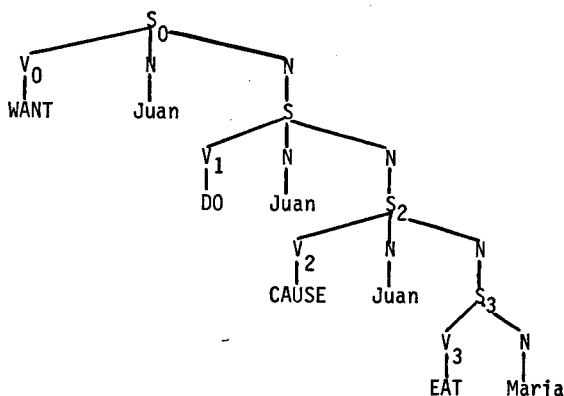
Structures like (3) are what we might expect to result from EQUI, SUBJECT RAISING, and PREDICATE RAISING. The first two of these are as well-motivated as in English. PREDICATE RAISING appears indispensable to account for the facts of (1) and (2).

This is because most auxiliary affixes correspond in form to real main verbs with very similar semantic properties. Thus -max, the BENEFACTIVE suffix corresponds to a verb max "give," and -ngi "go around V-ing" to ngi "go around." The differences between the two max forms arise from their differing environments. "Giving" someone what is represented by the sentences below -max really means doing for someone what is represented by them. The same pairings are to be found in Mandarin and Hindi.

In other words the kinds of underlying structures needed for (1) and (2) are the kind proposed by McCawley and others for English sen-

tences like Juan wants to feed Maria:

4.



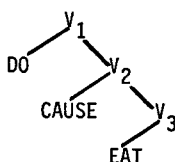
Note that the pseudo-cleft sentence

5. What Juan wants to do is to make Maria eat.

has each of the semantic predicates lexicalised as a separate constituent.

EQUI, SUBJECT RAISING, and PREDICATE RAISING combine to generate from (4) a surface structure in which all the predicates except WANT are exhaustively dominated by a single node:

6.



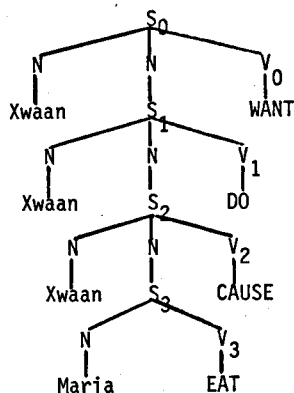
and are therefore lexicalised as the single word feed. The predicates can be clumped together differently to generate phrases like cause... to eat.

Structures such as (4) embody the assumption that the relation between WANT and its complement sentence--manifested on the surface by a main verb and an object complement infinitive phrase/quasi-clause--is the same kind of relation as that relating the other predicates to their complement sentences. It is simply a fact about English that WANT and its complement are realised in surface structure as a verb and its complement, while the other predicates and complements are not. Different languages should be expected to vary considerably in this respect.

For Cupeño, the underlying structure of the sentence meaning

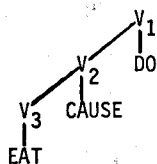
Juan wants to feed Maria is:

7.



EQUI, SUBJECT RAISING, and PREDICATE RAISING clump together the lower predicates as a single constituent exhaustively dominated by V_1 :

8.



which are lexicalised as the verb form puy-ni-in:

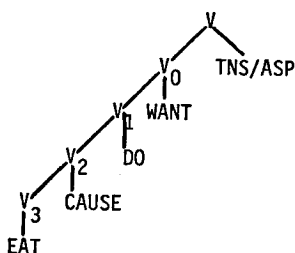
9. Xwaan-ap pə-'ayəw-qal Maria'a-y pə-PUY-NI-IN-pi
 Juan-[+R] he-want PAST Maria-ACC he-EAT-CAUSE-DO-[-R]
 DUR

"Juan wanted to feed Maria."

The lower sentence, being a heavy NP, is extraposed. In (7) the verbal morphemes of the complex verb correspond in order and number to the predicates postulated, and the right to left order corresponds to the domains of semantic scope. Note also that (9) happens to be ambiguous. The other major reading is "Juan wanted Maria to feed him." This reading arises from an underlying structures in which Maria rather than Juan is the subject of FEED and receives its accusative marking after subject raising.

We might well, however, have clumped together all the predicates, including even the tense/aspect predicate, as in

10.



which corresponds to the grammatical sentence:

11. Xwaan-ap Maria'a-y pa-puy-ni-in-vicu-qal
 he-EAT-CAUS-DO-WANT-PAST
 DUR

English has no affix meaning WANT, although forms like incite and encourage may include the predicate WANT as part of their meaning.

What all these processes accomplish in Cupan is to create single clauses where previously there were more than one, to compress--to bring into more direct contact material originally in separate clauses, i.e. to create new clause-mates. In fact the new form very frequently turns out to be a single word predicate with a subject and possibly an object, and, in all cases, with only one marking of time reference.

And here is where new problems arise. Such syntactic compression is likely to be followed by a shift in certain semantic functions, and hence by semantic change. Even the scope relations change as the root morpheme of a complex verb form asserts its lexical dominance over former higher predicates, now become mere affixes. Thus forms like

12. Ca. taxmu-va-nek, Lu. heelax-munaa, Cu. hawin-mi'aw, sing-come

all with the meaning "come along singing," are also used for "sing while coming." A positional grammar with a stronger lexical component appears to take over.

As in so many other languages, the last position on a Cupan verb is likely to be the position where tense or aspect is marked. If the last morpheme is a tense morpheme, then the preceding one may represent the marked durative aspect. Note that tense and aspectual affixes are not moveable. Their scope necessarily includes that of the other affixes. Certain other hierarchies of inclusion are likely. A location predicate "places" the rest of the action and may thus have other predicates within its scope. Motion predicates are not thus restricted and may appear more than once in a predicate hierarchy. While we can make someone be there, we find it more comfortable in English to use attend or go there, since motion is necessarily involved.

Cupan present or durative affixes correspond to main verbs of location. The Cupeño present durative singular suffix -ga has a main verb counterpart ga "be there, reside," and the plural suffix -wa matches a main verb wə "be there." Historically, then, location verbs, perhaps originally occurring in reduced time clauses, were incorporated as suffixes in final position, where they took on the tense function. Where another suffix follows these old location verbs, they serve as durative affixes while the final suffix has the time-marking function. To a major extent, then, surface position seems to determine semantic interpretation, historically at least.

If our claim as to positional influence is to be maintained, then it should be that where durative and tense affixes co-occur, loss of the final tense affix should lead to assumption of the tense function by the durative affix. A comparison of Cahuilla and Cupeño future suffixes shows this to be the case:

	Ca	Cu
13. SG	-naʃ-ne	-naʃ-Ø
PL	-wen-ne	-wan-na
	DUR-FUT	DUR-FUT

Presumably a Cupeño or pre-Cupeño -na future suffix has dropped, marring the symmetry of the paradigm. Native speakers, now unaware of the old paradigm, interpret the surface suffix -naʃ as future durative singular, while -wan-na is analysed now as -wana, a single suffix.

Ordinarily, when motion predicates are incorporated into a verb complex their motion interpretation is preserved. But if one occurs as the rightmost affix different interpretations may develop. With stative roots, HUC predicates (meaning "come" or "arrive") become inchoatives:

14. Ca.	taxmu-va-nek	BUT	wax-va-nek
	"come along singing"		"become dry"
Lu.	heelax-munaa	BUT	yuvatax-munaa
	"come along singing"		"become black"

and, more rarely, past time suffixes. ILLUC predicates ("go") in final position may become inceptive or just future suffixes. We see the same Proto-Cupan form at different stages. The -law in

15. Cu.	na'an	Xwaan-i	taw-law-at
	I	Juan-ACC	see-go-NOMINALISER
	"I'm going (there) to see Juan."		

retains its motion meaning, while its Luiseno cousin -low in

16. noon	Xwaan-i	tiwi-low-ut
	I	Juan-ACC see-go-NOMINALISER
	"I'm gonna see Juan."	

now indicates only future time. But if Luiseno -low is followed by the future tense suffix -n the motion meaning is retained in Luiseno also.

17. noon Xwaan-i tiwi-low-n
 I Juan-ACC see-go-FUTURE
 "I will go to see Juan."

The changes are reasonable ones. In goal-directed verbs the goal, represented by the verbal element to the left, is yet unrealised, and can only be realised in the future. Source-oriented huc verbs relate an event to some past event or one that began to happen earlier.

Two other directions of change require mention. These are cases where syntactic or lexical compression has led to some less predictable semantic shifts. The first results from the application of SUBJECT RAISING. All three languages have a rare copular yax, often reduplicated as yayax, which survives as an idiosyncratic verb having a sentential subject:

18. Cu. na'na-p tanin pa-yayax
 I-UNREALISED dance it-be
 "I'll dance for sure."

where pa is a sentential pronoun referring to the material preceding. In Cupeño however SUBJECT RAISING and a copying rule, both normally meaning-preserving, apparently operate to generate

19. Cu. na'na-pa tanin na-yayax
 I-be/do

which allows not only the interpretation for (18) but also one relating the raised subject to the higher copula as if it were the underlying subject of this copula. A more active sense is achieved, one roughly translatable as "I'll try to dance."

More commonly, the old yax verb has become an affix (also involving SUBJECT RAISING) and with this greater degree of compression, the affix almost never allows a sentential subject.

Our final Cupan examples involve differential lexicalisation. Cupeño sentences like (20):

20. na'-ap ičayawi-qal tuku Xwaan qaawi-qat tukumay
 I-UNREALISED do-PAST yesterday Juan die-gonna tomorrow
 "I did something yesterday so that Juan is gonna die tomorrow."

consist of two surface clauses allowing two distinct time references. If however the semantic predicates are encoded by a single Cupeño verb məknin "kill," only one time is referred to. Thus (21) is as impossible as its English counterpart:

21. *tuku-ap-nə Xwaan-1 nə-məknin tukumay
 yesterday-REALISED-I Juan-ACC I-kill tomorrow
 "**Yesterday I killed Juan tomorrow.

Certain predicates, such as WANT, impose "unrealised" interpretations on predicates below them. But in general, whether semantic predicates are realised as distinct morphemes within a verb form or whether they lack distinct morphological representations, no time reference distinct from that of the main verb form is permitted.

These Cupan compression processes, syntactic or lexical, tend to narrow time reference to a single perspective. They push nominals and verb forms that might otherwise refer to separate but related events into a more direct clause-mate relation. The maximally compressed form meaning "kill" allows one time reference; the "cause to die" form allows two. As a result the less compressed form is usually interpreted as a less direct association of the agent with the victim.

But the range of interpretations varies somewhat in relation to the range of forms available in each language. In English, make X eat differs from feed X in one relevant respect: it is feasible for the causation to be quite indirect. Thus the agent could telephone instructions to X. However the Cupeno form puy "eat, dine" has a single corresponding causative puy-nin which thus may be used to represent both the direct and indirect relations described. Cahuilla muk (or mek) "die" has a causative mek-ni which means either "kill," where agent and victim are directly involved with each other in a single time span, or "cause to die," where the agent may never see the victim and death may result from "witching" the victim months earlier. We might reasonably expect that if a new verb without an overt causative affix were to be introduced, then mek-ni would give up its direct sense to the more highly compressed intruder.

Something like this has occurred in the sister language, Cupeno. This language now lacks a mak verb meaning die although the corresponding causative mak-nin (cf. Cahuilla mek-ni) occurs. But this causative, unlike the Cahuilla form, allows only the meaning "kill." The reason for the difference is that Cupeno uses a verb form qaawi for "die." So məknin is not considered as bi-morphemic but rather monomorphemic. It is thus like English kill. If the causative suffix is added to the "die" verb, as in qaawi-nin, the form is understood to mean "cause death indirectly." This form occurs only when the indirectness of the death-dealing relationship is stressed.

These interrelations suggest that syntactic and lexical processes strain against each other in these languages. In some constructions syntactic processes such as PREDICATE RAISING can revealingly relate semantic representations to surface forms. In others, especially single words, surface positions seem to play a major role in semantic interpretation. The gap is not the traditional chasm between grammar and lexicon, for there appears to be some gradation and some shifting from the grammatically governed sector to the lexically governed one, where for a while syntactic rules extend their domain below the word level.

These characteristics, as has already been indicated, are not limited to these Amerindian languages. The Mandarin location verb zǎi as in zǎi nǎ "be there," like the English verb was, is used as a durative or progressive auxiliary. In English, as in French, the motion verb go is used to form a future construction without any movement being understood, as in je vais mourir, I am going to die. Inchoatives like devenir and become are clearly related to huc verbs of motion.

Furthermore varying degrees of compression in English as in Cupan lead to varying ranges of time-reference and what we have called directness:

22. Last Tuesday I visited the man who was sick.
23. Last Tuesday I visited the sick man.

Thus (23) normally requires that the man be sick at the time of the visit, while the less compressed (22) allows the sickness time to be distinct from the time of the visit. In other words (23) shows "I" in more "direct" contact with the man's sickness. Similarly the less compressed (24) suggests a longer period of time for the event than does (25).

24. He came to be my friend.
25. He became my friend.

Subject-Raising in English has also proven to have had significant semantic effects over time. We cannot here go into the decline of impersonal and sentential-subject constructions in English between the fourteenth and seventeenth centuries. Modern English provides many examples in which SUBJECT RAISING appears to have led to semantic shift, in particular towards the development of more direct relationships between constituents originally less directly related. Postal and others have noted that sentences like

26. It struck me that Agnew was boring.
27. I found that Agnew was boring.

are more likely to be used ~~when~~ the experiencer has not had personal contact with Agnew, while

28. Agnew struck me as boring.
29. I found Agnew boring.

suggest more direct personal experience. While (30) and (31) seem to have preserved synonymy:

30. It is certain that he will come.
31. He is certain to come.

more obvious differences can be noted between the odd and even-

number sentences below:

32. It is impossible to talk to him.
33. He is impossible to talk to.
34. It is unlikely that his ex-wife will pay alimony.
35. His ex-wife is unlikely to pay alimony.

For most, but not all, native speakers checked the even-numbered sentences more easily permit sentential subject interpretation while the odd-numbered ones suggest a closer, more direct, relation between the surface subject and the impossible/unlikely predicates.

In both English and the Cupan languages there thus exists a hierarchy of linguistic constructions from main sentence to clause and quasi-clause to morpheme. There are tendencies to reduce the surface status of propositions, create animate subjects where there were sentential subjects. The most direct involvement of semantic units occurs when several are lexicalised as a single morphologically unanalysable word; there is a gradation up the syntactic hierarchy. We have seen that over time various languages have shared quite substantive directions of syntactic and lexical change. This suggests a diachronic model in which a domain of syntactic processes relating underlying semantic structures to surface forms partly overlaps a domain in which surface structure configurations and specific syntactic/lexical positions partly determine semantic interpretation. The continuous readjustment of the relationship between these domains has probably triggered the semantic shifts described.

BIBLIOGRAPHY

- Jacobs, Roderick A. 1972a. Syntactic Change: A Cupan (Uto-Aztecan) Case Study. Unpublished Dissertation, University of California, San Diego.
- _____. 1972b. "Complement Object Deletion." Unpublished Paper.
- _____. 1973. Studies in Language, Xerox College Publishing: Lexington, Mass.
- _____. Forthcoming. "Syntactic Reconstruction and the Comparative Method." In Studies in Honor of A.A. Hill, Mouton: The Hague.
- _____. and P.S. Rosenbaum. 1971. Transformations, Style, and Meaning, Xerox College Publishing.
- Langacker, R. Forthcoming. "Predicate Raising: Some Uto-Aztecan Evidence." In Kachru, B. et alia, Papers in Linguistics in Honor of Henry and Renee Kahane, University of Illinois Press.
- Postal, P. 1972. On Subject-Raising. Unpublished ms.