

Prosodic Determinants of Syntactic Form: Central Pomo Constituent Order

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Prosodic Determinants of Syntactic Form: Central Pomo Constituent Order
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Constituent order has often been dismissed as an arbitrary syntactic variable, since it varies both across and within languages. An alternative approach is to hypothesize that the diversity of orders that occur reflects the multiplicity of forces that can shape them. Different languages may show the effects of different forces. Even within a single language, different constructions may reflect different motivations. In what follows, constituent order will be examined in Central Pomo, a language indigenous to Northern California. Material will be drawn from the spontaneous speech of Mrs. Frances Jack of the Hopland rancheria, and Mrs. Salome Alcantra and Mrs. Florence Paoli of the Yokaya rancheria. Although a basic, pragmatically unmarked constituent order can be discerned, a number of syntactic constructions exhibit quite different orders. It will be shown that the variability of word order within the language can be understood in terms of two kinds of motivations: one cognitive, the other physiological. The physiological factor becomes clear when we look at prosody.

Basic constituent order in Central Pomo is SOV, as in (1).

(1) Basic SOV: full NP's

s	o		v
<i>čá·ʔ-yem=ʔel</i>	<i>mei'</i>	<i>sómle·lo=ške</i>	<i>dá·ʔ-du-w-an.</i>
man-old=DEF	such	hat=only	want-RFL-IMPRF-PRF-IMPRF
'The old man only liked that kind of hat.'			

Clauses with pronominal arguments show the same SOV order, as in (2).

(2) Basic SOV: pronouns

s	o	v	
<i>ʔa·</i>	<i>mú·tu</i>	<i>p^h-wí-w</i>	<i>ʔ^hin.</i>
1.AGT	3.PAT	visually-perceive-PRF	NEG.IMPRF
'I never saw her.'			

Central Pomo also shows other features typical of verb-final languages, such as postpositions.

(3) Postposition

		N	POSTPOSITION		
<i>mu·l</i>	<i>qóʔi</i>	<i>hínʔil</i>	<i>lá·la</i>	<i>wá·ʔw-an</i>	<i>ʔ^hin.</i>
that	at.all	Indian	among	go-around-IMPRF	not
'He doesn't mix with Indians.'					

Dependent clauses typically precede main clauses.

(4) Dependent clause - main clause

COMP		V	
[<i>k'úm</i> =?el	<i>ba</i> =č ^h é- <i>m-ka-w</i>]	<i>dá</i> ·-?-č ^h - <i>w-ač</i>	č ^h ów.
root=DEF	INDEF-dig-COOP-CAUS-PRF	want-RFL-IMPRF.PL-PRF-IMPRF.PL	NEG

'They don't want [people to dig for sedge roots].'

Yet not all sentences exhibit SOV order. A number of syntactic constructions are characterized by alternative orders.

1. Initial position

In one set of constructions, a usually sentence-medial constituent appears initially.

1.1. Simple pragmatic ordering

Particularly newsworthy constituents often appear in initial position. The sentence in (5) was part of a discussion of an area a few miles away. As a whole, the sentence conveyed a new idea: the proposition was new to the discourse, not presupposed. Within the proposition, however, the object 'lots of acorns' was more newsworthy than the subject 'we', which was accessible from context. The newsworthy constituent appeared at the beginning of the clause.

(5) OSV: newsworthy object

O	S	V	
<i>p'dú</i>	?úda·w	ya	ša-?-á-m-a·č-ač
acorn	much	1.PL	pulling-gather-COOP-IMPRF.PL-IMPRF.PL

hdúw ?e. HAB COP
'We used to pick lots of acorns [there].'

1.2. Focus of contrast

Initial position is also used to highlight a focus of contrast. The contrast may involve any syntactic category: subjects, direct objects, indirect objects, adverbials, even predicates. During a discussion of the difficulty of obtaining government funding for services on the rancheria, Mrs. Paoli made the remark in (6). Here the contrast was overtly specified.

(6) Focus of contrast

<i>dú</i> ·	čá·č ^h = <i>yačol</i>	<i>pé</i> ·su,	?ó-t-a·q-an
other	person=PAT	money	give.many-M.E-PRF.PL-IMPRF

'Other people they're giving money to;

ya-l pé·su čʰó-w ške hí-č-a·q-aʔ-ya-w ...
 1.PL-PAT money NEG-PRF only say-SML-PRF.PL-IMPRF.PL-DEFocus-PRF
 to us, they're always saying they have no money.'

Contrastive constituents are usually set off from the remainder of the sentence, sometimes intonationally as in (6) above, sometimes with the copula *ʔe* as in (7) below. One day when Mrs. Alcantra, Mrs. Paoli, and Mrs. Jack gathered to record a Central Pomo conversation, Mrs. Alcantra slipped into English without realizing it. Mrs. Paoli pointed out the shift, then turned to Mrs. Jack and recalled a previous occasion when the same thing had happened to the two of them. Her initial pronoun 'we' (referring to Mrs. Jack and Mrs. Paoli) in the second line of (7) contrasts with the implied subject (Mrs. Alcantra) of the first line.

(7) Focus of contrast with copula

masá·nya čanó·d=a.
 White talk.SG-IMPRF.SG=IMM
 'You're talking English!

yá=kay ʔe me·n ʔi-m-ma-w ʔe, member?
 1.PL.AGT=too COP SO do-M.E-COOP-PRF COP
 We did that too, remember?'

Constructions like that in (7) are somewhat similar to the stressed focus it-clefts of English. As characterized by Prince 1978 and others, these English clefts consist of an initial strongly stressed constituent plus following clause: *It was gólf that killed her*. The initial focused constituent represents new, often contrastive information, while the following clause conveys a presupposition, information the speaker assumes is known or can be deduced (something killed her). Like the English it-cleft, the Central Pomo focus construction can contain a copula, but the clause that follows need not represent a presupposition. It is thus less marked pragmatically and accordingly more frequent. The English cleft 'It was **us** that did that too' would be inappropriate in the context surrounding (7).

1.3. Question formation

Another syntactic construction that deviates from basic SOV order is question formation. In Central Pomo questions, an interrogative marker =*wa* is encliticized to the first major constituent of the clause. In yes-no questions, this constituent is normally the focus of the question, the element called into question.

- (8) *dalóm=wa* *ší=ʔel?*
wildcat=Q name=DEF
'Is Dalóm the name?'
- (9) *kúči·* *t^hédu·=wa* *mú·k^heł'?*
child.PL lots=Q 3.POSS
'Does she have a lot of children?'
- (10) *táwhal* *yhé·n=wa* *mú·l?*
work do-IMPRF=Q 3.AGT
'Does he work?'
- (11) *mŭi·=wa* *mu·l* *mé·n* *yhé-ł-a č?*
true=Q that so do-M.E-IMPRF.PL
'Is it true they're going to do that?'

In question-word or lexical gap questions, the question-word usually appears initially.

- (12) *qó=wa* *ʔa·* *mú·tu* *qaié·-č=ya ...*
what=Q 1.AGT 3.PAT give.PL-SML.PRF=PERSONAL.EXPERIENCE
'What did I give him?'
- (13) *bá·=ło=wa* *nap^hó-w?*
INDEF=PAT=Q marry-PRF
'Who did she marry?'
- (14) *sí·n* *ší=wa=ka* *mu·l* *mýa* *báya-l?*
how name=Q=INFERENTIAL that 3.POSS man-PAT
'What was her husband's name?'
- (15) *ʔé·y=htow=wa* *mu·l* *táwhal* *yhé·n?*
where=from=Q 3.AGT work do-IMPRF
'Where was she working?'

Unlike the focus constructions described in 1.2, the lexical gap questions do contain a presupposition, that I gave him something in (12), that she married someone in (13), that her husband was named something in (14), and that she was working somewhere in (15).

1.4. Topic shift

As in many other languages, initial constituents in Central Pomo may signal a shift in topic. The new topic is not normally brand new; it is generally a

participant that has been mentioned previously in the discourse, or one that is somehow related to one mentioned previously, or one present in the extralinguistic context. It is accessible in the sense of Chafe (to appear).

The reintroduction of a previously mentioned referent can be seen in (16). Mrs. Jack was explaining that her father had been married to another woman before her mother. That couple had had three children. The woman had also had another son by a different man. The remark in (16) draws the aforementioned son into the center of attention.

(16) Reactivation of previously mentioned referent

o	s	v		
<i>mú·tu</i>	<i>ʔa·</i>	<i>p^h-wí-w</i>		<i>ǰ^hin.</i>
3.PAT	1.AGT	visually-perceive-PRF		NEG.IMPRF

'Him I never saw.'

The initial nominal is typically separated from the rest of the sentence by an intonation break and/or a clitic such as an evidential. Mrs. Jack was telling friends about a visit to another Central Pomo community on the Coast, where she and two Coast women had spent the day speaking Central Pomo. One of the women was singled out for the remark in (17). The initial nominal 'Eileen' is set off by the evidential 'I guess' and a slight pause.

(17) Prosodic and evidential separation of accessible referent

<i>Eileen ǰa·,</i>	<i>t^hédu·</i>	<i>hín̄til</i>	<i>čanó·-n</i>	<i>ǰ^hin.</i>
feel	lots	Indian	talk-IMPRF	not

'Eileen, I guess, doesn't talk Indian much.'

A distinction has been drawn between two somewhat similar English constructions: preposing and left-dislocation (Ross 1967, Prince 1981, Gelyukens 1988, Ward 1988, and others). In both, a constituent appears at the left of a sentence instead of in its usual sentence-internal position. In preposing constructions, the internal position is vacant (*John, I know*), while in left-dislocation constructions, the internal position is occupied by a pronoun coreferential with the initial constituent (*John, I know him*). In Central Pomo, coreferent pronouns may be present or not, but the conditions under which they appear are not the same as in English.

Central Pomo sentences need not contain any overt noun phrases or pronouns at all to be grammatical, so long as reference is clear. Pronouns sometimes serve functions other than simple reference, however. Resumptive pronouns can indicate number and/or case. This is the effect of the pronoun *mú·tu* 'her' in the second line of (18).

(18) Resumptive pronoun

ʔel ʔelya, ba=ʔánhaw qǎi š-bú-w=ʔel,
 DEF DEF INDEF=SUPERLATIVE good pulling-weave-PRF=DEF
 'The one that weaves the best,

mú·tu ʔ=dóma ʔúda·w --
 3.PAT COP=QUOT lots
 she, it is said,

lóq maná·=ʔ-ya-w=ʔk^he.
 thing pay-IMPRES.PL-DEFOCUS-PRF=FUT
 will be paid a lot.'

Topic shifts are of course contrastive themselves, always signalling a contrast in topic and sometimes a contrast with others in a group, as in (17). Their discourse function differs from that of the focus of contrast constructions in 1.2, however, where the point of the whole sentence is the contrast.

A shift in topic may be combined with a question. As Aissen notes for Mayan (1992), and Dahlstrom for Fox (this volume) the constituent representing the new topic precedes the focus of the question. On one occasion, the three women were exchanging stories about how they had first met their husbands. Mrs. Paoli noted that she had been sixteen years old when she married. At this point, Mrs. Alcantra shifted the talk to Mrs. Jack with the sentence in (19).

(19) Topic shift with question formation: topic - focus

TOPIC FOCUS
má=wa sí·naw=da bá=na·p^hó-č?
 2.AGT=Q how.many=when INDEF=marry-INCH.PRF
 'How old were you when you got married?'

The constructions described so far differ in their pragmatic functions. In the first, a constituent is highlighted because it is especially newsworthy. In the second, a constituent is highlighted because it is a focus of contrast. In the third, a constituent is highlighted because it is the focus of a question. In the fourth, a constituent is highlighted because it signals a shift in topic. Yet all share a formal feature: the highlighted constituent appears in initial position.

2. Final position

In a second set of constructions, constituents that typically occur sentence-initially or medially appear sentence-finally, following the main verb.

2.1. Final nominals: confirmation

Nominals sometimes appear postverbally when they confirm the identity of already established referents. Similar constructions in English and other languages have been termed right-detached nominals, right dislocations, antitopics, or (less felicitously) ‘afterthoughts’. The most common postverbal noun phrases in Central Pomo are subjects, not surprising since subjects are typically identifiable referents. Such a construction can be seen in (20). Mrs. Jack had reported that a cousin had sold all of her mother’s baskets.

(20) Final subject

FJ *ma-tʰé·=kʰeɬ* *lóq-ay,*
 own-mother=POSS thing-DISTR
 ‘Her mother’s things,

 hínɰil *lóq-ay=?el* *kʰmú,*
 Indian thing-DISTR=DEF all
 all the Indian things,

 ?=dóma *mu·l* *bá=?elši-w.*
 COP=QUOT that INDEF=sell-PRF
 she sold.’

FP, SA Oh. Mmm.

FJ *ǰaléya·* *kú·č* *ǰá·* *dé··ʔw-an,*
 bead little guess carry-around-IMPRF
 ‘She had a few beads,

matúl=?el.
old.lady=DEF
the old lady.

mu·l=kay *?e* *mu·l,*
 that=too COP that
 Those too

bá=?elši-w.
 INDEF=sell-PRF
 she sold.’

The sentence-final nominal ‘the old lady’ was uttered as a separate prosodic phrase or intonation unit, as is typical of such constructions. It clarifies the

identity of the subject of the clause ‘she had a few beads’, useful since it could have been either the mother or the cousin. It does not announce a topic shift, however. The cousin was the unspecified subject of the following clauses ([the cousin] sold those too’), and no more was said about the mother.

Object nominals also appear finally. The pragmatic difference between preverbal and postverbal nominals can be seen in (21). When Mrs. Jack first commented that she had forgotten a name, the object ‘name’ appeared in the unmarked position before the verb ‘forget’. When she elaborated that she never could remember it, the object appeared after the verb.

(21) Preverbal and postverbal objects

		O	V	
<i>mú·tu</i>	<i>tó·</i>	<i>ší</i>	<i>?=ná·=ya.</i>	
3.PAT	1.PAT	name	mentally-hide=PERSONAL.WITNESS	

‘I forgot her **name**.

		V	
<i>tó·</i>	<i>qó=?ti</i>	<i>yá·q·adu·h·du·w</i>	<i>č^hó·w</i>
1.PAT	what=even	KNOW-IMPRF-PRF-IMPRF-PRF	NEG-PRF

I never remember (it) at all,

O	
<i>mú·tu</i>	<i>ší=?el ...</i>
3.PAT	name=DEF

her **name**.’

Such final nominals need not be the only reference to a participant within the sentence. Final position is sometimes used to further elaborate the identification of a referent overtly identified preverbally. As the ladies were discussing Central Pomo words for various animals, Mrs. Jack made the remark in (22). Each intonation unit after the initial clause served to further identify the referent of *meí* ‘that stuff’.

(22) Successive elaboration

<i>?a·</i>	<i>meí</i>	<i>t^hédu·</i>	<i>šá·t^h·a·?·du·w</i>		<i>t^hin</i>	<i>t^ha·;</i>
1.AGT	such	lots	knowledge-sense-RFL-IMPRF-PRF		NEG	guess

‘I don’t know **that stuff** too well;

loq^h *meí*
thing such
that kind of thing

qó·=ʔkʰe *loq̣* *šĩ-tay.*
 wild=from thing name-DISTR
 wild animal names.'

The entity reidentified at the end of a sentence need never have been mentioned at all if extra-linguistic context has established reference. When Mrs. Jack's dog began to bark loudly, she made the comment in (23), although the dog had not been discussed.

(23) Confirmation of extra-linguistic identification

ʔúda·w *qamáí* *íá·-d=a*
 really angry feel-IMPRF=IMM
 'He's feeling pretty mad,

háyu.
 dog
 that dog.'

The postverbal nominal may be a pronoun. The sentence in (24) was part of a story about a mother bear who took her children out to hunt for food. The plural pronoun was sufficient to confirm that it was not just the mother who liked fish.

(24) Postverbal pronoun

šá *qa·-wá-č* *ʔúda·w* *dá·-ʔ-č-w-ač*
 fish biting-go-IMPRF.PL really like-RFL-IMPRF.PL-PRF-IMPRF.PL
 'They really liked to eat fish,

ʔ=doma *mú-tuya.*
 COP=QUOT 3.PL.AGT
 those (guys).'

As can be seen from examples (20) - (24), final nominals generally function to confirm established information, occurring most often when there is potential for confusion among various participants under discussion. These constructions sometimes serve stylistic functions as well. Often they are used to reinforce a statement, as in (22). They can also structure discourse, frequently closing a turn in conversation or an episode in narrative.

Similar constructions are not uncommon cross-linguistically, with generally similar functions, although details of use may differ slightly, as in French as described by Ashby (1988).

2.2. Final dependent clauses

Dependent clauses exhibit similar alternations in position. The pragmatically unmarked position of dependent clauses in Central Pomo is before main clauses. Mrs. Jack remarked that a certain man in the Coast community was a spiritual doctor who gave ceremonial speeches. Her statement in (25) illustrates the basic initial position of adverbial clauses.

(25) Basic clause order: adverbial clause - main clause FJ 19.101

[*čá-č* *ʔbú-ya-w=da*]
person **bury-DEFOCUS-PRF=when**
 'When they bury a person],

matú· *ma·* *yhé-·n.*
 speech thing do-IMPRF
 he makes a speech.'

Mrs. Paoli responded with the comment in (26). In her response, the adverbial clause appears sentence-finally. The adverbial contributes little newsworthy information, since it is identical to that of the previous sentence.

(26) Main clause - adverbial clause FP 19.103

íá-yíó=ške *ʔa·* *mí·* *wá-ǵ*
 once=only 1.AGT there go-to.PRF
 'I've only been there one time

[*čá-ʔ* *ʔbú-ya-w=da*].
person **bury-DEFOCUS-PRF=when**
 [when a person was buried].'

Similar alternations can be seen with purpose clauses. In (27), which followed (24) above in the bear story, the dependent clause appears in unmarked position, before the main clause.

(27) Purpose clause - main clause FJ 6.68

bal *ʔ=doma* [*maʔá* *hʔél-ma-w=ʔk^he*],
 this COP=QUOT **food** **seek-COOP-PRF=FUT**

qó·=l *hlí-w.*
 wild=to go.PL-PRF
 'So they went out [to hunt for food].'

On another occasion, Mrs. Paoli was discussing the death of an old man in her community. In (28), the purpose clause follows the main clause. The fact that the man was taken to town was newsworthy. The information that he was buried was not.

(28) · Main - Purpose clause: FP 22.93

mu·l *mú·tu* *péo·lu=l=il* *š-dí·ya-w*
 that 3.PAT town=at=to dragging-carry-DEFocus-PRF
 ‘Then they took him to town

[*?=mi=·* *?bú-w=?k^he*].
 COP=that=at bury-PRF=FUT
 [to bury him].’

The two Central Pomo constructions, those with final nominals and those with final dependent clauses, resemble each other both functionally and formally. Information that is less newsworthy appears last in the sentence.

3. Some explanations

The syntactic constructions described so far exhibit a variety of constituent orders. There is a basic, pragmatically unmarked SOV order within clauses, with the expected dependent-main clause order in complex sentences. At the same time, constituents that are pragmatically newsworthy, whether because they are generally significant, they represent a focus of contrast, the focus of a question, or shift in topic, may appear initially, often disturbing the basic order. Constituents that are pragmatically less newsworthy, because they represent previously identified participants or established information, may appear finally. The variety of patterns is understandable in terms of two kinds of factors: one cognitive, the other physiological.

3.1. Basic SOV order: a cognitive motivation

The basic SOV order exhibited by Central Pomo is shared by large numbers of languages. As is well known, subject-object orders are strikingly more common cross-linguistically than object-subject orders. Motivation for them can be seen in basic cognitive processes.

Prague School linguists and others have observed that the normal pragmatic ordering of constituents (in European languages) seems to be theme-rheme. In 1939, Mathesius defined the theme as ‘that which is known or at least obvious in the given situation, and from which the speaker proceeds’ in his discourse (cited in Firbas 1964:268). The syntactic category most closely coinciding with Mathesius’ theme is the subject. Subjects in most languages typically represent ‘that which is known or at least obvious in a

given situation'. In a large sample of spoken English, for example, Chafe discovered that 99% of the subjects were identifiable, that is, definite nouns, pronouns, or proper names (Chafe to appear: Chapter 8). Objects contrast sharply in newness. Givón (1979) finds that English objects are roughly evenly divided between identifiable and new. He notes, furthermore, that indefinite objects constitute 'the bulk of the indefinite nouns in the text ... The accusative or direct object position is thus the major avenue for introducing new referential arguments into discourse, at least in English' (1979:52).

The predominance of subject-object order is thus understandable in terms of general cognitive principles, a tendency to move from the familiar to the new. As Lyons remarks, 'to many scholars it has seemed natural that the cognitive point of departure and the communicative point of departure should coincide' (1977:508).

3.2. Pragmatically marked constructions: a physiological motivation

The identification of a tendency to position established information before new raises questions about the form of the other constructions discussed here. In these, sentence-initial position is used to highlight important constituents, those that convey the most significant information of the sentence, while final position is used to background unimportant ones, those that contribute little. The structures appear less unmotivated, however, when another dimension is considered: that of prosody.

We know that natural speech is not usually produced in a steady, homogeneous stream. Rather, prosodic phrases or intonation units (also referred to as intonation groups or tone units) can be distinguished on the basis of several features. They are generally characterized by an overall decline in pitch. In addition, there may be a progressive decrease in the size of individual pitch movements within the phrase. Central Pomo intonation units are typically characterized by a decrease in volume as well. Intonation units may also exhibit an initial acceleration and/or final deceleration. Certain other characteristics may appear at the ends of phrases, such as creakiness. Although all of these features are characteristic of intonation units, all are not necessarily present in every one, nor do they always coincide exactly.

Of all the features, pitch appears to be the most central. Cruttenden (1986:167-8) points out that a general fall in pitch, or declination, seems to be a language universal. He cites physiological motivations for the phenomenon.

The explanation for declination has often been related to the decline in transglottal pressure as the speaker uses up the breath in his lungs. A more recent explanation suggests that an upward change of pitch involves a physical adjustment which is more difficult than a downward change of pitch, the evidence being that a rise takes longer to achieve than a fall of a similar interval in fundamental frequency.

Of course speakers are not incapable of raising pitch at the middle or end of an intonation unit. It simply requires special effort.

A sample pitch contour of a Central Pomo intonation unit can be seen in Figure (1), produced with CECIL, a speech analysis system. The pitch (of F_0) of the stressed syllables decreases steadily, as does the size of the pitch change in each: 208-161 ('she'), 177-149 ('her mother's'), 162-132 ('place'), 125-118 ('there'), 108 ('now'), 96-92 ('lives'). The creakiness and lower tone at the end of the phrase is reflected in the diminishing clarity of the pitch trace in the right third of the figure.

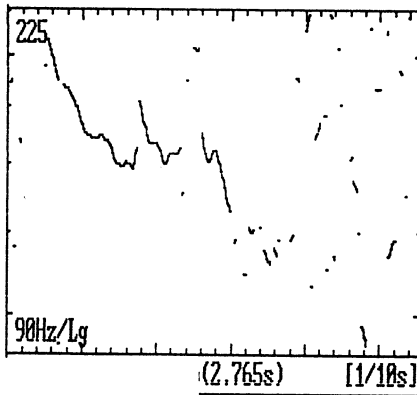


Figure 1: A basic intonation contour

208-161	177-149	162-132	125-118	108	96-92
<i>Mu·l</i>	<i>ma^hé·k^het</i>	<i>má·</i>	<i>?mí·</i>	<i>ʃto</i>	<i>?é^há·w.</i>
3.AGT	her mother's	place	there	now	lives
'She's living in her mother's house.'					

The general fall in pitch is not limited to single intonation units; a global contour may extend over a group of several intonation units. Each unit in a group begins on a lower pitch than the preceding one. A global contour of this kind can be seen in Figure 2, which represents a sentence consisting of three intonation units. The comma and semi-colon mark the boundaries of the units.

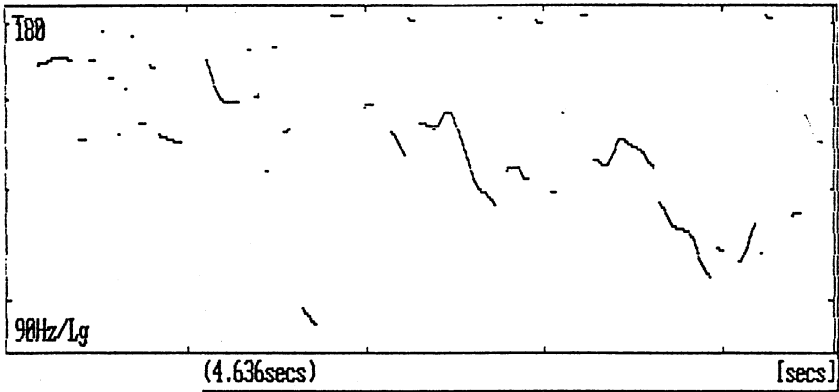


Figure 2: Global contour

163-138	155-148	147	145-125	124	138-1	111
<i>Ká·ka</i> <i>ʃika mu·l</i> ,	<i>pá·páto</i>	<i>qóʔti</i>	<i>dá·ʔduw</i>	<i>ʃ^hin</i> ;	<i>qaddálman</i>	<i>hínduwan</i> .
M's.M actually	papa	at all	like	not	hate	say

'Grandma actually, didn't like Papa at all; she said she hated him.'

The pitch level is reset with the next group of intonation units.

It might be wondered whether these decreases in pitch are actually perceived. Pierrehumbert 1979 found, for example, that when speakers of English were asked to compare the pitch of stressed syllables in a nonsense sentence, they corrected for the expected declination. There is evidence that the downtrend and accompanying pitch reset at boundaries are not disregarded in interpreting intonation, however. Schuetze-Coburn, Shapley, and Weber 1991 compared acoustic measurements of declination units with auditory perceptions of intonation units in American English conversation. In virtually all cases, the acoustic cue of F_0 reset corresponded to the auditory perception of global intonation unit boundaries.

Clearly, the acoustic facts of declination units are directly related to their perceptual equivalents in intonation units. We can point to a specific acoustic measure which correlates with intonation unit boundaries; that is, we may infer that F_0 reset is a salient cue to an auditory identification of boundaries. (Schuetze-Coburn, Shapley, and Weber 1991:225)

The general decline in pitch, typically accompanied by a decline in volume in Central Pomo and by a decrease in the size of pitch change, provides a reasonable motivation for the converging forms of the syntactic patterns described in sections 1 and 2 above. Pragmatic importance is matched by

prosodic salience. In the following sections, the intonation contours characteristic of each of these constructions is examined.

3.3. Initial position

Each of the first four constructions described, general pragmatic ordering, focus of contrast, question formation, and topic shift is characterized by a distinct prosodic contour. All, however, share a common prosodic feature. In each, a pragmatically significant constituent is positioned at the prosodic peak of the intonation unit, where pitch, volume, and pitch change are the greatest. Important elements are pronounced with extra vigor.

3.3.1. General pragmatic ordering

The contour characterizing the OSV sentence in example (5) above can be seen in Figure 3. The newsworthy object ‘lots of acorns’ precedes the given subject ‘we’ and consequently appears at the height of pitch and volume.

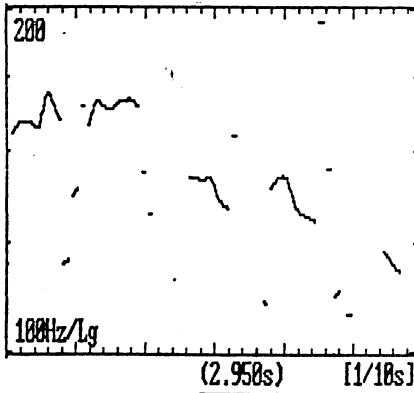


Figure 3: General pragmatic ordering

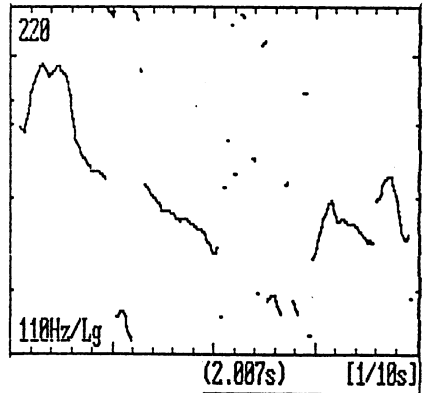


Figure 4: Focus of contrast

168 166 142 142 122
pđú ? úda·w ya ša?áma·čač hđúw ?e.
 acorn lots we pick used to
 ‘We used to pick lots of acorns [there].’

196-156 134
Yákay ?e me·n ? ĩnnaw? e, member?
 we too COP so do COP
 ‘We did that too, remember?’

3.3.2. Focus of contrast

Like the basic pragmatic ordering of Figure 3, constructions highlighting a contrast position the focus of the contrast initially, at the prosodic peak of the intonation unit. While the basic pragmatic ordering constructions show a relatively smooth descending contour, however, the focus of contrast constructions are characterized by extra high pitch and volume on the initial constituent, and, significantly, a more dramatic pitch change. As noted by Cruttenden, a large rise in pitch is easiest physiologically in initial position.

3.3.3. Question formation

Questions resemble general prosodic ordering and focus constructions in positioning an important constituent initially, at the prosodic peak. In addition, they show a special final rise, as might be expected. Figure 5 shows the intonation contour of the yes-no question of example (9). Figure 6 shows the contour of the question-word question of example (13).

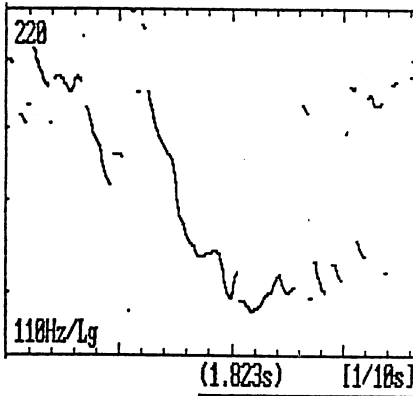


Figure 5: Yes-no question

198	186	123-126
<i>kúčì·</i>	<i>tʰédu·=wa</i>	<i>mú·kʰét?</i>
children	lots=Q	she has
'Does she have a lot of children?'		

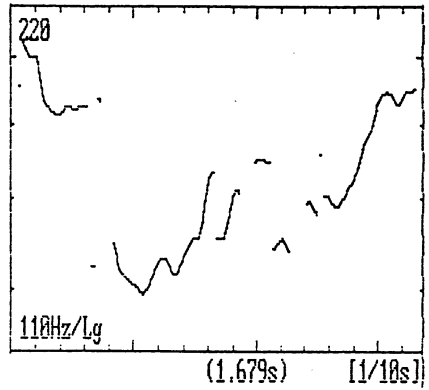


Figure 6: Question-word question

205-181	163	186
<i>Bá:fo=wa</i>	<i>napʰów,</i>	<i>Falles?</i>
whom=Q	marry	
'Who did she marry, Falles?'		

3.3.4. Topic shift

Like the simple pragmatic ordering, focus, and question constructions, topicalization positions an important constituent initially, at the point of greatest prosodic salience. Unlike the others, however, topicalization shows a pitch reset for what follows. An accessible participant is (re)introduced in the first intonation unit, then something is said about it in a second. The contour of the topic shift construction in example (17) can be seen in Figure 7. (The second intonation unit appears to begin with an even higher pitch than the first, here, but the apparent difference is actually due to the aspiration at the beginning of the first word *tʰédu·* 'lots'.)

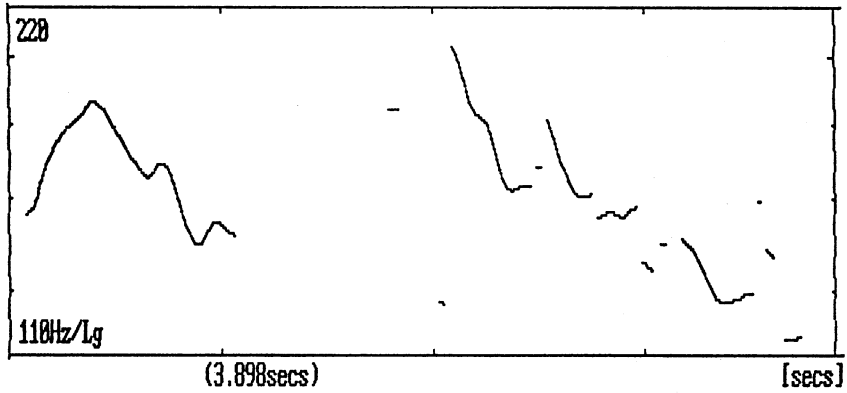


Figure 7: Topic shift

183-157	159-139	196	173-151	138-122	113
<i>Eileen</i>	<i>ʃaː</i>	<i>lʰéduː</i>	<i>hɪŋtɪl</i>	<i>ʃanóːn</i>	<i>ʃʰín.</i>
	feel	lots	Indian	talk	not

'Eileen, I guess, doesn't talk Indian much.'

The initial position of shifted topics is appropriate both cognitively and prosodically. Cognitively, it is more effective to signal a shift to a new point of departure or starting point before commenting on it, than to make a comment and then alert the hearer to the fact that the comment pertains not to the expected participant, but to a different one. Prosodically, the shift in topic is highlighted with the high pitch, volume, and dynamism of the beginning of an intonation unit. The tendency for shifted topics to precede focused constituents (when the two do coincide) is appropriate both syntactically and prosodically. Syntactically, new topics need not constitute an integral constituent of the clause, but focused elements normally do. Prosodically, the contour of the topicalization construction lends itself well to topic-focus order. The new topic appears at the first prosodic peak then is followed by a pitch reset, allowing the focused element to appear at a second peak.

3.4. Sentence-final position

Both sentence-final nominals and sentence-final clauses are low in newsworthiness, reidentifying established participants or reiterating accessible information. These constituents are positioned at the point of lowest prosodic salience, where pitch, volume, and size of pitch change are minimal.

3.4.1. Postverbal nominals

The prosodic contour of a sentence with a postverbal nominal, example (24) above, can be seen in Figure 8. The final nominal 'those (guys)', represented by the right third of the figure, is low in pitch and monotonous, showing very little pitch change.

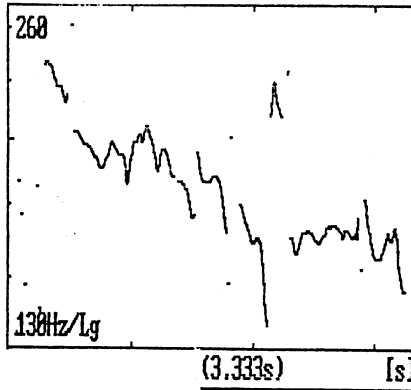


Figure 8: Postverbal nominal

233	198-180	204	190-180		167
šá	qa·wá·č	? úda·w	dá·? číwač	? doma	mú·tuya.
fish	eat	really	like	they say	they
'They really liked to eat fish, those (guys).'					

3.4.2. Final dependent clauses

The effect of altering the position of dependent clauses can be seen by comparing Figures 9 and 10. In Figure 9 (example (27)), the purpose clause appears in its pragmatically unmarked position, before the main predicate. In Figure 10 (example (28)), the purpose clause, predictable information, appears finally, at the point of lowest prosodic prominence.

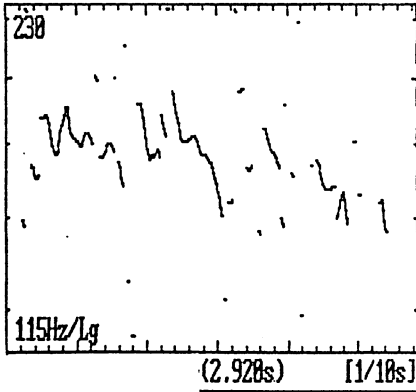


Figure 9: Basic purpose clause

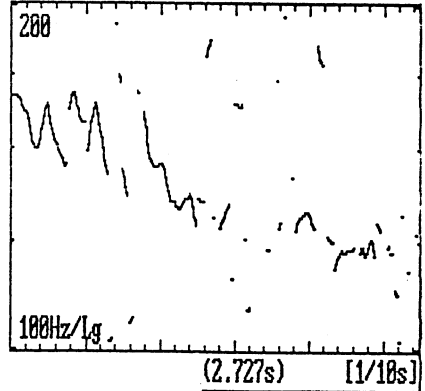


Figure 10: Final purpose clause

189 177 159 146
Bal ʔdoma maʔá hʔélmawʔkʰe, qó·l hliw.
 this HRSY food will seek wild go
 'Now they went out to hunt for food.'

164 164 160 134 132 123
Mu·l mú:tu péo·hulil šdi·yawʔmi· ʔb úwʔkʰe.
 that him to town took there will bury
 'Then they took him to town to bury him.'

4. Conclusion

Constituent order has often been dismissed as an arbitrary variable of language structure, since it varies both across and within languages. An alternative approach is to hypothesize that the multiplicity of orders we find is the result of the multiplicity of forces that shape word order. Different languages may show the effects of different forces. Even within a single language, different constructions may show the effects of different motivations.

The basic SOV order of so many languages, including Central Pomo, is easily understood in terms of general cognitive processes. The often noted prevalence of subject-object orders over object-subject orders can be explained as a reflection of a more general cognitive tendency to proceed from the familiar to the new.

Yet many syntactic constructions in Central Pomo and other languages appear to violate this principle. (Dik 1978, Prince 1978, 1981, Lambrecht 1981, Ashby 1988, Geluykens 1988, Ward 1988, Aissen 1992, Dahlstrom 1993 among others describe similar patterns elsewhere.) In these constructions, constituents representing especially newsworthy information appear sentence-initially, and constituents reiterating established information appear sentence-finally. Another quite different kind of factor may lie behind all of the constructions: that of prosody. In the general pragmatic ordering, focus of contrast, question, and topic shift constructions of Central Pomo, a pragmatically important constituent is positioned at that portion of the intonation unit that is naturally the most salient prosodically. In constructions

with sentence-final nominals or dependent clauses, constituents conveying less important information are relegated to the prosodically least salient portion of the intonation unit, at the point of least pitch, volume, and pitch change.

Central Pomo thus shows the effects of at least two different kinds of motivations in the shape of its syntactic constructions. Its basic, unmarked SOV word order reflects a cognitive tendency for speakers to begin with the familiar as a point of departure. Its marked ordering, focus, question, and topicalization constructions, as well as sentence-final nominals and dependent clauses mirrors natural prosodic salience, the result of physiological factors, for expressing relative pragmatic importance.

Abbreviations

AGT	agent case	NEG	negative
CAUS	causative	PAT	patient case
COOP-	cooperative agency	PL	plural
COP	copula	POSS	possessive
DEF	definite article	PRF	perfective aspect
DISTR	distributive	Q	interrogative marker
FUT	future	QUOT	quotative evidential
HAB	past habitual	RFL	reflexive
IMM	immediate	SG	singular
IMPRF	imperfective aspect	SML	semelfactive
INCH	inchoative	1	first person
INDEF	indefinite patient	2	second person
M.E	multiple event	3	third person

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