3 Field Methods in Syntactic Research

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Chapter Overview

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1 Introduction

Current work in syntactic theory continues to enrich our understanding of language. It also continues to demonstrate that progress can involve more than revising abstract formulae to describe configurations of words between periods. Many syntactic patterns seem arbitrary or chaotic without consideration of the lexical, prosodic, discourse, and interactional factors associated with them. They can also make little sense without a recognition of the dynamism of structure, the fact that constructions are born, extended, remodeled, and replaced over time. At the same time, the value of in-depth studies of a variety of types of languages is becoming ever clearer. All of these considerations have implications for the kinds of data that might spur further progress in the field, and that researchers might, accordingly, consider collecting.

1.1 Data

The data underlying current syntactic theory have come from a variety of sources: introspection, grammaticality judgments, questionnaires, sentence elicitation,

informal observation, historic and modern corpora, and more. Each has been useful for particular purposes. Here the focus will be on data that emerge from collaboration with speakers of lesser-documented languages. Such languages are often typologically quite different from better-known languages, a fact that only enhances their potential contributions. Their value can be further appreciated when we move beyond checking of established typological features to capturing what is special about each, and to exploring what each might show us that we were not already expecting. For this, elicited translations of isolated sentences from a contact language can take us only so far; much more can be discovered by examining extensive spontaneous speech. Elicitation is certainly useful for getting one's bearings at the outset, filling in gaps, and exploring basic constructions we predict should exist, such as question formation or negation. But particularly in the area of syntax, elicitation can tend to replicate categories and patterns from the model language. Constructions without counterparts in the model language might never surface. And links between structure and lexicon, prosody, and context can be obscured.

1.2 Methodology

Fieldwork methodologies vary widely, as they should, according to the personalities of the individuals involved, their cultures, attitudes toward the language, its vitality, its areas of complexity, and the goals of the project. Especially for syntax, spontaneous connected speech, both monologue and conversation, has much to offer. When a single speaker maintains the floor over a period of time, certain kinds of patterns can emerge robustly, such as those involved in referent tracking and textual organization. Conversation can reveal other kinds of structures, such as those that manage interaction and interpersonal relations. Of course monologue and conversation are not mutually exclusive. Conversation is typically studded with stretches of monologue of varying lengths, all the more valuable because they are directed to an understanding, reactive audience.

In my own work, after recordings have been made, I typically work through the material with one or more speakers phrase by phrase, to transcribe, analyze, gloss, and translate it. In the course of such work, speakers provide a check on the acceptability of the forms used and can point out inter-speaker variation. They have insight into the meaning of what is said beyond literal translations. They can untangle reference. They can provide the back story behind discussions that would make little sense otherwise. They may comment on the semantic and social implications of certain structural choices. For me, the most interesting discoveries about syntactic structure tend to emerge from this work. Our discussions are triggered by the constructions that actually occur,

constructions that are often much more intriguing than those a linguist could invent. Exploring syntactic structure in this way tends to be a more coherent task for the speakers as well. It tends to produce analyses that better fit the shape of the language. The structures are accurate and appropriate on every level: not only syntactic but also morphological, lexical, prosodic, and pragmatic. They also tend to be those that are central to the language, often those that are more elaborately developed.

Of course speakers vary in their interests and talents. Some are fascinated by grammar, while others would rather not hear about it. Some are highly articulate in the language; some are good storytellers; some have extensive vocabularies; some take pride in precise translation. But all have certain kinds of intuitions about their language. It is helpful to be aware of what speakers can be expected to know in their capacity as speakers, in contrast with what they might hypothesize as analysts. Speakers rarely make allophonic or allomorphic "mistakes" in their first language. But they can lack conscious access to the larger patterns they follow so expertly in speech: they cannot necessarily specify the contexts in which different constructions are used, or explain the discourse reasons behind the choice of one construction over another. For highly endangered languages, the issue of intuition is complicated by the fact that speakers are usually bilingual. Their bilingualism can certainly facilitate the process of analysis. But it is easy for bilinguals to tap into intuitions from their second language, unwittingly creating structures that are actually not part of the first and would never be used. Speakers need to know how valued their insights are, including their intuitions about the difference between actual and possible constructions.

The documentation of highly endangered languages can present special challenges. Such languages are usually no longer used on a daily basis in all contexts, and speakers may worry about their fluency, correctness, and vocabulary. But their contributions can still be important. If there is even one fluent speaker, conversations involving that speaker and other less fluent ones can yield a record of the language far beyond what might emerge from work with that speaker alone. A fluent speaker talking to people who understand and react typically uses language in richer, more varied, and dynamic ways. Sometimes playing older recordings of fluent speakers can bring modern speakers back into a time when they were thinking in the language. One man, perhaps the last fluent speaker of his language, seemed able only to produce isolated words and phrases. But after he heard recordings of fluent speakers from a half century earlier, he came to life, producing fascinating discussions on a rich variety of topics, day after day.

In the following sections, some advantages and disadvantages of different kinds of data for syntactic analysis are considered.

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2 Simple Sentences

We generally expect a basic clause to contain a predicate and one or more arguments, plus perhaps adverbials. The sentence in (1) is the opening of the Biblical story of Jonah, translated from English into Mohawk, an Iroquoian language of Quebec, Ontario, and New York State. The translators are excellent first-language Mohawk speakers. The top line is their Mohawk rendition and the bottom line the modern English version they worked from.

(1) Mohawk (Jon. 1.1)

Ne	*Roiá:ner*	*tahá:on'*	*ne*	*aterihwahnotáhtshera'*
the	king	he gave him	the	rumor spreading

"One day the Lord spoke to

ne	*Jonah*	*né:ne*	*Amittai*	*roièn:'a.*
the	Jonah	which	Amittai	his son

Jonah son of Amittai"

From this example it can be seen that Mohawk shows head-marking structure. Grammatical relations are marked on the predicate rather than the arguments: the verb *tahá:on* "he gave him" contains a pronominal prefix *-haw-* M.SG/M.SG "he/him," and the nouns are uninflected for case. The relation between Amittai and his son is marked with the prefix *ro-* on the head "his son," while the dependent Amittai is uninflected. We see that the word order is SVO, with relative clauses following their heads. With these typological basics established, we might assume we have captured the essence of the language.

To anyone familiar with Mohawk, however, it is immediately obvious that this sentence did not originate in the language. If our understanding of Mohawk syntax were based on sentences like this, we would miss many of the most important contributions the language has to make to our understanding of syntax.

2.1 Lexical Categories

The Mohawk translation above contains one verb ("he gave him") and five nominals ("the Lord," "the rumor-spreading," "Jonah," "Amittai," and "his son"), yielding a verb/noun ratio of 1/5. The verb/noun ratio in my corpus of unscripted Mohawk speech is a robust 17/1. There are several reasons behind the difference.

Mohawk words fall into three clear categories on the basis of their morphological structure: verbs, nouns, and particles. The sets of verb and noun roots

are completely distinct, as are the sets of verbal and nominal affixes. Particles are by definition morphologically unanalyzable. Morphological category and syntactic function are not isomorphic, however. Verbs can function as predicates, as expected. They can also serve as complete sentences in themselves since they contain pronominal prefixes identifying their core arguments. In addition, they can serve as arguments with no overt nominalization. Some verbs have become lexicalized with nominal meaning, such as *kà:sere* "car," literally "it drags." Others are used sometimes to predicate, sometimes to refer. The sentence in (2) was from a conversation. The translation was provided later by one of the participants. The word *wahonwaia'táta'* is a morphological verb, but it was translated as "the burial."

(2) Mohawk verbal expression

Nè:'e   tiathrória't kí:ken
"Let's talk about this

thetèn:re   wahonwaia'táta'.
thetèn:re   wa-honwa-ia't-a-t'a-'
yesterday   FACTUAL-M.PL/M.SG-body-LINKER-insert-PFV
yesterday   they put his body in
burial yesterday."

In many cases Mohawk speakers simply use verbs to express ideas English speakers convey with nouns, like "this morning" below.

(3) Mohawk verbs

Wa'katià:tawi'te'	*ki'*	*ni'*	*nì:'i*	*shiiorhón'ke*
VERB	PARTICLE	PARTICLE	PARTICLE	VERB
I put a sweater on	in.fact	too	myself	as it became daylight

"I put on a sweater this morning too."

There is pervasive noun incorporation in Mohawk, in which a noun stem is included in a verb stem. Both *wahonwaia'táta'* "they buried him" and *wa'katià:tawi'te'* "I put a sweater on" in the sentences above contain the incorporated noun *–ia't-* "body": "they *bodily* inserted him" and "I *bodily* enclosed myself." Some ideas conveyed by independent nouns in English are evoked by incorporated nouns in Mohawk.

(4) Mohawk noun incorporation

Tanon'   tewawennókeriks,
tanon'   te-wa-*wenn*-okerik-s
and   INCL.A-PL-*word*-scrunch-HABITUAL
"And we shorten our *words*,

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> *tóka'   enionkwate*<mark>*shenn*</mark>*aién:ta'ne'*
> toka'   en-ionkw-ate-'*shenn*-a-ient-a'n-e'
> if   FUT-1P.PL-MIDDLE-*chance*-LINKER-have-INCHOATIVE-PFV
> if we get a *chance*."

It would be a serious mistake to consider Mohawk incorporated nouns syntactically equivalent to nouns in languages like English. They have different referential, syntactic, and semantic properties. The formation and use of incorporating constructions are conditioned by lexical and discourse factors that analytic constructions are not.

The first line of the Jonah translation in (1), "One day the Lord spoke to him," contained a nominalization "rumor-spreading," consisting of a verb with nominalizing suffix *-htsher-*. Such nominalizations are rare in Mohawk speech, though pervasive in translations. Speakers simply use verbs. Overt nominalization is required in just one context: incorporation. As mentioned earlier, the term for "car" is a morphological verb: *kà–:sere* "it-drags." It appears in that form as a lexical argument: *Kà:sere wa'khní:non'* "I bought a *car*." When incorporated, however, it must be formally nominalized with the suffix *-ht*: *wa'ke-'sere-ht-ahní:non'* "I car-bought."

Another factor contributes to the difference in verb/noun ratio between Mohawk and English. Mohawk clauses may contain lexical nominals referring to a core argument or specifying time or place, but there are no other obliques. What would be expressed in obliques in other languages is expressed in core arguments of other clauses; the verbs in those clauses indicate their role.

(5) Multiple clauses

> *Ne*   *sha'kanénhsta*   *iakwátstha'*
> the   same corn   *we use it*

> *nó:nen*   *eniakwatkátston'.*
> when   we will soup.make

"We make soup with the same kind of corn."

2.2 Constituency

A major aspect of syntactic structure is constituency. Translations can tend to preserve the constituent structure of the model. But even sentences that originate in the language under study can prompt misinterpretation of constituent structure when only written forms are examined. At first glance, (6) might appear to contain a determiner phrase: "this Indian language."

(6) Mohawk syntactic constituency?

Sénha' ki' ietiohnhá:ten'
more in fact it is regrettable
"It is all the more regrettable that

kí:ken onkwehonwehnéha' onkwawén:na' iohtentionhátie'.
this genuine people style our language it is leaving
this Indian language of ours is being lost."

The intonation with which the remark was uttered reflects a quite different structure. The sentence consisted of two prosodic phrases, each represented in a separate line in (6a).

(6a) Mohawk prosodic constituency

Sénha' ki' ietiohnhá:ten' kikén:, . . .
more in fact it is regrettable this
"It is all the more regrettable

onkwehonwehnéha' onkwawén:na' iohtentionhátie'.
genuine people style our language it is leaving
that our Indian language is being lost."

The demonstrative *kí:ken* "this" was grouped prosodically with the initial matrix clause "It is more regrettable" and followed by a (non-terminal) prosodic break and significant pause. The next clause "our Indian language is being lost" began with a pitch reset, visible in the high bump on the stressed syllable of the first word *onkwehonwehnéha'*. This structure can be seen in the pitch trace in Figure 3.1.
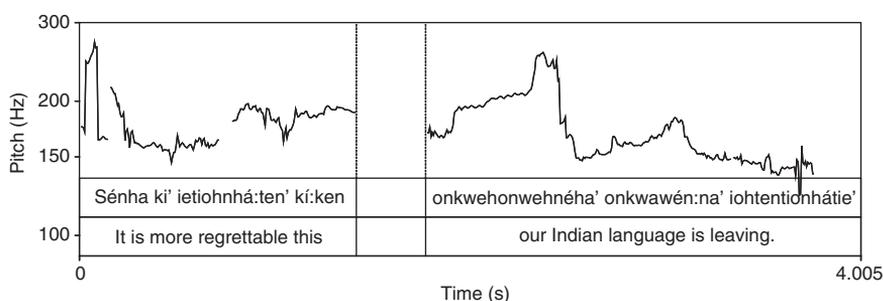

Figure 3.1 Mohawk demonstrative construction

This is a common syntactic construction in Mohawk, one which speakers exploit to manage the flow of information. In general, speakers tend to introduce just one significant new idea at a time in a prosodic phrase (Chafe 1994). In this construction, the first prosodic phrase lays out the basic idea with a verb (and particles) followed by a demonstrative. The demonstrative serves as a kind of placeholder, signaling that further elaboration is to come. The referent of *kí:ken* "this" in (6) was further identified in the following prosodic unit "our Indian language is disappearing."

Some constituent structure can be seen in sequences consisting of the article *ne* plus a nominal. The Jonah translation in (1) shows three examples. The translation obscures the actual distribution of the article in the language, however. The English article *the* indicates that the speaker believes the hearer can identify a referent, whether from general knowledge (*the Chinese*), uniqueness (*the sun*), extralinguistic context, or previous mention in the discourse. Mohawk *ne* indicates only previous mention: "the aforementioned." It would not normally occur in the opening line of a narrative as here.

2.3 Constituent Order

Another feature generally considered fundamental to basic clause structure is constituent order. The Jonah translation in (1) shows clear SVO order. It is vanishingly rare to find clauses with two lexical arguments in Mohawk, as in many languages. But OV order can be seen in (2), and SV order in the second clause in (6), both from conversation. A further look at spontaneous speech reveals, however, that these are not basic orders at all. Mohawk constituent order is determined not by syntactic relations but by information structure: constituents (apart from discourse particles) are arranged in descending order of newsworthiness.

One speaker was describing how clear the river water used to be. When she first mentioned the fish in it, the noun "fish" appeared clause-initially, before the predicate. The verb "see" here served primarily to introduce the fish.

(7) OV

    Kéntson′ enhshé:ken′
    fish   you will see them
    "You could see the *fish*."

She continued, describing how people used to swim and catch fish. She noted that no one ever bought fish in those days. This time the noun "fish" was clause-final, after the predicate. At this point the "not buying" was more newsworthy than the established referent, the fish.

(8) VO

> *Iáh   newén:ton   teiakohní:non   ne   kéntson'.*
> not   ever   has one bought   the   fish
> "Nobody ever bought *fish*."

The Mohawk pragmatic ordering principle governs all kinds of lexical constituents. This generalization would be difficult to arrive at on the basis of sentences elicited in isolation. Such sentences tend to reflect either the word order of the model, or some context in the mind of the speaker of which the interviewer may be unaware.

2.4 Nuclear Clause Boundaries

An important step in syntactic description is the identification of nuclear clause structure. The sentence in (9) appears to be a nuclear clause.

(9) Mohawk nuclear clause?

> *Akhsótha   thónon: shontakahá:wi kahwá:tsire' thó   iè:teronne'.*
> my grandmother   there   at that time   family   there   she resided
> "At that time my grandmother lived with the family."

The actual structure is quite different. It contains two topicalized constituents, "my grandmother" and "family." Each is picked up referentially inside of the nuclear clause, the grandmother by the pronominal prefix *ie-* "she" in the verb *iè:teronne'* "*she* lived," the family by the particle *thó* "there." Mohawk topicalization constructions show a distinctive prosodic profile. The topicalized constituent appears before the nuclear clause in an intonation unit of its own, ending with a fall in pitch. The following clause begins with a full pitch reset. This pattern can be seen in Figure 3.2.
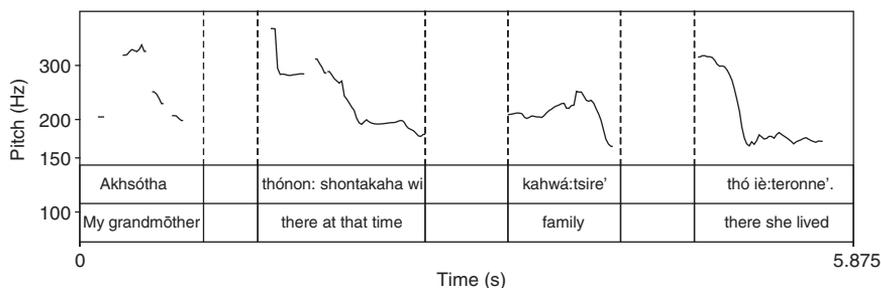

Figure 3.2 Mohawk topicalization

The prosody of topicalization constructions is quite different from that of nuclear clauses, though they may look alike in print. In (10), which occurred a few moments later in the account, the grandmother is within the nuclear clause.

(10) Mohawk nuclear clause
> *N=akhsótha*   *ken:*   *neká:*   *ieiè:teron'.*
> the my grandmother   here   side   she lives there
> "My grandmother was in her space."

As can be seen from the pitch trace in Figure 3.3, the grandmother is part of the same overall pitch contour as the rest of the clause, with no pause or pitch reset.

Still another construction occurred a few sentences after the topicalization in (9). This is an antitopic construction used to confirm the identity of a continuing topic, often when there are other referents under discussion. In (11), the grandmother, at this point an established referent, is mentioned in a nominal phrase following the nuclear clause.

(11) Mohawk antitopic construction
> ["Where we lived, there was an addition on the side."]

> *Thó*   *iè:teronne',*
> there   she lived
> "That's where she lived,

> *ne:'*   *ne*   *Tóta.*
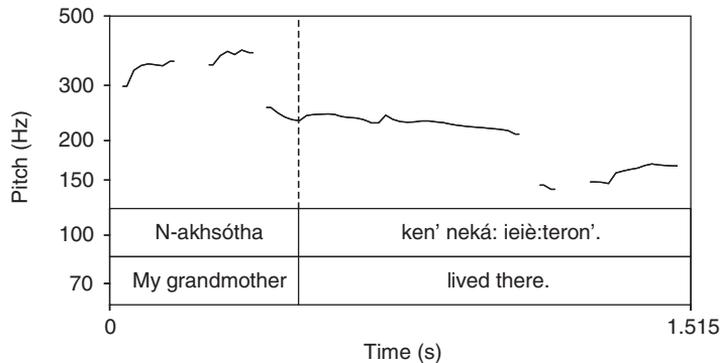> that one   the   Gramma
> my   Tóta."
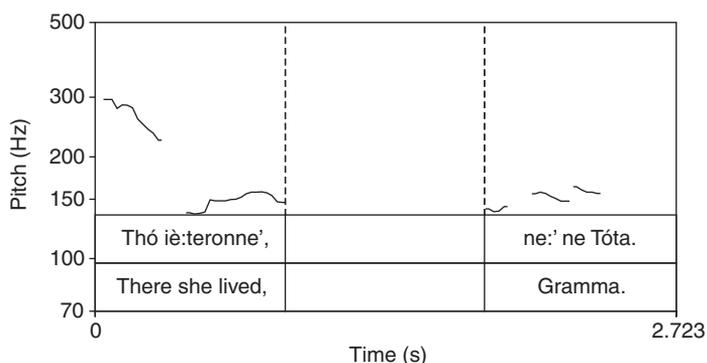

Figure 3.3 Mohawk nuclear clause

Figure 3.4 Mohawk antitopic construction

Antitopic constructions also have a characteristic prosodic structure. They are typically pronounced with low pitch and narrowed pitch range, and often creaky voice. They may be separated from the nuclear clause by a brief pause. The pitch contour of (11) can be seen in Figure 3.4. The last syllable *ne'* of the nuclear clause "there she lives" was pronounced at the baseline pitch. (The nuclear clause descends steeply below the baseline here because of the lexical tone. The final syllable of the antitopic "Gramma," which ended on the baseline pitch, is not visible because of the creak.)

Both topicalization and antitopic constructions are pervasive in Mohawk speech, though they rarely appear in elicited sentences and would be less noticeable without their prosody. Missing them would leave a serious gap in our understanding of Mohawk syntactic structure.

3 Complex Sentences

A good empirical foundation is even more important for understanding complex sentence structures. Direct elicitation of complex sentences can often produce structures much like those in the target language, but they may not display the full inventory of constructions available in the language nor their patterns of use and their ranges of functions.

3.1 What is Subordinated?

Navajo, an Athabaskan language spoken in the Southwest, contains a robust subordinate clause construction marked by the enclitic =*go*. The enclitic, often reduced to =*o* or =*ǫ* by some speakers, originated as a derivational adverbializer.

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It can be seen in (12) below in "*at* night." It also sets off adverbial clauses, as in "*when* it is dark."

(12) Navajo adverbial clause

Nihił oolwoł
with.us something.is.running

tł'ée'-o chahałhiił=o.
night-ADVERBIALIZER it.is.dark=SUBORDINATE

"We travelled at night [when it was dark]."

But in spontaneous speech, subordination appears in unexpected contexts. One common construction is in (13): "I didn't know where they were setting out for."

(13) Navajo subordination

Háágóóshíį́ deekai
where.in.the.world they.started.to.go

doo shił beehózin=o.
not to.me is.it.known=SUBORDINATE

"I didn't know where they were setting out for."

In the English translation, provided later by the speaker, the subordinate clause is "where they were setting out for." In the Navajo original, the subordinate clause is "I didn't know." This is a common, robust pattern, typical of sentences with verbs of thinking and saying. It also makes sense. The main information is the utterance or the thought itself. The Navajo construction reflects this information structure, subordinating the act of speaking or thinking to the actual message or thought.

3.2 Functions of Subordination

Navajo subordination is used even more pervasively in another unexpected way. The passage in (14) was later translated by the speaker as an independent sentence. It had the prosody of a sentence. Yet the verb "he was working" is marked as subordinate.

(14) Navajo subordination

Neeznáá shínááhai yą́ ądą́ą́',
ten my.years when.in.the.past
"When I was ten years old,

> *nléí   shizhé'é,*
> that   my.father
> my father
>
> *Na'nízhoozhídi   naalnísh=o.*
> in.Gallup   he.was.working=SUBORDINATE
> was working in Gallup, New Mexico."

Morphologically subordinate independent sentences do not normally appear under elicitation, but they can be pervasive in spontaneous speech. Navajo speakers have extended the subordinating enclitic from marking syntactic subordination of a clause within a sentence to marking discourse subordination of whole sentences. Sentences marked as subordinate are used to supply background information, setting the scene in narrative, providing offline commentary, etc.

The use of subordinate marking on independent sentences occurs in other languages as well, among them those of the Eskimo–Aleut family. These languages contain rich inventories of dependent clause constructions, marked by inflectional suffixes on verbs. In Central Alaskan Yup'ik, the independent moods are indicative, interrogative, and optative. The dependent moods are subordinative, participial, and various other connective moods with such meanings as "when," "while," "whenever," "before," "although," "because," and "if." As in Navajo, dependent marking appears just as would be expected in elicited translations of English complex sentences. Such constructions also occur in spontaneous speech. Subordinative clauses are marked with the verbal suffix *-lu.*

(15) Yup'ik subordinate clauses

> *Tangvalallru-a-qa*
> tangvaq-la-llru-*a*-qa
> watch-customarily-PAST-TR.IND-1SG/3PL
> "I used to watch them
>
> *cat   tuai   tegumiaqlutki*
> ca-t   then   tegumiaq-*lu*-tki
> thing-PL then   hold.in.hand-SUBORDINATIVE-3PL/3PL
> holding those things
>
> *arulallutki.*
> arulate-*lu*-tki
> wave-SUBORDINATIVE-3PL/3PL
> waving them (above their heads)."

In spontaneous speech, however, dependent verbs are much more frequent than independent verbs. As in Navajo, many verbs in independent sentences

are marked as grammatically dependent. These sentences have the prosody of independent sentences and are translated as independent.

In (16) the speaker was describing how wooden masks are made. His account contains long sequences of subordinative clauses, marked with the suffix *-lu*. Every verb in this passage (and in the material before it) is formally dependent. Some of the clauses have the prosody expected of dependent clauses, ending in a non-terminal fall indicated here with a comma. But others end in a full, terminal fall, indicated here with a period. (Each line represents an intonation unit.)

(16) Yup'ik subordinative sentences

Tuai-llu	*ilua*	*kegginam*	*ilua*	*pirrarluku,*
And then	its interior	face's	its.inside	first.do*ing*.it

kegginam   qengapiara,
face's   its.authentic.nose

canangluku.
start*ing* to carve it

"And then, in the face, they first start to carve the nose."

Yugetun   ayuqqan,
humanlike   if it resembles

qengaliluku   iililuku,
nose.mak*ing*.it   eye.mak*ing*.it

tua-i   kegginatun   ayuqiluku.
and.so   face-like   similar.mak*ing* it

They make it like a human nose, they make the eyes,
and so they make it like a human face.

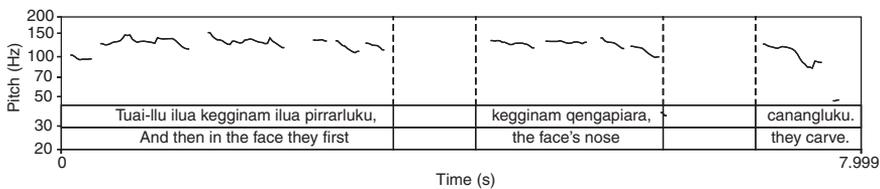Figures 3.5 and 3.6 show the prosodic contours of the two sequences that end in a full, terminal fall.

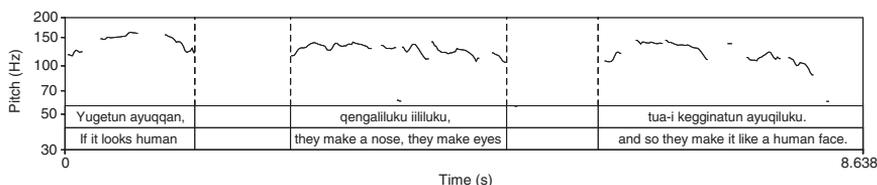
Figure 3.5 Yup'ik subordinatives

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Figure 3.6 Yup'ik subordinatives

The extensive use of the Yup'ik subordinative seems at first similar to that of subordination in Navajo. A closer look shows that the two are used for different purposes. In Navajo, subordination is used for background information, for thoughts incidental to the progression of the discourse. In the Yup'ik in (16), the subordinative relates closely associated events.

The Yup'ik subordinative actually has a range of functions. One is interactive. Speakers can use the subordinative to indicate that their comments are pertinent to what has gone before. The sequence in (17) is from a telephone conversation.

(17) Yup'ik conversation

    A. *Camek   calisit?*
       what   are you working at
       "What is your work?"

    B. *Tua–i–gguq   qalamciyarturlua.*
       well apparently   I storytelling
       "Well, I tell stories."

A different Yup'ik dependent construction, the participial, functions more like the Navajo subordinator. Participial clauses can be used much like English relative clauses in complex sentences. They can also serve as independent sentence in themselves, providing additional information that does not move a storyline ahead or contribute key points in a discussion.

3.3 Cross-linguistic Comparisons

The similarities and differences between the Navajo and Yup'ik constructions raise an important issue. Corpora of spontaneous speech are ideal for discovering what is special about a language, but they can make cross-linguistic comparison difficult. For purposes of comparability, typological surveys have sometimes been based on Bible translations. The advantage is obvious: Bible

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translations exist for a very large number of languages. But as we saw at the outset, translations can obscure cross-linguistic differences.

An approach that has proven fruitful for a number of projects is to present speakers of different languages with a common stimulus, then ask them to perform similar tasks. In 1975, Wallace Chafe made a 6-minute movie the Pear Film, which shows a sequence of events but no language. Speakers are asked to view it then recount what happened. The film, which can be viewed at http://pearstories.org/, was designed to elicit a variety of potential linguistic structures, with various kinds of events and activities, characters who arrive, depart, and reappear, shifts in scene, etc. It provides an excellent foundation for comparing how speakers of different languages package comparable ideas in their grammars. Navajo and Yup'ik descriptions of the Pear Film allow, among other things, comparisons of how speakers distribute ideas over independent and dependent clauses.

The Navajo passage in (18) contains three indicative clauses and three subordinate clauses. The corresponding Yup'ik passage in (19) contains no indicative clauses at all. Of the ten dependent clauses, seven are subordinative, two participial, and one past contemporary ("when"). (Due to space limitations, only the translations can be given here.) Each line represents a clause in the original. Formally dependent clauses are indented. Punctuation reflects prosody.

(18) Navajo Pear Story excerpt

So then we saw a man there	INDICATIVE
picking apples	SUBORDINATE
climbing around in a tree.	INDICATIVE
And from there he came back down.	INDICATIVE
There were two baskets sitting down there.	SUBORDINATE
He was putting apples into them.	SUBORDINATE

(19) Yup'ik Pear Story excerpt

In the beginning a man, in a tree, was picking fruit,	PARTICIPIAL
and putting it into a basket,	SUBORDINATIVE
arranging it carefully.	SUBORDINATIVE
And then, after picking,	SUBORDINATIVE
after filling his bucket,	SUBORDINATIVE
he climbed down from the tree.	SUBORDINATIVE
He placed them carefully,	SUBORDINATIVE
and when one fruit fell,	PAST CONTEMP
he picked it up again,	PARTICIPIAL
and replaced it.	SUBORDINATIVE

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4 The Dynamicity of Syntactic Structure

Syntactic constructions are not static: they evolve over time. Corpora of unscripted speech can often provide opportunities for investigating processes of development.

A construction may arise in specific lexical contexts, then be extended to more contexts until it becomes quite general. An example can be seen in Tuscarora, an Iroquoian language spoken near Niagara Falls, New York. We are fortunate to have documentation of connected speech from the late nineteenth century as well as the present. In the nineteenth century, the interrogative *hę́:we* "where" appeared in content questions. It also served as a complementizer with matrix verbs of speech, cognition, and perception, but only where the speaker, thinker, or observer could not identify the location.

> (20) Tuscarora nineteenth century indefinite complement:
> Thompson 1889 ms 411, RC 1987: 494
>
> *Ęhsahrù:yę'   hę́:we   tikę̀'rę'   ukę̀'   tì:wa'θ   thuh*
> you will ask   where   it sits   or   it is so much   there
> "Ask it *where* the greatest numbers are of
>
> *ste'awę̀:te   ha'   θa'neθwé:kih.*
> something   the   you want
> whatever kind of game you want."

Hę́:we was not used with other kinds of matrix verbs, or where the speaker, thinker, or observer could identify the location. A different particle, *kę'*, was used.

> (21) Tuscarora nineteenth-century *kę'* definite complement:
> 1888 ms 422, RC 1987: 438–9
>
> *Ù:nę   wahrá:kę'   kę'   newę̀hryę'.*
> now   he saw   *where*   they two enter dirt
> "He was able to see *where* the children had escaped through the ground."

A century later, the original interrogative *hè:we* "where" is still used in questions and indefinite complements of speech, cognition, and perception verbs. In addition, it has been extended to contexts in which the speaker, thinker, or observer can identify the location.

> (22) Tuscarora twentieth-century definite complement: Howard Hill, speaker
>
> *Thwé:'n ha'   è:kwe,   kayeyę'né:ri hę́:we,   ękayekúhe'   anę̀hsnači'.*
> all   the person   they know   *where*   they will get   dark seed
> "Everyone knows *where* to get sassafras."

The particle *kę'* is now used in a more restricted set of contexts, meaning "right there."

Processes of development can sometimes be detected by comparing coexisting structures at differing stages of development. Tuscarora temporal adverbial clauses can be introduced by several different markers. The most common is *ù:nę*.

(23) Tuscarora temporal adverbial clause: Elton Greene, speaker

> *Yahwakuwé:rhu'   ha'   ù:nę   yahèčyęht.*
> it covered her   the   *when*   she went down,
> "It covered her *when* she went down"

The probable source of this construction still survives in the language. The particle *ù:nę* also means "then."

(24) Tuscarora *ù:nę* "then": Elton Greene, speaker
["They could not find anyone who would volunteer."]

> *Ù:nę   ha'   rakuwanè:hu'y   wahrèhrę:',* . . .
> *then* the   head chief   he said
> "*Then* the head chief said, ' . . . ' "

The subordinate clause construction apparently developed along the following lines.

> X. Then Y.   >   X, then Y.   >   X when Y.

It is clear that the construction in (23) is now one complex sentence rather than a sequence of independent sentences. The subordinate "when" clause is integrated prosodically into the larger sentence. The matrix clause "it covered her" did not end in a terminal fall, and the subordinate clause "when she went down" did not begin with full pitch reset. There was no pause between the two.
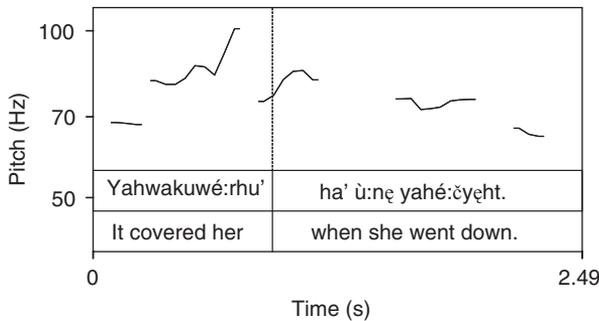

Figure 3.7 Tuscarora adverbial clause

"When" clauses are often set off by the article *ha'* as here, which confirms that they are not predications in their own right. These clauses can now also either precede or follow the matrix.

5 Conclusion

Progress in our understanding of syntax can be greatly enhanced by documentation of unscripted speech from a variety of languages. Such material can provide more reliable data for analysis than isolated elicited sentences or translations. It can reveal constructions particular to individual languages that we might not think to elicit because they have not yet become an object of general theoretical interest. It allows the integration of lexical, prosodic, and discourse factors into the analysis. It also provides an excellent basis for further exploration of syntactic structure with speakers, leading to analyses that better reflect the structures of their languages. And it establishes an open-ended resource for investigating issues that we do not yet know enough to investigate.

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