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CHAPTER 5

Factors behind variation in marking information structure

Contributions from Central Pomo

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Prosody and morphosyntax are exploited in most languages for expressing information structure, but the contributions of each vary. Some of the factors underlying the both cross-linguistic similarities and the variation are differences between the two, in particular (i) their patterns of development through time and (ii) their categoriality. While prosody does not normally lose its pragmatic force with frequency of use, syntactic and morphological constructions do. While pitch, intensity, and rhythm, are matters of degree, syntactic and morphological constructions, such as particular orders or the presence of markers, are categorical. Prosodic patterns appear to be tied to cognition more directly, such as the packaging of information into intonation units and correlations between prosodic prominence and pragmatic strength. These are generally more widespread. Syntactic and morphological patterns, the result of development over time, show more cross-linguistic variation. Interactions between the two are illustrated with examples from spontaneous speech in Central Pomo, a language indigenous to California. The patterns include the packaging of information into intonation units, the expression of different kinds of topics (given and continuing, continuing but reconfirmed, shifted, contrastive), and different kinds of focus (broad, narrow of various types, contrastive, corrective, exhaustive, and additive).

1. Introduction

Speakers of all languages have choices for packaging information according to the current attention and knowledge state shared with their listeners. In the now extensive literature on information structure, alternative constructions are most often discussed with respect to three dimensions: givenness, topic, and focus. As descriptions of more languages appear, we are learning more not only about cross-linguistic similarities and differences in this domain, but also some of the reasons behind them.

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Languages differ in their inventories of alternative constructions for conveying aspects of information structure, in the obligatoriness of the distinctions they express, in their pervasiveness in speech, and in their pragmatic force. They also differ in their relative exploitation of prosody, syntax, and morphology for their formal marking. Fiedler and Schwarz report, for example, that in the majority African languages with distinctive tone, morphological and/or syntactic devices are exploited to a much higher degree than intonation (2010: viii). Even among languages in which prosody plays a central role, the mechanisms underlying occurring patterns vary. As is now well known, where focus is expressed by prosodic prominence, it may be the prosodic structure that is altered to ensure alignment of focused constituents and pitch accent as in English, it may be constituent order that is altered as in Italian, or it may be larger syntactic structures as in French. (Lambrecht 1994; Féry 2013, etc.)

Here another factor is explored that may contribute to cross-linguistic diversity: fundamental differences between prosody on the one hand, and syntax and morphology on the other. One difference is their usual pattern of development through time. Prosody does not normally lose its pragmatic force with frequency of use. By contrast, syntactic and morphological constructions often do. In the words of Meillet (1912: 135), "À chaque fois qu'un élément linguistique est employé, sa valeur expressive diminue". [Each time a linguistic element is used, its expressive value diminishes.] Frequently-cited examples are English intensifying adverbs like *very, awfully,* and *terribly*. The English statement *He's terribly nice* is no longer alarming. Lehmann (2008) and van der Wal (2015) observe that constructions conveying information structure are especially sensitive to grammaticalization effects, among them the erosion of pragmatic force through use. As a result, particular syntactic and morphological constructions may differ in their functions across languages according to their stages of development.

A second difference between prosody and morphosyntax is categoriality. The main elements of prosodic constructions, pitch, intensity, and rhythm, are scalar. A pitch peak may be extra prominent, somewhat prominent, barely perceptible, or anywhere in between. Intensity and rhythm show similar ranges. Speakers can control each by degree, to match the prosodic prominence to their intended pragmatic force. By contrast, syntax and morphology are categorical. A constituent is either *in-situ* or not. A sentence is either a cleft construction or not. A particle is either present or not.

Each new description of information structure in a particular language offers further opportunities for investigating factors underlying cross-linguistic similarities and differences. Here the roles of prosody, syntax, and morphology in conveying information structure are examined in a language indigenous to Northern California, Central Pomo. First some pertinent grammatical features of the language

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are sketched. Next, basic prosodic structures are described, with special attention to the central role of activation state (given, accessible, new) in prosodic phrasing. The sets of formally distinct topic and focus constructions are then described. Finally, the contributions of prosodic, syntactic, and morphological marking in expressing information structure in the language are compared.

2. Central Pomo

Central Pomo is a language of the Pomoan family, indigenous to an area approximately 100 miles north of San Francisco, from the coast inland about forty miles. Clauses show basic verb-final clause structure and primarily dependent marking.

(1) Central Pomo basic clause
Mu:l ṭo: meṭ' pʰ-wí-:ka-w 'e.
3SG.AGT 1SG.PAT such visually-perceive-CAUS-PFV COP
'He let me see it.'

(2) Central Pomo basic clause
Mú:l q'ó'ti híṇṭil lá:la wá-:'w-an ṭʰí-n.
3SG.AGT at.all Indian among go.SG-around-IPFV not-IPFV
'He doesn't mix with Indians.'

Independent pronouns and some nouns show agent/patient patterning of core arguments. Pronominal shape and case suffixes are semantically based, reflecting the degree of control of the participant, but paradigm choice is lexicalized with each verb stem. There is no gender distinction.

Various methodologies have been employed in the empirical investigation of information structure, each offering certain advantages. Skopeteas (2012) provides a sophisticated survey and analysis of their respective strengths. As he notes, approaches range from experimental studies of language production and speaker intuitions, to qualitative and quantitative observational studies of naturalistic data. Experimental studies, such as those in which participants are asked to respond in full sentences to content questions ('Who ate the cookies?' 'JOHN ate the cookies') can target particular issues such as narrow focus and yield clear results that can be compared across languages. Corpus studies, particularly those involving spontaneous, interactive speech, are more challenging, producing results that can be more difficult to interpret and less immediately comparable across languages. At the same time, they can reveal factors and even constructions not targeted by experiments. The context need not be limited to the sentence: in natural interactions, the common ground is often built up over larger stretches of speech. Rich corpora can offer a wider range of situations, potentially evoking more information structure

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alternatives and revealing differing degrees of pragmatic markedness across constructions. Speakers' prosody is often more natural than in experimental situations. And there may be less interference from a contact language.

It is this second approach that is taken here. The data are drawn from approximately 80 hours of recorded monologue and conversation involving in total a dozen speakers from three communities. I am grateful to the speakers who graciously participated in the recording sessions and especially to Frances Jack and Florence Paoli for their insights as we later worked through the recordings.

3. Givenness and basic prosodic packaging

Lexical stress in Central Pomo falls on the root, generally the first or second syllable of the lexical word, and is realized by higher pitch. In compound nouns and tightly-bound object-verb constructions, the second constituent can show reduced stress. The basic prosody of a simple sentence consists of an initial pitch reset followed by a declination to a terminal fall. A full intonation unit, pronounced with a single, coherent overall prosodic contour, may be made up of sub-units, each beginning with a partial pitch reset and ending in a non-terminal fall. In Figure 1, the bottom trace shows pitch and the top one intensity.

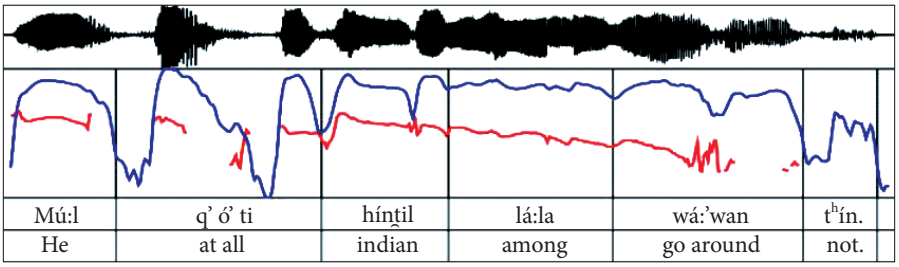


Figure 1. Unmarked prosodic structure of a simple sentence

Prosodic phrasing, the division of utterances into prosodic phrases or intonation units, is not a direct reflection of syntactic constituent structure. A key determinant is activation state, as described in detail by Chafe (1976, 1979, 1980, 1987, 1994). Activation state is a function of givenness. *Given* information is that which is currently active in the consciousness of the listener. *Accessible* information is semi-active or peripheral in consciousness; it might have been introduced earlier, it might be related to information mentioned earlier, or it might be part of the current scene or related to it. *New* information is inactive. Similar distinctions

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can be seen in other work, such as Prince's evoked, inferable, and new categories (1981: 243). Importantly, prosodic phrasing reflects information value: essentially speakers convey no more than one new idea at a time.

Comparison of the passages in (3) and (4) offers a glimpse of how Central Pomo speakers manage the flow of information. Each line represents a separate prosodic phrase or intonation unit, characterized by an initial pitch reset (large or small) on the first stressed syllable, some terminal contour, and possibly but not necessarily separation by a pause. (Indented lines continue the intonation unit of the preceding line.) Here and throughout, punctuation represents the prosody of the terminal contour, generally commas for absence of fall or a partial fall, and periods for a final terminal fall. Example (3) consists of three clauses but five prosodic phrases. (All material was originally in Central Pomo. English free translations are added to provide context.)

(3) Information flow
'X's,
sons and daughters,
are still living there.'
T̂íːkʰeṯ',
her

k'účiː 'ma,
children FACTUAL

aː,
ah

múːtuya ṭʰíːč' 'ul múːṯuya 'e,
they grown already they COP

š'ún ča qawíːmhi,
self house build and

š'ún'kʰe máː napʰóṯač'i'le.
own land should live

'They said her children are already grown, they should build their own houses and live on their own land.'

The first prosodic phrase points back to the possessor, the second singles out her children, the third is a hesitation before the new information in the fourth (they are grown), the fifth introduces house building (a single idea), and the last adds residing on their own land. The separation into prosodic phrases, as well as the pitch and intensity traces, can be seen in Figure 2.

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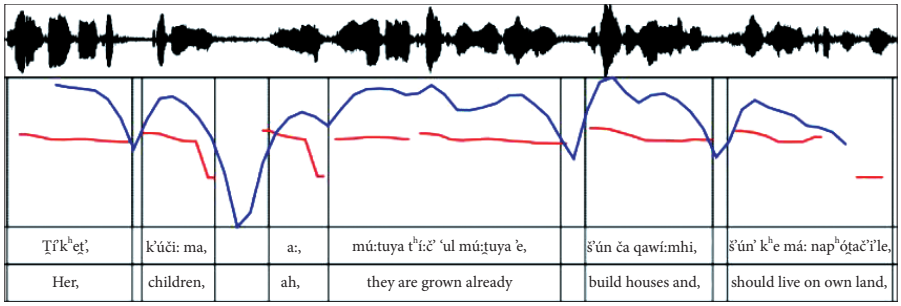


Figure 2. One new idea at a time

A few minutes later the same speaker returned to the issue, this time expressing nearly the same information but in a single intonation unit.

(4) Information flow
'X has a lot of children.
For them,
to the house,
they'll add rooms …
I just –
felt good about that,
what they told X.'

Mú:kʰeṯ' našóya mu:l 'e mída napʰów 'el
her girls that COP there live the

maṯʰél ča napʰów 'el
mother's house live the

mú:l ṯo: q'dí pʰṯ'á:wa:dan.
that me good looked

'All her daughters living there in their mother's house looked good to me.'

The daughters, living in their mother's house, and the speaker's positive evaluation were already semi-active in the consciousness of the participants. The prosody, a single intonation unit visible in Figure 3, reflects the fact that essentially all of the information was given or accessible.

The partition of streams of speech into intonation units on the basis of activation state is widely shared across languages. There is of course variation across languages and individual speakers in speech rate and pause lengths, as well as patterns of lexicalization, but the cognitive basis of the segmentation is direct. Not surprisingly, these patterns are less consistent in formulaic speech and reading aloud.

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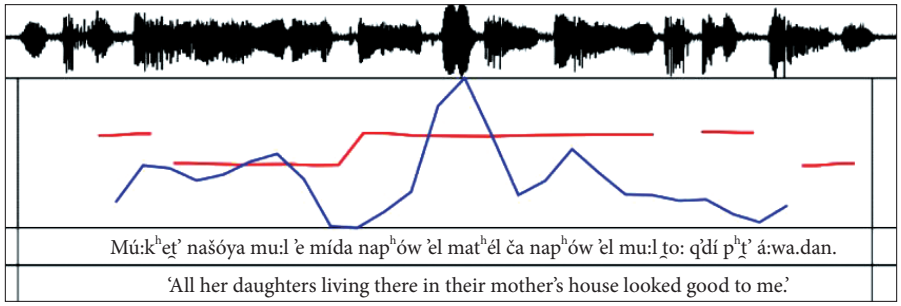


Figure 3. Single prosodic phrase

4. Topic constructions

In the literature on information structure, topics are most often defined in terms of aboutness. Speakers typically select a point of departure for their message, identifying the referent that the sentence is 'about'. Topics are referred to in a number of different ways in Central Pomo, according to their information value as given, accessible, or new. Alternative topic constructions differ prosodically, syntactically, and/or morphologically.

4.1 No mention: Continuing given topics

Perhaps the most common topics in speech are continuing given referents. There is a tendency to establish a topic and retain it over a certain stretch. In Central Pomo, once a third person referent is well established as a topic, it need not be re-identified in every clause or even every sentence. This pattern can be seen in the references to Y in the passage in (5).

(3) Continuing given referent
A. 'Her mother got married to Y.'
B. 'A man from up north.'
A. 'Hupa.'
B. 'a: 'ma mú:t̲u pʰwí-w 'e
1SG.AGT FACTUAL 3SG.PAT see-PFV COP
'I saw him
be: Cóvelo '=mul qó-yo-w t'á:yṭ'o,
there COP=that hither-go-PFV one
he came to Covelo once,
chu – chúrch ma: yhé̱ṭ-ač' yó-w=da.
stuff do-IPFV.PL do-PFV=when.DIFF
when (**he**) came to some church doings.'

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A. Mhm.
B. Mil t^{h}áim=da ’a: p^{h}wí-w č^{h}ó-w=ya
at. that time=at 1SG.AGT see-PFV not-PFV=DIR.EXP
’óč’ bá’du-w.
yet married-PFV
‘At the time I saw (**him**) (**he**) wasn’t married yet.
Bá’duw t̲^{h}í-n ’óč’;
married not-IPFV yet
(**He**) was not yet married;
wá-:’w-an.
go-around-IPFV
(**he**) was walking around.
Má:t̲a –
woman
t̲í:k^{h}e má:t̲a q’ála:-č-’ bal hláw.
own woman die-SML-PFV this after
After (**he**) had lost his wife.’

Technically the absence of a marker could be classified as prosodic (the ultimate deaccentuation), syntactic (omission, though not dependent on grammatical role), or even morphological (absence of a morpheme).

4.2 Unstressed pronouns: Given referents

Given third person referents that are not yet fully established as topics, or that are part of a scene involving multiple given referents, are identified by unstressed pronouns. The singular third person pronoun *mul* does not distinguish gender. As in many languages, it is descended from a distal demonstrative, here *mú:l* ‘that’, still pervasive in the language. There are now additional pronouns distinguishing number and grammatical role: *mú:t̲u* 3SG.PATIENT, *mú:k^{h}e̲t̲’* 3SG.OBLIQUE, *mú:t̲uya* 3PL.AGENT, *mú:t̲uyal* 3PL.PATIENT, and *mú:t̲uya:k^{h}e̲t̲’* 3PL.OBLIQUE. Examples can be seen in (5) above, repeated below.

(5) Unstressed pronoun: Given referent
B. ’a: ’ma **mú:t̲u** p^{h}wí-w ’e
1SG.AGT FACTUAL 3SG.PAT see-PFV COP
‘I saw **him**
be: Cóvelo ’=**mul** qó-yo-w
he came to Covelo once,
chu – church ma: yhé̲t̲-ač’ yó-w=da.
stuff do-IPFV.PL do-PFV=when.DIFF
when (he) came to some church doings.’

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These given referents are identified by morphology (the pronouns), and the monosyllabic pronouns are typically unstressed, though their prosody can vary with their status in specific topic and focus constructions.

4.3 Antitopics: Continuing topics

Antitopics appear after the nuclear clause, often after a pause, and often though not always with reduced pitch, intensity, and/or creakiness. Krifka and Musan (2012: 23) have termed such prosody *deaccentuation* and Féry (2013: 711) refers to *postfocal compression*. Antitopics provide clarification of reference for continuing topics, particularly when there are multiple participants on the scene.

Through the passage in (6), the young man was a continuing discourse topic, but after several other people had been mentioned, his identify was reiterated with an antitopic in the last line.

(6) Antitopic

A. 'Their oldest son died.
Since then, his boy has been staying in Willits with Z..'

Mu:l qawí:ts' '=mu:l,
that young.man COP=that
'That young man

ma-mú:ts'=eṯ' qawí:ts',
3POSS-father's.sister=POSS young.man his aunt's son,

mu:l mu:l ṯíya č'a:l čhá:-h-du-w.
that that 3PL.EMP with stay-PFV.IPFV-PFV
has been staying with them.

Mú:ṯu hk'úm hlaw mu:l q'ó'ṯi béda,
3PAT kill.PFV after 3SG.AGT at.all here
After he [the father] got killed,

qó-yo-w ṯʰí-n,
here-go-PFV not-IPFV.
he never came back here,

B. Oh.

A. **mu:l qawí:ts' 'el.**
that young.man he
'that young man.'

This construction involves both prosody (pausing, visible in Figure 4, and often postfocal compression though not in this example) and syntax (position following the nuclear clause).

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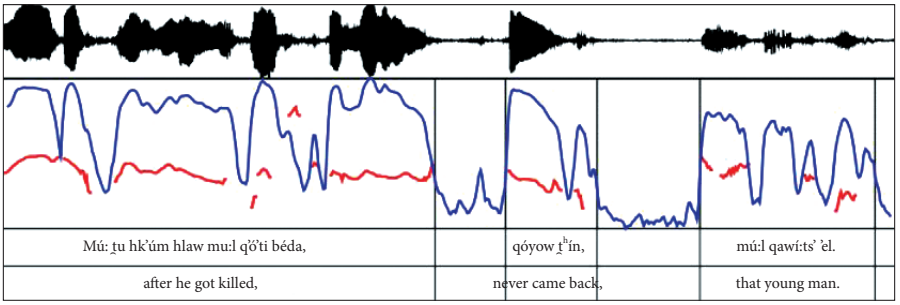


Figure 4. Antitopic

It should be noted that these antitopics are not afterthoughts, additions that speakers decide to add after they have completed the sentence and thought things through anew. Afterthoughts also occur in Central Pomo, typically adding supplementary information, but they have a different prosodic profile.

4.4 Topicalization: Shift to accessible topic

A third kind of topic can be seen in topicalization constructions. These signal a shift in topic, but usually to one that is accessible to consciousness, that is, identifiable through previous mention or through a relationship to another given or accessible referent or scene. This topic is identified at the beginning of the sentence in its own intonation unit, with a full pitch reset and following pause, after which the nuclear clause begins with another full pitch reset. An example is in (7), where there was a shift to the Coast dialect of Central Pomo, accessible from the earlier mention of the trip to the Coast to record a conversation with speakers there.

(7) Topic shift
A. 'We went over to the Coast to make recordings.'
B. 'Oh, who else was over there?'
'M, and N, and her daughter.
The one named M was just informing us all about herself in English.
When we wanted to talk she just blotted it all out with her voice.'

Mu:l ʾ=ma **ṯíya:kʰe** **ha** **ʾel** …
that COP=FAC 3PL.POSS language the
'And their language,

dú: ló-w-ačʼ-in,
other talk.PL-PFV-IPFV.PL-SAME.SIM
they talk different.

yáqʼ-čʼi-čʼ cʰó-w.
know-SML-IPFV.PL not-PFV
and we don't understand it very well.'

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Topicalization constructions involve both prosody and syntax. Their distinctive prosodic pattern can be seen in Figure 5, with the initial full pitch reset, the pause, then another full pitch and intensity reset for the nuclear clause. They are characterized syntactically by the position of the shifted topic before the nuclear clause.

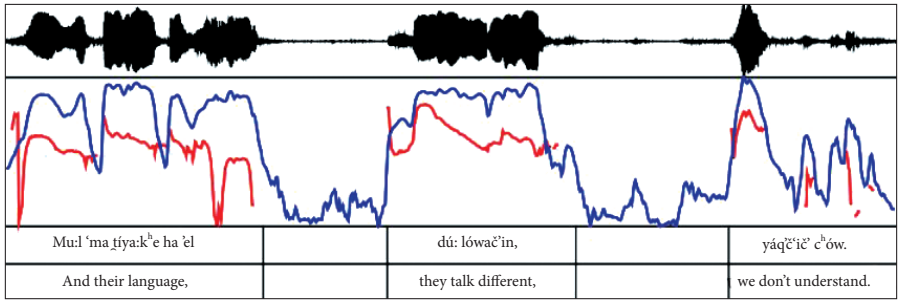


Figure 5. Topic shift

Following the above sentence was another topic shift construction, in (8).

(8) Shift to accessible topic
A. 'But you understand.'
B. 'But I understand what they say,
what they want to say.
Our talk must have been awful.'
A. **N** t̲'a:,
NAME guess
'**N**, I guess,
ṭʰédu: hínṭil čanó-:n ṭʰí-n.
lots Indian talk.SG-IPFV not-IPFV
doesn't talk much Indian.'

A hasty glance at the written transcript alone might suggest that the subject N here was *in-situ*, initial in the SOV clause. The distinctive prosodic pattern visible in Figure 6 however, along with the evidential *t̲'a:*, shows that it has both the distinctive prosody and distinctive syntactic structure typical of this construction.

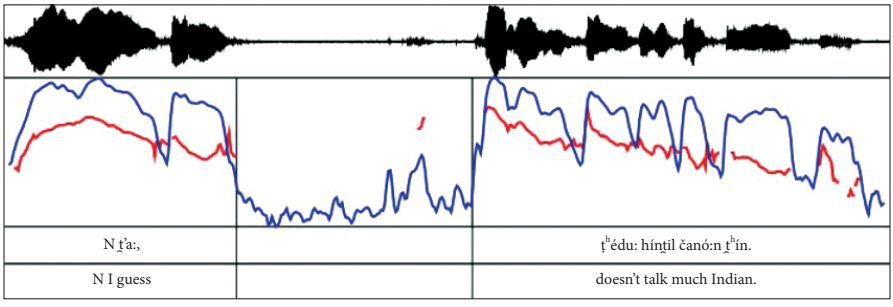


Figure 6. Topic shift

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4.5 Separate clause or sentence: Brand new topic

Brand new topics are normally introduced in a separate intonation unit, often a separate clause or sentence, typically with a given, accessible, or light predicate, following Chafe's 'one new idea at a time' principle. A woman was first introduced into the conversation in (9) over a number of separate intonation units.

(9) Brand new topic
A. 'Who are the people here who want new homes?'
B. 'Children.
Children who know they are from here.
You know,
long ago,
bó:=qʰa:='kʰe má:t̲a, . .
west=water=from woman
a woman from the Coast,
P ba-ṭʰé.
her-mother
P's her mother.'
A. Mmm.
B. Mul t̲'a:, . . .
she guess
P=t̲o –
=PAT
P's –
mú:kʰe̲ṭ' má:t̲a k'u:=ya,
3SG.POSS woman child=TOPIC
her daughter
dá:-'du-w,
want-IPFV-PFV
wanted
bé-da cá-w=yo-w.
here-at house-in=go-PFV
to become a member here.'

The prosody can be seen in Figure 7. The first sentence 'P is her mother' ended with a terminal fall. The intonation units were separated by pauses and pitch and intensity resets. The brand new topic, 'her daughter', began with a high pitch reset, then was followed by another pause and pitch reset. The introduction of this brand new topic extended over two syntactic sentences.

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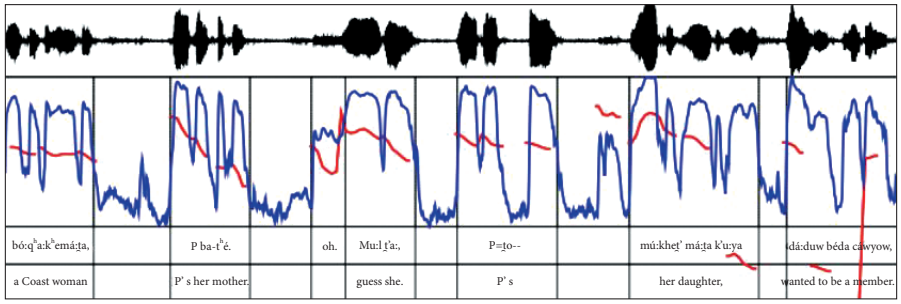


Figure 7. Brand new topic

4.6 Topic spotlight clitic =ya

Information structure is also signaled by morphological markers in Central Pomo. An enclitic *=ya* can appear in topic shift constructions to spotlight a shifted topic, either brand new, as above, or accessible, semi-active in the minds of speakers due to earlier mention or association with a referent or situation mentioned earlier. This marker can be seen in (9) above attached to 'her daughter' *mú:kʰet' má:ta k'u:=**ya***. The spotlighted topic 'her daughter' showed slight prosodic prominence (pitch and intensity), though the topic marker itself, an unstressed enclitic, did not.

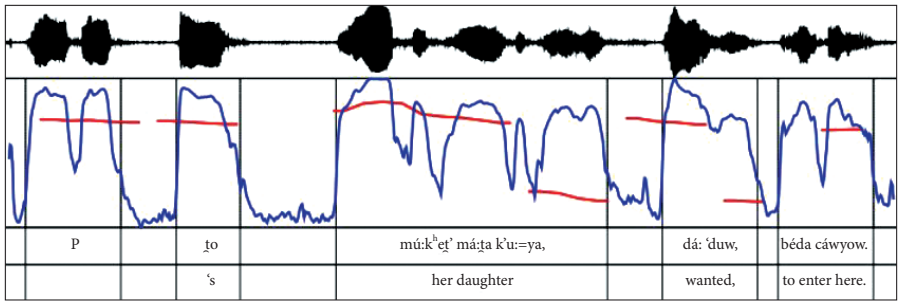


Figure 8. Topic clitic *=ya*

Topic constituents marked with the enclitic do not necessarily co-occur with strong prosodic prominence, however, as can be seen with 'her son' in (10).

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(10) Topic spotlight with shift enclitic *=ya*

A. 'M and them came by this morning.
The kids wanted to sell me pizza.'

Dú: má:ṭa k'u:,
other woman child
'Her other daughter,

X našóy '=mú:k^{h}eṭ',
young.lady COP=3SG.POSS
her grown daughter,

báya: k'ú:=ya mi: qó-yo-w 'e,
man child=**TOP** there to-go-PFV COP
her son had come

mi-l wá:'da.
that-at before
earlier.'

'He wanted to see me tickets. '

Though there was clear prosodic phrasing corresponding to no more than one new idea at a time, the highlighted topic 'her son' was not set off with particularly high pitch or intensity. Syntactically it is *in-situ* at the beginning of its clause, not followed by a pause or pitch reset. The only mark of topicality is the enclitic *=ya*.

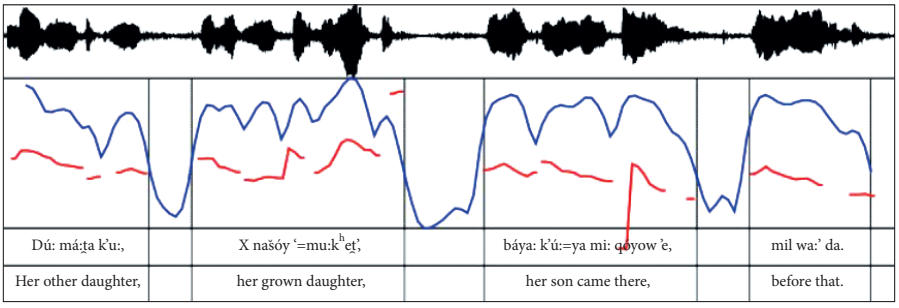


Figure 9. Topic shift with enclitic

The spotlight enclitic *=ya* serves to distinguish a shifted topic from other referents on the scene, but the pragmatic force of the topic shift is conveyed by prosody, generally with higher pitch and intensity on topics that will figure prominently in subsequent discourse. The shifted topic 'her daughter' in (9), with enclitic *=ya* and high pitch and intensity, remained under discussion in the ensuing conversation, along with others. The shifted topic 'her son' in (10), with enclitic *=ya* but no prosodic prominence, did not persist for long.

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4.7 Prosodically prominent, initial constituents: Contrastive topics

Contrastive topics, like other shifted topics, appear in initial position, but they are pronounced with higher pitch and intensity, and are not normally followed by a pause or pitch reset. They contrast a topic with some other possible referent explicitly or implicitly evoked in the discourse. In (11), 'we' is contrasted with 'a lot of other people', then 'the others' are contrasted with 'we'.

(11) Contrastive topic

A. 'A long time ago,
if they wanted they could turn their land into government land.'
Mé:n='ti ṭ'a: ča:č' –
so=but guess people
'But I guess
ṭʰédu:=ya dá:-ˀčí-w čʰó-w.
lots=TOP want-REFL-PFV not-PFV
a lot didn't want to.'

B. Mm.
Yá 'el=ya mu:l dá:-ˀč'í-w,
1PL.AGT the=TOP that want-REFL-PFV
'**We** wanted that,
'ṭi **dú:** '=mú:ṭuya mul dá:-ˀč'i-w čʰó-w.
but other COP=3PL.AGT that want-REFL-PFV not-PFV
but **the others** didn't.'

The heightened pitch and intensity on each contrasted topic can be seen in Figure 10.

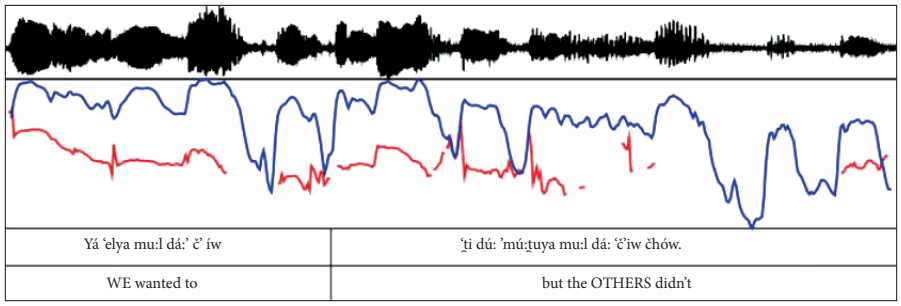


Figure 10. Contrastive topic

This construction is the same as that signaling contrastive focus, described in Section 5.5. Krifka and Musan point to the special relation between contrastive topic and focus constructions across languages.

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> Contrastive topics … represent a combination of topic and focus in the following sense … they consist of an aboutness topic that contains a focus, which is doing what focus always does, namely indicating alternatives. In this case, a contrastive topic indicates alternative aboutness topics. (2012: 30)

Each of the comments in (11), 'wanted to' and 'did not want to' has its own focal pitch accent.

4.8 Contrastive enclitic =na

Central Pomo also contains a morphological marker of contrastive topics, the enclitic *=na.* An example is in (12). The speakers had been discussing the love life of a woman and her previous boyfriend.

(12) Contrastive enclitic *=na*

A. 'Now she's got another man,
a friend,
invites him to come again.
"Tell him to come",
I said.'

B. Mú:l=**na** wa čá:č' q'dí?
that=CONTR Q person good
'Is **that one** a better man?'

The topic is clearly contrastive, though it was not new, and the contrast was not the main point of the utterance. It had distinctive prosody, with high pitch and intensity, as can be seen in Figure 11. It also had a syntactic component with its initial position in the clause, in addition to the morphological marking with the contrastive enclitic *=na*.

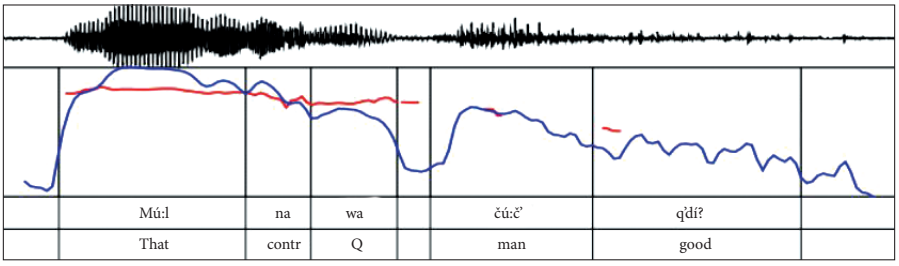


Figure 11. Contrasting topic

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But the pragmatic strength of constructions with the contrastive enclitic =*na* varies. Speaker B in (13) was contrasting her own reaction to that of her friend, Speaker A, but the contrast was not the point of her utterance.

(13) Contrastive enclitic =*na*

A. 'The only time I go there
is when they have picnics.'

B. Ṭó:=**na** mí: šyá:' hduw 'e wá-:q-'.
1SG.PAT=**CONTR** there afraid HAB go-level-PFV
'I myself am scared to go there.'

The topic 'I' marked with the contrastive enclitic carried the pitch characteristic of the pitch reset at the beginning of a sentence, but the pitch and intensity were not significantly higher here than on 'afraid', even though 'afraid' occurred later in the sentence and would be expected to be lower, part of general declination through the sentence.

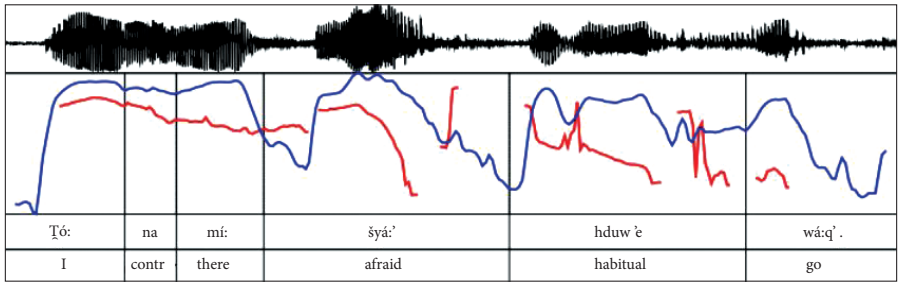


Figure 12. Mildly contrasting topic

The contrastive topic enclitic =*na*, like the topic spotlight clitic =*ya*, occurs on shifted topics with varying pragmatic importance. After the sentence in (12) 'Is **that one** a better' man?' in which the shifted topic *mú:l=na* was pronounced with high pitch and intensity, the conversation continued with discussion of that new boyfriend. After the sentence in (13) 'I myself am scared to go there', in which the shifted topic showed no more prosodic prominence than would be expected of the beginning of any sentence, the speaker did not continue to talk about herself. The enclitic signals contrast, but its pragmatic importance is expressed through prosody.

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4.9 Passive: Elimination of non-topical agents

Other constructions which play a role in distinguishing topicality are passives. As is well known, passives are completely absent from some languages, rarely used in some others, and pervasive in still others. Central Pomo contains a passive marked by a verbal suffix *-(y)a-*. It serves only a demotional function, eliminating non-topical agents entirely from the clause. The function is different from the absence of overt re-identification of continuing given topics described in Section 4.1, which do not contain the passive suffix. Case categories on nouns and pronouns in Central Pomo are unaffected by passivization, since case is semantically rather than discourse based: grammatical patients remain grammatical patients. (Case is not generally distinguished for non-humans.) The passage in (14) was part of a conversation about a time when cowboys would come into the community to take advantage of young girls. Passives were used to maintain topic continuity of the baskets and the girls.

(14) Passive

A. 'The baskets used for storing acorns, they say were this big (gesturing).
Méṭi ʾdóma ṯ̂íya mó-ṯ̂a:-la-m-ač'-in,
in.such HRSY 3PL.AGT crawl-PL-inside-PL.AGT-IPFV.PL-SAME
They'd crawl inside of them,'

B. Mm. ʾi'nán-'-ma-w.
hide-REFL-PL.AGT-PFV
'They'd hide.'

A. ʾi'nán-'-ma-w='kʰe.
hide-REFL-PL.AGT-PFV=to
'to hide.
P'dú ʾel ṭ'é:ya-la-m-a'-**ya**-w.
acorn the pour-inside-PL.AGT-IPFV.PL-**PASSIVE**-PFV
Acorns were poured in.
Mí: ʾe ʾul ba-má-ṯ̂-ṯ̂a-m-ač'.
there COP already PL-sit-INCH-PL.ACT-PL.AGT-IPFV.PL
That's where they'd stay.
Méṭi ʾmeṭ' maqó-h-č'-**a**-w čʰó-w.
in.such such find-SML-IPFV.PL-**PASSIVE**-PFV not-PFV
They wouldn't be found inside of such things.'

Passives do not have a strong prosodic component, but they do have syntactic and morphological components: the elimination of a core argument and the presence of the verbal suffix.

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5. Focus constructions

The term *focus* is understood in a number of ways. It is often taken to refer to that portion of a sentence or utterance which adds significant information. A widely-adopted view is that of Rooth (1985, 1992): 'Focus indicates the presence of alternatives that are relevant for the interpretation of linguistic expressions'. Languages often contain a number of constructions for indicating different kinds of focus. Most of these types have counterparts in Central Pomo.

5.1 Broad (all new) focus

Broad focus constructions, also referred to as *out-of-the-blue* sentences, are statements which convey all new information. Féry (2013: 689) observes that 'A sentence can be all-new, in which case it has no special information structural status. Syntax and prosody are then most likely unmarked.' In fact such sentences are rare in the Central Pomo corpus. When opening an entirely new discussion, speakers either ask a pointed question or introduce elements one at a time, as described earlier: time, place, participants, etc. One narrative was opened with the sentence in (15). There was no previous context.

(15) All new sentence
Šé:mi 'ma,
long ago FACTUAL
'Long ago,
čá:č-ay,
people-PL
people,
hínt̲il čá:c'-ay,
Indian people-PL
Indian people,
mú:t̲uya 'ma
they FACTUAL
they,
háp š-q^{h}á:-m-ac'ac' 'e.
hop pulling-gather-MULT.AGT-HAB COP
used to pick hops.

The speaker introduced each new significant piece of information in a separate intonation unit: the time, the new topic, an elaboration of the topic, a resumptive pronoun, and finally the verb phrase. Each intonation unit was followed by a pause

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and a pitch reset. The pauses are not insignificant: they occurred when the speaker was preparing to convey important information; the longest pause here preceded the main point of the utterance: picking hops. This sentence also contained a topicalization construction.

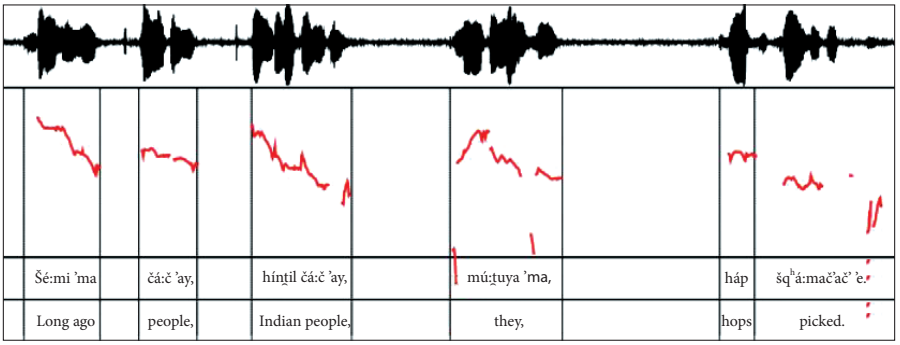


Figure 13. All new sentence

Examples in the literature of broad focus constructions often convey a single idea, one in which the subject and predicate comprise a frequent collocation: *My car broke down* (Lambrecht 1994). An elicited broad focus sentence of this type in Central Pomo is in (16).

(16) Broad focus (elicited)
Čʰe múl-aq='kʰe pʰ-ṯ'a=:.
rain fall-INC=FUT visually-sense=IMMEDIATE
'It looks like it's going to rain.'

As predicted by Féry, the prosody of this sentence is unmarked: it shows basic declination. The subject 'rain' and predicate 'fall' were pronounced together with a single primary stress on 'fall'. Since it was elicited, it is difficult to know for certain how closely the prosody corresponds to that of a spontaneous remark.

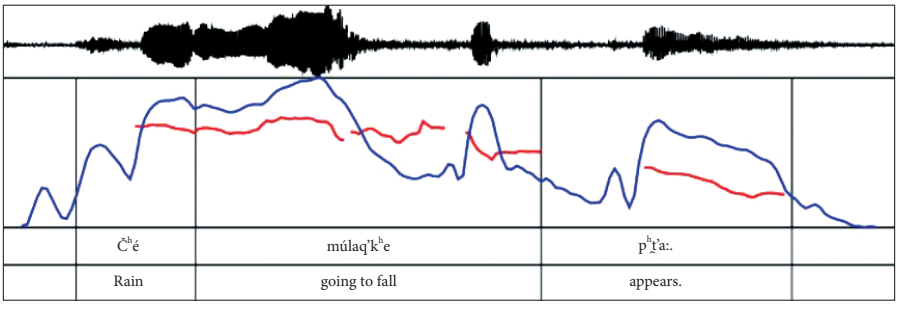


Figure 14. Broad focus

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5.2 In-situ narrow focus

A common technique for investigating focus constructions is the elicitation of full-sentence answers to content questions. In Central Pomo, as in many other languages, full-sentence answers are extremely rare in unscripted conversation: speakers normally provide only the focus in their answers. Since they are so infrequent, it is possible that full-sentence answers are themselves pragmatically marked. One instance of a content question with full-sentence answer in the corpus is that in (17), with narrow *in-situ* patient focus on *Mexican*. The numbers above the words show the pitch in Hz of the stressed syllables.

(17) *In-situ* narrow focus
A. Bá:-t̲o napʰó-w?
who-PAT marry-PFV
'Who is she married to?'
B. 154 161 150 135 130
Bal šṭ'o 'mu:l Mexican napʰó-w.
this now that Mexican marry-PFV
'She's now married to a MEXICAN.'

This answer did not show particularly strong prosodic prominence on the constituent in focus, *Mexican*, as can be seen in Figure 15.

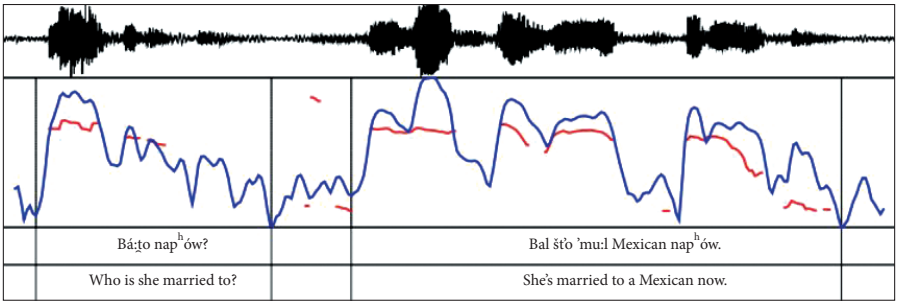


Figure 15. Narrow focus

The prosodic prominence on focused elements *in-situ* narrow-focus constructions is, however, quite variable. While the pitch on *Mexican* in (17) was not high, that on 'different' in (18) was. Speakers of the two Inland Central Pomo dialects were discussing their experiences talking with people on the Coast.

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(18) *In-situ* narrow focus

100	160		189	**215**	165	140
Mé:n=’t̲ika	me:n	’e	mú:t̲uya	**dú:**	há	ló-w-ač’.
so-but=INFER	so	COP	3PL.AGT	diff	lg	talk.PL-IPFV.PL

‘But their language is really DIFFERENT.’

Both the pitch and intensity of the focused element *dú:* ‘different’ were significantly higher than those of any other words in the sentence, as can be seen in Figure 16, much greater than would be expected with normal declination.

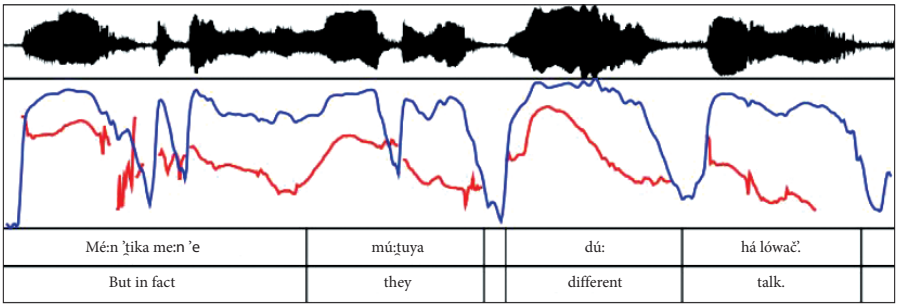


Figure 16. Narrow focus

In Example (19), it was the verb that was in focus. Here, too, the pitch and intensity were significantly higher than those of other elements of the sentence.

(19) *In-situ* narrow verb focus

‘We used to pick lots of acorns there.’

98	170	160	146	**187**
Míl	’ma	mu:l	ya-l ..	mu:l ’-**yé-m**-ka-ya-w’e.
that	FAC	that	1PL.PAT	that finger-stop-PL.AGT-CAUS-PASS-PFV
then		that	us	that they stopped from picking

‘Then they STOPPED us.’

The pitch and intensity peak on ‘stopped’ can be seen in Figure (17).

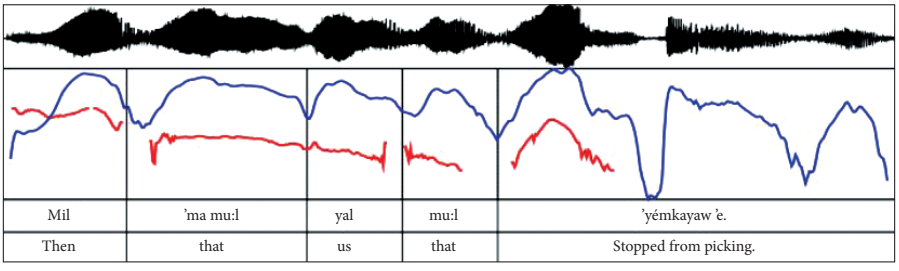


Figure 17. Narrow verb focus

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In-situ narrow focus also occurs in questions. In the question in (20) it was the particle 'self' that was in focus.

(20) *In-situ* narrow particle focus
'M and them came by this morning.
They brought pizza pies.
The kids are selling them at school.'

169	208	184	159	127
Máya	**š'ún**	dóč'-ma-w='k^{h}e	school	'mi:?
2PL.AGT	self	make-PL.AGT-PFV=FUT		there

'Are you going to make it YOURSELVES in school?'

Here too the pitch and intensity peaks on the focused element, *š'ún* 'self', were quite high, as can be seen in Figure 18.

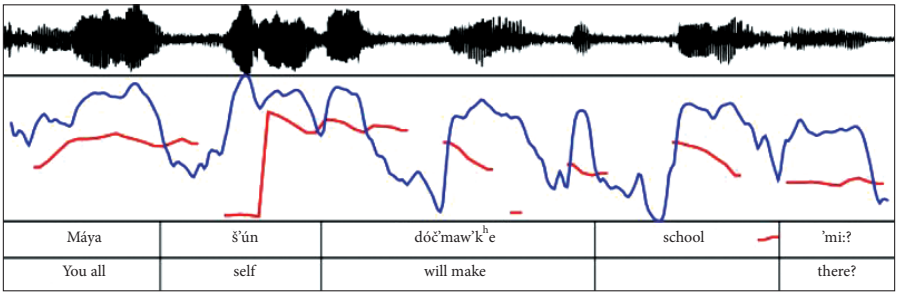


Figure 18. Narrow particle focus

In many languages the prosodic peak of focused verb phrases is the same as that of focused constituents of verb phrases. This is true of Central Pomo as well: the peak occurs on the first primary stress of the verb phrase. The prosody of the focused verb phrase in (21) 'They [were running the store]F' was similar to that of narrower focus in (18) 'They talk [differently]F and in (20) 'Are you going to make it [yourselves]F?'

(21) *In-situ* verb phrase focus
'They used to work down below here in town,
that young man, his wife, and daughter.'

185	178		154
Mu:l	mú:tuya	mída	mu:l,
that	they	there	that

'They

161	146
té:nṭa	**'el** čá-:n-ka-ma-w.

store the run-IPFV-CAUS-PL.AGT-PFV
were running **the store** there.'

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Again it is important to note that in each of these constructions, the degree of prosodic prominence can vary. The focused constituents 'different' in (18) and 'yourselves' in (20) showed high pitch and intensity, while the pitch on 'store' in 'running the store' was much weaker, as can be seen in Figure 19.

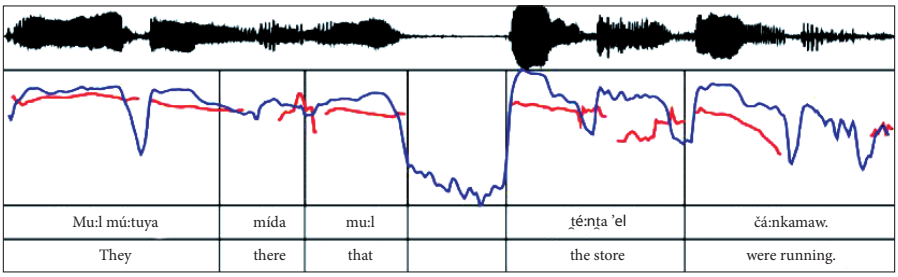


Figure 19. Verb phrase focus

Since basic clause structure is verb-final, the peak can fall on several kinds of constituents: objects, instruments, locations, other adverbials, etc.

5.3 Initial-position focus

Focus can also be marked in Central Pomo by initial position in the sentence, as in many languages. The speakers cited in (22) had been discussing what they should talk about once the recorder was turned on. The recording captured the next utterance.

(22) Initial-position focus

A. **Má: baséṭ'ay** yá lów-ač=hla mú:l yá –
stuff bad-PL 1PL.AGT talk.PL-IPFV.PL=IRR.DIFF that 1PL.AGT
'If we talk about SOMETHING BAD we –

B. péle:su m-čá-m-a:-w='k^{h}e.
jail PL-throw-level-PASSIVE-PFV=FUT
we'll be thrown in jail.'

The focused constituent 'bad stuff' was initial, before the subject 'we', but it showed little prosodic prominence, as can be seen in Figure 20. The prosody of this construction is different from that of topicalization constructions, in that there is no pause after the initial element nor pitch reset.

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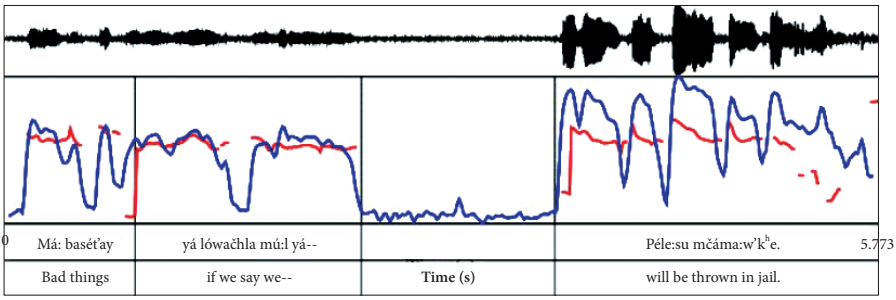


Figure 20. Initial focus

5.4 Initial position contrastive focus

Contrastive focus has both prosodic and syntactic components. The focused constituent carries extra high pitch and intensity, and it occurs initially as in (23).

(23) Contrastive locative focus
A. 'L doesn't go there to bathe.'
B. 'Oh.'
A. 'Because there's no water.'
B. 'Is that what it is?'
A. N=ṭo '=mi: wá-q='le ṭʰí-n?
=PAT COP=there go-level=COND not-IPFV
'She couldn't go to N's?'
B. Mi: wá-q-' ṭʰí-n mu:l. kʰe –
there go-level-PFV not-IPFV that my –
'She doesn't go there.
2406 1972 2016 1669
Kʰé má: 'mi: qó=hli-ṭa:-q-ač'.
1SG.POSS place there to=go.PL-MULT.EV-level-IPFV.PL
They all come to MY place.'

The extra high pitch and intensity can be seen in Figure 21.

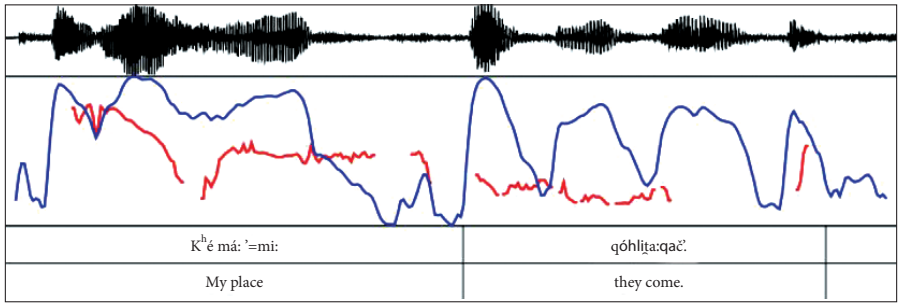


Figure 21. Contrastive focus

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This is the construction also used for contrastive topics described in Section 4.6.

As in many languages, the same construction, with high pitch and intensity on an initial constituent, is used for what is sometimes termed corrective focus. The focus of the sentence corrects some element of a previous statement.

(24) Corrective focus

A. T̲o: meṭ' q'ó-w ṯʰi-n mul ṯ'á-w-an mu:l.
1SG.PAT such drink-PFV not-IPFV that sense-PFV-IPFV that
'I didn't think he drank.'

B. Hm'm.

214 162 75
Saqʰá '=mu:l s-yé-w.
smoke COP=that sucking-stop-PFV
'He quit SMOKING.'

The extra high pitch and intensity can be seen in Figure 22.

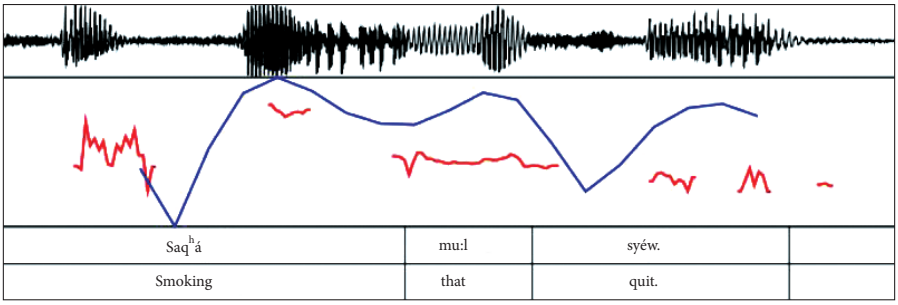


Figure 22. Corrective focus

Contrastive and corrective focus on other kinds of constituents show similar prosodic prominence.

(25) Corrective focus

A. 'Even if they don't dance,
they're going to have a Halloween party.
After they eat.
For children.'

B. 'Not old ladies.'

A. **190** 156 140
Yawál čá:č' 'el qʰadí-:č'-a-w.
all people the invite-IPFV.PL-PASSIVE-PFV
'EVERYONE is invited.'

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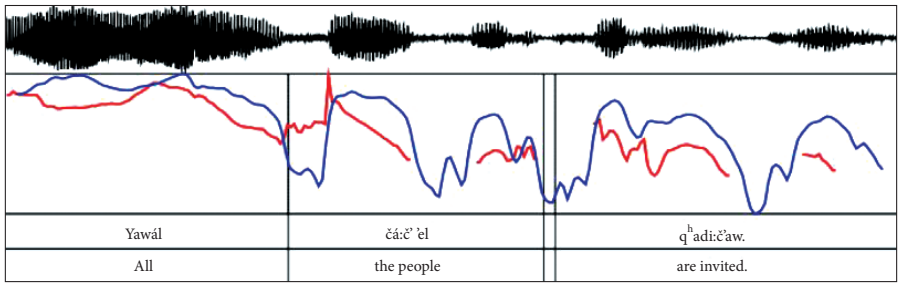


Figure 23. Corrective focus

Syntax, in this case initial position in the clause, can convey both narrow focus and contrastive/corrective focus, but the difference between the two, one of pragmatic strength, is conveyed by prosody.

5.5 Clefts

Many languages contain cleft constructions, like the oft-cited English *It was JOHN who stole the cookies*. The sentence is split ('cleft'), with a constituent in initial position, followed by a copula, then the nuclear clause. A Central Pomo cleft construction is in (26).

(26) Cleft
'Then, if they meet all the requirements,
they can get a house built for them.
In Covelo.
The regulations were agreed on.'
Mé:n'ṯi **béda** 'e čalé wá:yk'al . .
but here COP just immediately
'But **here**, they just
pápel 'el dó-h-č'i-w-ač',
paper the make-SML-IPFV.PL-PFV-IPFV
fix up the paper,
mu:l béda k'al čaw hlí-:ka-w-a'-ya-w.
that here immed in run.PL-CAUS-PFV-IPFV.PL-PASS-PFV
and tell them to move right in.'

This sentence has the structure of clefts in other languages: the marker *'e* still functions in the language as a regular copula.

(27) Copula
Mé **'e** béda-'k^he.
father COP here-from
'My father **is** from here'.

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In English clefts, a focused constituent appears in an initial copular clause (*It was JOHN*), which is followed by another clause, often a nominalized or relative clause. Cleft constructions are often said to indicate contrast, even exhaustive contrast (Hedberg 2000). The English *It was JOHN who stole the cookies* contrasts John with other suspects, indicates that John was the only thief (exhaustiveness), and presupposes that we already knew that the cookies were stolen.

The focused constituent in (26) is clearly contrastive: HERE (in this community) is contrasted with the previously mentioned community in Covelo. But the clause following the cleft, about fixing up the paper and moving in, was not presupposed. (Central Pomo also lacks relative clauses formed with relative pronouns.) Furthermore, the focused constituent 'here' did not carry the particularly high pitch or intensity expected of contrast, no higher than typical of an element at the beginning of any sentence.

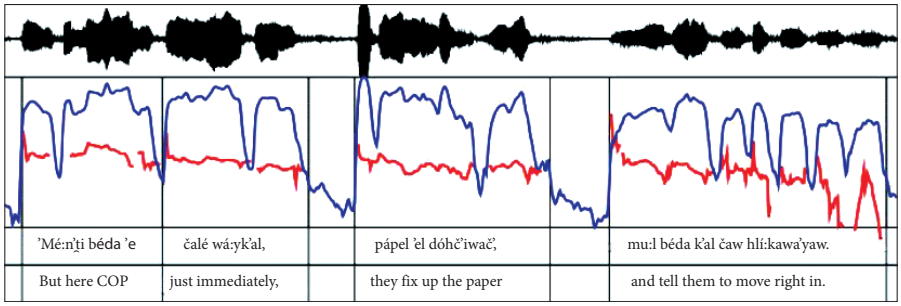


Figure 24. Cleft focus

In fact not all formally cleft constructions in Central Pomo are even so clearly contrastive. In (28), which followed (9) seen earlier, the focused element was initial, set off by the copula *'e*, and prosodically prominent (Figure 25).

(28) Cleft
'You know, a long time ago, a woman from the Coast,
P's her mother,
she I guess, her daughter, wanted, to become a member here.'
Ṭʰédu: 'e,
lots COP
'A lot of people
Santa Rosa 'mi:,
there
down there in Santa Rosa,
meṭ' hihlá:-w-ač'ič'.
such go.PL-PFV-HAB.PL
come here.'

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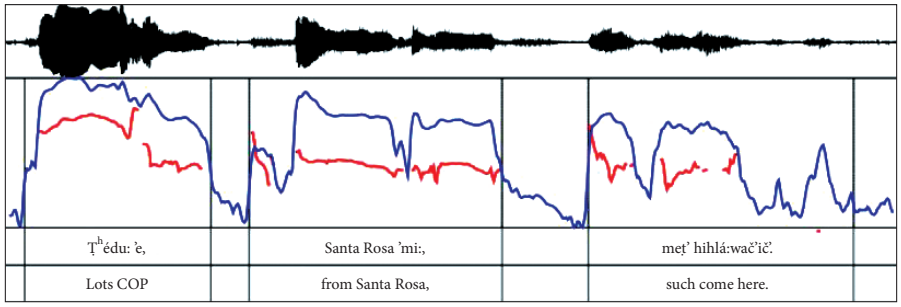


Figure 25. Cleft focus

The clefted constituent *ṭʰédu:* 'lots' provided the most significant information of the sentence, but was neither contrastive nor exhaustive, though it did introduce a new topic. There was no suggestion that no one else came.

Central Pomo clefts convey focus but not necessarily contrast or exhaustiveness. Their pragmatic strength varies with the prosodic prominence of the focused constituent. Central Pomo is far from alone in having cleft constructions whose functions do not perfectly parallel those attributed to English clefts. Lambrecht (2001) provides a general taxonomy of cleft constructions, demonstrating that the number of cleft types is far greater than had been assumed in the literature. The cross- linguistic variation in the frequency of clefts is also well known. Klein (2013) and many others have reported, for example, that cleft constructions are pervasive in spoken French, while Skopeteas and Fanselow (2010) and Asatiana and Skopeteas (2013) observe that they are available in Georgian but rarely used. There other strategies, such as word order, are used in their place.

5.6 Exhaustive focus

Central Pomo does contain a device for indicating exhaustiveness: the focus-sensitive particle *šk'é* 'only'.

(29) Exhaustive particle *šk'e* 'only'

Q'ó-m-an	šk'e	lów-a:čač'	meṭ'	čalél.
drink-PL.AGT-SIM.SAME	only	talk-HAB.PL	such	just

'Only when they DRINK do they think about talking [Indian].'

The focused constituent here carried prominent pitch and intensity, it was in initial position before the main clause, and it was set off by the particle *šk'e* 'only'. The construction thus has prosodic, syntactic, and morphological components.

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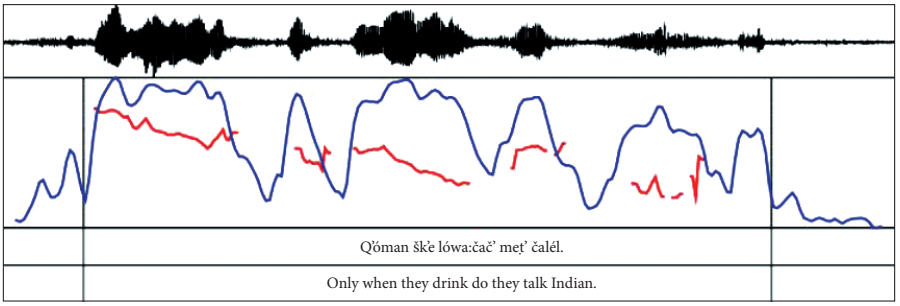


Figure 26. Exhaustive focus with particle 'only'

Krifka and Musan (2012: 12–13) point out that particles like 'only' serve a clear semantic focus function by evoking significant alternatives. The Central Pomo sentence 'Only when they drink do they think about speaking Indian' does indeed assert that they do not think about speaking the language at other times.

The Central Pomo particle *šk'é* 'only' can add an exhaustive meaning to cleft constructions, which is not necessarily present without it.

(30) Cleft with exhaustive particle
Masá:n čanú 'el šk'é 'e,
white word the only COP
'ENGLISH is all
canó-č' dá:-w-adan.
speak-SML.PFV want-PFV-HAB.SG
I want to speak.'

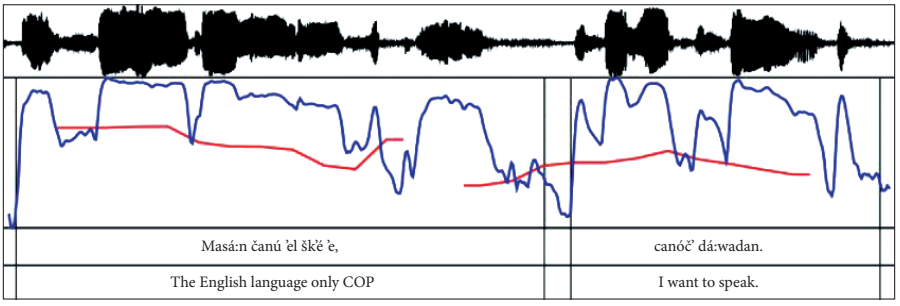


Figure 27. Exhaustive cleft

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5.7 Additive focus

Additive focus is marked with another focus-sensitive Central Pomo particle *kay* 'too', which also evokes alternatives. The focus of the last clause in (31), 'there is also no water', is the water, an added alternative to the previously mentioned land, with given predicate *čʰów* 'not exist'.

(31) Additive 'too'
Má: čʰó-w.
land not.exist-PFV
'There's no land.
Mé:n ' í-hi mu:l,
so be-IRR.SAME that
So if
qawí-ma=hla
build-PL.AGT=IRR.DIFF
if they build them (houses)
qʰá **kay** čʰó-w.
water also not.exist-PFV
there's also no WATER.' ('WATER too is lacking.')

The focused 'water' was prosodically prominent, with extra high pitch and intensity, as can be seen in Figure 28.

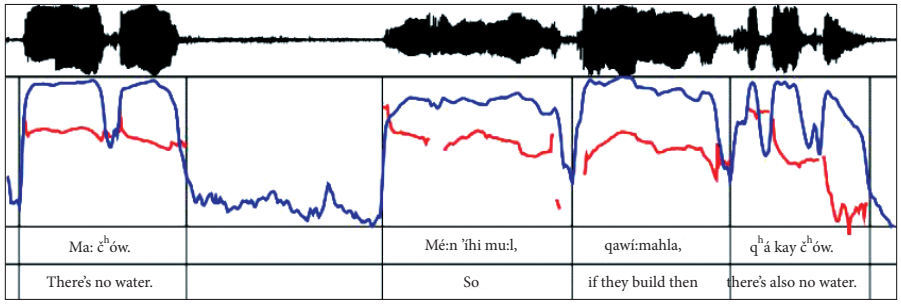


Figure 28. Additive focus

The additive particle *kay* 'too, also' can appear in cleft constructions, as in (32). The focused element 'we too' showed prosodic prominence with high pitch and intensity, syntactic prominence marked by the cleft construction (as well as the passivization which left it as the only argument of the clause), and morphological prominence with the particle *kay*.

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(32) Additive focus

A. 'Whitemen were picking grapes up at X's vineyard.'
Mída š-yé-m-:ka-ya-w,
there pulling-stop-PL.AGT-CAUS-PASSIVE-PFV
'There they were stopped.
Mu:l š-q^{h}á:-w='k^{h}e.
that pulling-pick=FUT
From picking.'

B. **Yál** **kay** mé:n 'e
1PL.PAT too so COP
'WE too
mé:n 'í:-ya-w.
so do-PASSIVE-PFV
were stopped.' ('Us too it is, so was done.'')

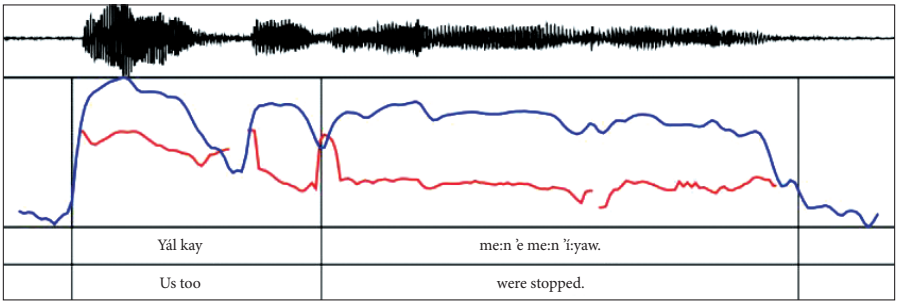


Figure 29. Additive focus with cleft

Whole clauses can also be within the scope of the additive particle, as in (33).

(33) Additive sentence focus
'I don't talk all Indian.
I only want to speak English.'
Bá:=ṭo lów-muč' 'a: kay č^{h}ó-w
who=PAT talk.PL-RECP 1SG.AGT **also** not-PFV
'I also don't TALK WITH ANYBODY,
q'ó'ṭi bá:=ṭo híntil lów-muč' ṭ^{h}í-n.
at.all who=PAT Indian talk.PL-RECP not-IPFV
don't talk Indian with anybody at all.'

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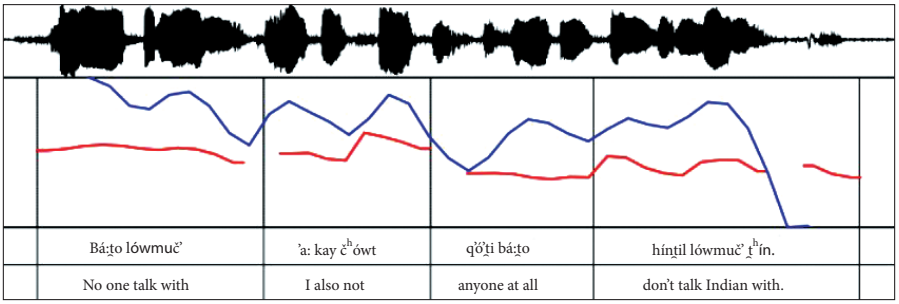


Figure 30. Full sentence additive focus

These three additive focus constructions, (31), (32), and (33), all marked by the particle *kay* 'also', vary in their prosody. In (31), 'water' showed strong prosodic prominence, in (32) 'us two' showed somewhat less prominence, and in (33) 'I have no one to talk to' showed no prominence at all.

The focus-sensitive exhaustive and additive morphemes thus add semantic features to the functions of focus constructions, but the pragmatic strength of the constructions is conveyed via prosody.

6. Strategies for marking information structure

Numerous factors underlie the cross-linguistic similarities and differences in the expression of information structure. This paper has explored the possibility that some are rooted in properties of the formal strategies employed to express it: prosody, syntax, and morphology.

A potentially significant difference between prosodic constructions on the one hand, and syntactic and morphological constructions on the other, is the ways they can develop over time. Pitch, intensity, and timing do not generally lose pragmatic force with use, while syntactic constructions and morphological markers often do. A second difference between prosody and morphosyntax is that the elements of prosody are scalar, while the elements of syntax and morphosyntax are categorical.

Féry and Krifka comment on the widespread importance of prosody in conveying information structure.

> While there is considerable variety in the strategies that we find in different languages, they always have a relationship to prosody: focus tends to be prosodically prominent, and givenness tends to be prosodically non-prominent, while topic tends to form a separate prosodic phrase, and is thus also prominent. (2013: 129)

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6.1 Activation state

In Central Pomo, as in other languages, prosody directly reflects the activation status (givenness) of information. As discussed by Chafe, speakers convey their messages in intonation units containing no more than one new idea at a time. Languages and speakers vary in the separation of intonation units (anywhere from long pauses to no pause at all), and in the shape of terminal prosodic contours, but the structuring and its cognitive basis are still apparent. In the speech of the Central Pomo speakers recorded for the corpus, this structuring is extremely clear, with robust terminal pitch contours and often substantial pauses. Chafe notes that this kind of structuring may be more speaker-based than hearer-based, more directly tied to cognition: speakers produce spurts of language corresponding to each focus of conscientiousness.

6.2 Topic

Prosody, syntax, and morphology all enter into the formal marking of topic constructions, but in accord with the proposal by Féry and Krifka, the strongest correlation is between prosody and givenness: the newer the referent, the more prominent the prosody. Established, continuing, given third-person topics are not mentioned at all, other given topics are identified by unstressed pronouns, continuing referents in contexts of potential confusion are re-identified in antitopic constructions with compressed prosody, accessible topics in topicalization constructions are identified with a full pitch and intensity reset and set off by pause, and brand new topics are usually introduced in separate clauses or sentences.

Syntax also distinguishes Central Pomo topic constructions. Continuing topics appear *in-situ*, antitopics appear after the nuclear clause, and shifted topics appear initially. It is not surprising that this pattern is widespread. It would make little sense to make a statement, then note afterward that it was not about the topic listeners had assumed it would be. Morphology can also enter into marking Central Pomo topic constructions, with the spotlight enclitic *=ya* and the contrastive enclitic *=na*. Both enclitics carry less pragmatic strength in themselves than other kinds of topic constructions. Both appear on shifted topics in initial position, but the pragmatic importance of the topic shift is conveyed by prosody, generally with higher pitch and intensity on topics that will figure prominently in subsequent discourse. Morphological markers like these can vary in their pragmatic force across languages, at least in part corresponding to their stage of development.

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6.3 Focus

The Central Pomo focus constructions are also distinguished by prosody, syntax, and morphology. Féry distinguishes degrees of focus strength: "If a sentence contains a focused part, the probability that this focus is expressed by a marked grammatical structure increases with the strength of the focus' (2013: 689). She lists focus types in ascending order of strength: all-new (broad) information focus, informational narrow focus, exhaustive/identificational interpretation of narrow focus, association with focus, contrastive focus, and contrastive/corrective focus. The functions of the different Central Pomo focus constructions are quite similar, distinguishing broad focus, *in-situ* narrow focus, initial position focus, contrastive/corrective focus, cleft focus, exhaustive focus, and additive focus. They show strong correlations between prosodic prominence and pragmatic strength. Broad focus constructions, ranked weakest by Féry, generally show unmarked prosody. Contrastive, exhaustive, and additive focus, ranked highest by Féry, show the strongest prosodic prominence.

Syntax distinguishes some focus constructions. Sentence-initial position can convey narrow or contrastive/corrective focus, but contrastive/corrective focus is distinguished by extra-high pitch and intensity. Neither the focus strength nor the prosody are categorical; degrees of strength are conveyed by corresponding degrees of prosodic prominence. A second syntactic construction also indicates focus: clefts. Unlike clefts in many languages, including English, Central Pomo clefts are not necessarily contrastive nor exhaustive, and they do not necessarily presuppose the second clause. Here too the degree of focus strength is indicated by the degree of prosodic prominence.

Morphology also distinguishes two focus constructions, with focus-sensitive morphemes, exhaustive focus with *šk'é* 'only' and additive focus with *kay* 'also'. The focused constituents in these constructions appear initially, but they, too, vary in their pragmatic strength according to their prosody.

6.4 Prosody, syntax, and morphology

The two fundamental differences between prosody and morphosyntax mentioned earlier, (i) their patterns of development through time and (ii) their categoriality, thus appear to be among the factors that can underlie recurring similarities and differences both across and within languages.

Some patterns appear to be tied to cognition more directly, such as the packaging of information into intonation units conveying no more than one new idea at a time. These patterns are widespread. The positioning of shifted topics before

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the nuclear clause in topicalization constructions rather than after is also widespread, presumably because announcing a topic shift after a statement would be dysfunctional.

Other patterns are pervasive, such as the correlation between prosodic prominence and pragmatic strength, perhaps because prosody is not susceptible to weakening with repetition over time in the same way as grammar and the lexicon. Frequent repetition of a phrase or word can indeed result in a reduction of stress and duration. But the function of prosody in conveying information structure does not fade: speakers may add prosodic prominence at any time for this purpose. (This is not to say that prosodic constructions are immutable. We know, for example, that they are easily transferred through language contact, as are their frequencies of use.)

Syntactic constructions used for expressing information structure show somewhat more variation across languages. Frequencies of antitopic constructions for continuing topics, clause-initial position for narrow focus, and cleft constructions vary considerably across languages, as do their pragmatic force.

Morphological devices show perhaps the greatest variation in function both across and within languages. These can be the most grammaticalized constructions of all, the products of longer histories of development. Comparable markers may be at different stages of development in different languages, and even within languages, resulting in variation in their functions. Central Pomo itself contains two major devices for indicating contrast, one primarily prosodic (extra high pitch and intensity on an initial topic or focused element) and the other morphological (the enclitic *=na*). The first is used to indicate strong contrast, and the second variable, often weak contrast.

In the end, the domain of information structure is most likely one of those characterized by Evans and Levinson as below.

> Although there are significant recurrent patterns in organization, these are better explained as stable engineering solutions satisfying multiple design constraints, reflecting both cultural-historical factors and the constraints of human cognition.
> (Evans and Levinson 2009: 429)

What may be universal is not the categories themselves, but the cognitive capacities and their handling of communicative experiences that shape grammar.

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