CLAUSE COMBINING IN GRAMMAR AND DISCOURSE

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The grammaticization of coordination

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Of all syntactic constructions, we might expect the most basic and universal to be coordination. Coordination seems so fundamental to language that its form should be relatively stable over time and constant across cultures. Yet there is surprising variety in the types of coordinating constructions exhibited by different languages, and even in the degree to which coordination is grammaticized at all. Some languages contain elaborate sets of obligatory conjunctions, some indicate syntactic links morphologically with non-finite tense or switch-reference markers, but many languages contain no grammaticized markers of coordination at all.

Does this variety mean that coordination is a language-specific strategy? Do speakers of different languages differ in the kinds of constituents they conjoin, or the occasions on which they link them? In fact, if intonation patterns are compared across languages, striking similarities emerge. Speakers of very different types of languages combine elements intonationally under essentially the same circumstances, with comparable frequency.

In what follows, the grammaticization of coordinating conjunctions will be compared across typologically diverse languages. First, patterns of coordination reflected in intonation will be compared. Next, the types of grammaticized conjunctions used to signal coordination will be surveyed, along with their diachronic sources and the processes involved in their grammaticization. Finally, the stimuli initially motivating the grammaticization of the conjunctions will be explored.

1 COORDINATION BY INTONATION

A survey of spontaneous spoken texts in a variety of languages indicates
that coordination is normally signalled intonationally in two principal ways, whether overt conjunctions are present or not. Coordinate constituents may be combined with no intonation break, or they may be separated by ‘comma intonation’, usually a pause and a special non-final pitch contour. These two patterns characterize conjoined noun phrases and predicates as well as conjoined clauses.

1.1 Coordinate noun phrases

Noun phrases joined with no intonation break typically designate a single conceptual unit. Conjoined noun phrases of this type often refer to the sorts of concepts designated by single lexical items or compounds in many languages, such as ‘parents’ for ‘mother and father’. By contrast, noun phrases separated by comma intonation typically designate conceptually distinct members of some set. Each new conjunct introduces a separate piece of information.

This distinction is characteristic of all types of languages. Compare the sentences below from Gurung, for example, a relatively analytic, Sino-Tibetan language of central Nepal. During a discussion of Gurung traditions, a speaker had reported that when girls are first born, they are given a ragged dress. They wear ragged dresses until the age of three or four, when they are given a cape and skirt. The cape and skirt together constitute a costume, a replacement for the ragged dress. The speaker conjoined these two nouns, ‘cape’ and ‘skirt’, with no pause.

(1) Gurung (Glover, 1974: 210.22)

\[ \text{jxa:le } \text{ñxywi co}l\text{o }\text{pi-m} \]
then cape skirt give-NP
‘Then (we) give (the girls) a cape and skirt’

When conjoined nouns identify conceptually distinct entities, however, they are separated by comma intonation. In (2), the conjoined nouns refer to two distinct groups of people, Gurungs and Nepalis.

(2) Gurung (Glover, 1974: 201.1)

\[ \text{dasa}\text{é }\text{qi }\text{tamú-ma}\text{é-la}, \text{nxepa:li-la dasa}\text{é }\ldots \]
Dasain we Gurung-PL-TOP Nepali-TOP Dasain
\[ \text{asodá }\text{mxaina-r pardi-m} \]
Asod month-in fall-NP
'Dasain', for us Gurungs, and Nepalis, falls in the month of Asod.'

These intonation patterns are not restricted to analytic languages. Kamchadal, a Luoravetlan language of Siberia, is highly polysynthetic. Verbs contain pronominal affixes referring to core arguments, and may incorporate nouns. In (3) below, the conjoined noun phrase 'wife and son' constitutes a conceptual unit, the family of the hero. The nouns are joined with no break in intonation.

(3) Kamchadal (Worth, 1961: 18.8)
\[
\text{qic péc qam inxinkin} \\
\text{wife son not he found.} \\
\text{He did not find his wife and son}
\]

In (4), by contrast, the conjoined nouns refer to assorted, conceptually distinct items. They are separated by comma intonation.

(4) Kamchadal (Worth, 1961: 41.15-16)
\[
\text{qtkítxen qtxzenk mníl ágqa cgizin;} \\
\text{throw on the route everything that there is} \\
\text{sápán, qéyulxín, lxmin, csálèn} \\
\text{reindeer hides hides of reindeer calves sable furs fox skins} \\
\text{‘Throw everything we have out onto the path: reindeer hides, reindeer calves’ hides, sable furs, fox skins’}
\]

The two intonation patterns can be combined to form constructions with internal structure. Note the conjoined noun phrase below from Parengi, a mildly synthetic South Munda (Afroasiatic) language of India. The first two nouns, 'bow' and 'arrow', constitute a conceptual unit, so they are linked intonationally. The third noun, 'gun', represents a separate entity, so it is separated from the others by comma intonation.

(5) Parengi (Aze and Aze, 1973: 324.107)
\[
\text{ona?-di amon-di, noli-di d'on-ay} \\
\text{bow-FOC arrow-FOC gun-FOC take-SP/IMP} \\
\text{‘Bring me a bow and arrow, and a gun.’}
\]

1.2 Coordinate predicates

Similar intonation patterns characterize conjoined predicates. Concep-
tually unitary events are expressed in single intonation units, while those consisting of conceptually distinct components are expressed in series of intonation units. In the Parengi sentence in (5), the two future tense verbs, referring to subparts of a conceptually unitary action, are combined intonationally with no pause.

(5) Parengi (Aze and Aze, 1973: 240.65)
\[\text{e-no}^n \text{ d'ar-t-ay zum-t-ay} \]
\[\text{to-him grasp-FUT-SP eat-FUT-SP} \]
\[\text{‘I will grasp him and eat him'} \]

The verbs in (6) are conjoined because they describe causally related events. The events are conceptually distinct, however, so the verbs are separated by comma intonation.

(6) Parengi (Aze and Aze, 1973: 240.65)
\[\text{no}^n \text{ kuy alung ir-ru, } \text{din-ru?} \]
\[\text{he well inside jump-PAST die-PAST-UNDERGOER} \]
\[\text{‘He jumped inside the well and died.'} \]

These two intonation patterns can be combined to yield complex predicates, similar to the complex nominals illustrated above. The Kamchadal sentence in (7), for example, contains two conjoined predicates, the second of which also contains two conjoined predicates. The hero’s coming to Walen-Sinanewt is seen as one action, then his throwing himself on her and seizing her constitute a second.

(7) Kamchadal (Worth, 1961: 24.7)
\[\text{Walen-Sinanewt-ke kólnen, qanaj kspensknan} \]
\[\text{To Walen-Sinanewt he came thus he threw himself seized kínknen} \]
\[\text{her} \]
\[\text{‘He came to Walen-Sinanewt, threw himself on her and seized her'} \]

Examination of connected discourse in a variety of languages indicates that the types of predicates speakers conjoin are remarkably similar. Compound predicates most often position a major participant for a subsequent action, as in the three examples above. Not surprisingly, these are the very sorts of concepts that typically exhibit special bonding or fusion in many languages. The bond may take a variety of forms, such as serial verb con-
structions, verb compounds, and verb stems derived with andative affixes meaning ‘go and ...’.

1.3 Coordinate clauses

Conjoined clauses exhibit the same kinds of intonation patterns as conjoined nominals and predicates. Those conjoined with no intonation break typically describe subparts of what is conceived of as a single event. One clause typically sets the stage for the other by positioning a major participant. The Gurung sentence in (8), in which agents are moved into position for their subsequent action, is typical.

(8) Gurung (Glover, 1974: 207)
\[
\text{sxi}-i \quad \text{xrēsyō mxī \ gxrix} \ \text{aba} \quad \text{xrōsa} \ \text{xrōsa-ē}
\]
\[\text{houses---emph each person one one now self self-of}\]
\[\text{mrō xy}:i \ \text{biri xrōsa} \ \text{xrōsa-ē mrō-r-bae mxa:rsi}\]
\[\text{field go-conj self self-of field-in-adj marsi}\]
\[\text{mlxa-e na: tī-na}\]
\[\text{rice-of head pluck-di}\]

‘One person from each household went to their respective fields and plucked of their own field a head of marsi rice.’

The Kamchadal sentence in (9), in which an instrument is obtained for a subsequent action, is also typical.

(9) Kamchadal (Worth, 1961: 16.3)
\[
\text{Qanā:ŋ lāyen klin xkālax sītxpket pēmacx kānkwanan}
\]
\[\text{thus the girls took burning firebrands the boy burned all over}\]
\[\text{‘The girls took the burning brands and burned the boy all over’}\]

By contrast, clauses separated by comma intonation typically represent conceptually distinct aspects of an action, event, or scene. The conjoined clauses most often describe sequential actions as in (10)

(10) Kamchadal (Worth, 1961: 19.12)
\[
\text{Ktkil-in lil, kūtēswiknen īna, méyen īna,}\]
\[\text{she threw the line was taken up he, in such a way he}\]
\[\text{kētcaknan, kriatqazüknen, knūqzuknen, kneyūqzuknen}\]
\[\text{was dried out, he became glad, he ate, he became satiated}\]
'She threw down the cord, he was pulled up, dried out, and became happy; he ate, he became satiated'

They frequently relate causes and effects, as in (11).

(11) Kamchadal (Worth, 1961: 16.4)

*Kíma o:zdžk hînc mlîkicen èsxanke tênaq,*

I tomorrow not will go to the father again

*nanqwátaxman kíma xkálan stîlxpqel*

one will burn me with hot firebrands

‘I will not go to my father again, or they will burn me with hot firebrands’

Sometimes they describe simultaneous aspects of a scene or state.

(12) Gurung (Glover, 1974: 204)

*kwi xra: kûdi mxæ-š, kwi laî kûdi mxæ-š*

some ferris swing play- NP some long swing play- NP

‘Some play on the ferris wheel, and some play on the long swing.’

### 2 FORMAL MARKERS OF COORDINATION

Despite their similarities in intonation patterns, languages vary strikingly in the degree to which coordination is structurally marked. A large number of languages lack any morphological or lexical indications of conjunction whatsoever. Many others, of course, contain highly grammaticized markers of syntactic coordination. Yet not even these languages mark all types of coordination uniformly or obligatorily. In many languages, only certain kinds of coordination are overtly marked. In many, coordinating conjunctions are optional. Interestingly, the diachronic sources of the markers are often still transparent. This suggests that it might be possible totrace the path along which formal syntactic coordination can develop over time. The differences in system of marking coordination among languages might represent different stages in the grammaticization of conjunction.

#### 2.1 Sources of noun phrase coordination

A surprising number of languages contain no grammaticized markers
of noun phrase coordination at all. Juxtaposition and intonation alone are considered sufficient to signal conjunction, as in the Gurung examples in (1) and (2). Whether coordination is overtly marked or not in a language, however, conjoined noun phrases are actually relatively rare in spontaneous discourse, especially in topic position. They are considerably rarer than conjoined clauses. A casual perusal of almost any spoken texts in any language will quickly bear this out. This rarity is not altogether inexplicable: several factors converge to minimize the need for conjoined nominals in connected speech.

Most important, speakers typically introduce only one major piece of information into discourse at a time (Chafe, 1987). Conceptually distinct entities are introduced by distinct intonation units, often separate clauses, as in the Parengi example below.

(13) Parengi (Aze and Aze, 1973: 281.14)
\[
tangk \ le-taring-tu, \ ao?m \ le-dey:-tu
\]
cooked rice we-cook-FUT vegetable we-cook-FUT

‘We will cook rice and vegetables’

Once they have been introduced individually, sets of entities can be referred to collectively by plural pronouns, so the need for conjoined noun phrases is bypassed.

A number of languages with bound pronominal affixes exhibit a related mechanism for identifying joint arguments without conjoined noun phrases. One entity is first introduced with a full noun phrase and established as topic. Thereafter pronominal reference is sufficient to identify it. When an additional entity is involved jointly in subsequent events, only this new one need be identified by a noun phrase. A dual or plural pronoun is sufficient to indicate the joint participation. An example of such a construction can be seen in the sentence below from Kathlamet, a Chinookan language of Washington state. The narrator has been describing the adventures of a woman abandoned by her husband.

(14) Kathlamet (Boas, 1901: 158.9)
\[
A'qa \ gua'nEsum \ qasxalö'kcaix \ agä'xan
\]
then always they two picked berries her daughter

‘Then she and her daughter always went picking berries’

The same strategy can be used to identify third person members of first or second plural arguments. Since speaker and hearer are inherently given by
the discourse context, pronominal reference is sufficient to identify them. Only the additional third person need be identified by a separate noun phrase.

(15) Kathlamet (Boas, 1901: 36.14)
Ewa’ tga’qnaqstakuks aqo’lEktca agE’kikal anta’Lxana
thus their heads are roasted my wife our smelts
‘The heads of our smelts (those of my wife and me) are roasted’

In many languages, another construction provides a substitute for conjoined nominals. A topic is established, then subsequently referred to pronominally. If an additional entity participates jointly in some event, it is mentioned in a comitative construction. The original topic remains the same. Note the position of the companion in the sentence below from Jacaltec, a Mayan language of Guatemala.

(16) Jacaltec (Craig, 1977: 32)
Xc-in to ilo’ kiiñ boj ix
ASP-I go to.see fiesta and/with cl/her
‘I went to see the fiesta with her’
or: ‘She and I went to see the fiesta’

In some languages, the coordination of noun phrases is usually either expressed by juxtaposition or simply avoided, but particles do occasionally appear that seem to link coordinate noun phrases overtly. In many cases, the appearance of the particles is not random: they are used only when a set is first established, or when the speaker wishes to specify that the set is closed or complete. The Kamchadal sentence cited earlier in (3) lacked a noun phrase coordinator, but it was preceded in the original text by a sentence containing one. Both can be seen in (17).

(17) Kamchadal (Worth, 1961: 18.8)
Czalkutq ktxiñnen ьiс ėk pèc. Kilknen inan kåstanke.
Czalkutz remembered wife and son he went to his house
‘Then Czalkutz remembered his wife and son and went home’

Kółknen kståstanke, ьiс pèc qam inxkinkín
he came to the house wife son not he found
‘He came to his house, but did not find his wife and son’
Sometimes, their optionality reflects a change in progress: the grammaticization of coordination. Often in these cases, the origin of the developing coordinating conjunctions is still transparent.

Frequently, the source of noun phrase conjunctions is a comitative construction, of the type originally used to circumvent coordinate noun phrases. An example of the early stages of such a development can be seen in Sarcee, an Athapaskan language spoken in Alberta. Cook (1984) reports that noun phrases are usually conjoined without any conjunctions at all in Sarcee, whether the resulting set represents a conceptual unit, or a diversified list.

(18) Sarcee (Cook, 1984: 87)
\[
dítóó dóó-ռî iná áání-là
\]
onfath own-mother-det she-told
'She told her father and mother'

(19) istlí gútsis dóóni ićićiçű, ginní
horse scalp gun I-capture, they say
"I captured horses, scalps, and guns," they say'

Sarcee noun phrases may, however, be joined by means of the comitative/instrumental postposition ih plus ila.

(20) Sarcee (Cook, 1984: 87)
\[
dítóó dóó ihiłá áásni-là-à
\]
own father own mother with she told
'She told her father and mother'

(21) Sarcee (Cook, 1984: 96)
\[
tcágúá k'iyi'djí istlá ká-àhiłá kàdilá-là
\]
weasel coat legging shoe-with he-brought-out
'He brought out weasel coats, leggings, and shoes'

The postposition is in the process of being grammaticized as a conjunction. Cook points out that the last "verb stem above, -lá ‘to handle plural objects’ clearly suggests the plurality of the object NP. Internal as well as comparative evidence suggests that the conjunctive use of ih is a relatively new development" (1984: 96).

The later stages of such a development have been documented in several Kwa languages of West Africa by Lord (1973). She shows that noun phrase conjunctions have a clear source in comitative verbal constructions. Note the translations of the sentences below.
(22) Gâ (Lord 1973: 288)

āyî kê têtê fâ wônû
Ayi with Tete drink soup
‘Ayi drank soup with Tete’ or ‘Ayi and Tete drank soup’

têtê nà āyî kê kôkô
Tete saw Ayi and Koko
‘Tete saw Ayi and Koko’

kôfî kê a’má tsè dzí ówûlà ̀ágó
Kofi and Ama father is Mr. Ago
‘Mr. Ago is the father of (both) Kofi and Ama’

The particle ke originated as a comitative verb preceded by a subject and followed by an object. Traces of this origin can still be seen in number agreement. When the subject of a sentence is a conjoined noun phrase, the predicate agrees with only the first noun of the noun phrase, the original subject of comitative verb.

(23) mì tâ
‘I sit (sg)’

wô trà
“We sit (pl)”

mì kê lè tâ
‘I and he sit (sg)’

The contexts in which the particle is now used, as well as the behavior of nominal conjuncts in focus constructions, indicate that ke has now moved beyond its original status as a simple verb to a grammaticized syntactic conjunction.

Nominal conjunctions also frequently develop from a second source, an adverbial particle meaning ‘also, too, as well’. The original function of such a particle is to point out a parallelism between otherwise separate entities. In Cayuga, a Northern Iroquoian language of Ontario, the particle hni’ still has the meaning ‘too’ or ‘also’. It appears in independent clauses, indicating their connection with other information in the discourse. This use can be seen below. A speaker was describing his day in the bush, explaining that he had been scratched by branches. His listener commented sympathetically and at some length on how unlucky he was. After a moment the
victim remembered an additional mishap.

(24) Cayuga (Reginald Henry p.c.)
Akitakrá hni' shē nyó: n’atō:tá:ke:
I fell also as far I came back
‘I fell on the way back, too.’

On another occasion, a customer in a hardware store had just selected a hammer. The clerk then asked whether he wanted anything else. The customer replied,

(25) Cayuga (Reginald Henry p.c.)
Ehē’. Enestanya’kthá’ ki’ hni’ tewakatōhwētsō:nih
yes one cuts board with it just also I want
‘Yes, I want a saw, too’

In both cases, hni’ links the content of the statement to the rest of the discourse, but the link is semantic, not syntactic. The fall in (24) is not syntactically coordinate with other misadventures in previous discourse, nor is the saw in (25) coordinate with the hammer selected earlier.

Although conjoined noun phrases are relatively rare in spontaneous Cayuga discourse, as in other languages, when they do occur, they are systematically followed by hni’. The particle has been grammaticized as a coordinating conjunction. Noun phrases linked with hni’ form a syntactic constituent. When they identify subjects, their predicates bear plural pronominal prefixes.

It is not difficult to imagine how a particle of this type could develop from an adverbial into a syntactic conjunction. Such a particle would often occur in potentially ambiguous contexts. Consider the sentence below. One neighbor had asked what the family was going to plant that year. The reply was:

(26) Cayuga (Reginald Henry p.c.)
A:yē’ akwē:, onēhē’ oṣahe’tā’ ohōn’atá’ō hni’
it seems all corn bean potato-guess also
‘Oh, I guess everything, corn, beans, potatoes, and squash’

With pauses separating the nouns, the squash could be interpreted as an afterthought, an addition to the original list. As pauses are shortened, the particle appears to close the list.

In many contexts, hni’ now functions unambiguously as a coordinating
conjunction, where all constituents have obviously been thought of before the utterance. During the above conversation, the neighbor asked whether they had planted potatoes the summer before. The friend replied that no, they were afraid the potatoes would rot, so they had only planted corn and beans.

(27) Ne:’ tshō: ne’ onēhē’ sahe’tā’ hni’ ōkwayēthwē hne:’
- it only the corn beans also we planted CONTR
- ‘No, we only planted corn and beans’

Corn, beans, and squash constitute a prototypical set in Iroquoian agriculture. Intonation confirms that the gardener had both the corn and beans in mind at the outset.

A guest had been watching three children play, and asked what their names were. His host replied,

(28) Junior, Helen, Hercules hni’
- Junior Helen Hercules also
- ‘Junior, Helen, and Hercules’

The original meaning ‘also’ is no longer present here, either. Hni’ has become completely grammaticized as a coordinating conjunction for noun phrases. It is systematically present when nominals are coordinated, and signals no more than the syntactic link between them.

Note that hni’ does not appear with conjoined verbs or clauses, unless it is filling its original adverbial role. A man was stranded by the side of the road with a car that would not run. A passerby stopped and asked what had happened. The man replied:

- don’t know there only so it is I drove it stopped
- ‘I don’t know. I was just driving along and it stopped’

No conjunction connects the verbs ‘I drove’ and ‘it stopped’;

Comparative evidence confirms that the development of hni? from a discourse particle to a syntactic conjunction is fairly recent. Other Iroquoian languages have cognate particles, but these have not been grammaticized as conjunctions. They still mean ‘also’, or ‘too’, and usually appear in independent sentences.

Interestingly, one related language, Seneca, shows a parallel development, but with a different particle, kho ‘too’. Kho now has the same
distribution as Cayuga *hni*, following conjoined noun phrases, but otherwise functioning as a discourse particle meaning 'also'. It shows a much older relationship to a Siouan particle, Lakhota *kho*. The Lakhota particle functions only adverbially with the meaning 'too, also, as well'.

(30) Lakhota (Deloria, 1932: 3.13)

\[ \text{Thapi-iyókhiyeya wā él wóai kʰó} \]
\[ \text{council-tipi a to carrying food too} \]
\[ škāpi \]
\[ \text{they were actively engaged} \]
\[ 'Another thing else was that women were taking food to the council tipi' \]

These two constructions, comitatives and 'also' adverbials, are by far the most common source of noun phrase conjunctions. They are not the only sources of coordinating conjunctions, however. Conjunctions may originate as links between predicates as well.

2.2 Sources of predicate coordination

Many languages combine predicates by simple juxtaposition and appropriate intonation, as in the Parengi sentences in (5) and (6) and the Cayuga sentence in (24) above. There are also languages with special conjunctions for coordinating predicates. A good example of the grammaticization of predicate coordination comes from Nguna, a Melanesian language of the Central New Hebrides. In Nguna, verb phrases that describe subparts of a single action or event are conjoined with a special particle *poo*. (A different particle joins nominals and clauses.)

(31) Nguna (Schütz, 1969: 3.8)

\[ A \text{ ga } \text{ vano } \text{ poo } \text{ tape } \text{ na-pekā seara} \]
\[ \text{I NON-PAST go and get yam some} \]
\[ 'I'll go and get some yams' \]

(32) Nguna (Schütz, 1969: 159.185)

\[ ... \text{ go e pae asa porau, poo paluse} \]
\[ \text{and he begin sail and row} \]
\[ '... and he began to sail and row' \]

*Poo* is fully grammaticized as a coordinating conjunction. It is
obligatory between conjoined predicates, and adds little information beyond identifying the structural link. It appears as an adverbial in other contexts, however. In those situations, it adds a completive feature, or the meaning ‘already’.

(33) Nguna (Schütz, 1969a: 27)

\[ a \text{ poo} \quad \text{punusi} \quad a \]

I completive see him

‘I’ve already seen him’

Since conjoined predicates most often represent sequential actions, it is not surprising that the completive particle should be exploited as a coordinating conjunction.

### 2.3 Sources of clause coordination

Many languages indicate clause coordination by juxtaposition and intonation alone, as was seen in the Kamchadal and Gurung sentences in (8) - (12). Such languages do occasionally contain words that initially resemble coordinating conjunctions. A closer look at the use of these words shows that they are not in fact grammaticized conjunctions after all, but rather sentence adverbials.

Tiwi, a non-Pama-Nyungan language of Australia, is a language of this type. In his Tiwi grammar, Osborne remarks, “Coordination of clauses within a complex sentence has to be effected in Tiwi by intonation alone, as there is no form equivalent to English ‘and’. The end of the sentence as a whole is marked by a fall of intonation, while the non-final character of the included clauses (other than the last) is signalled by a final rise of intonation” (Osborne, 1974: 70). Osborne’s textual material amply illustrates the intonation patterns described earlier: conceptually unitary events are presented with no break in intonation; conceptually more distinct actions are separated intonationally.

There are two Tiwi particles which might at first appear to be coordinating conjunctions. One is *ki* ‘then’. It can appear in intonationally conjoined clauses, as below.

(34) Tiwi (Osborne, 1974: 70)

\[ \text{purewari, purewari, purewari, purewari} \]

‘They fought and fought and fought and fought’
ki — juwuŋepuŋipa.

and then, he hit him in the eye’

The particle ki is more often used with intonationally independent clauses, however. It specifies their temporal relationship to previous discourse, but no particular grammatical relationship.

(35) Tiwi (Osborne, 1974: 90)

Looki ji-i-m-ani — mapeŋani
look he-LINK-do-REP dirty-M

Ki, ka i malala-ni Ki ji-ne-ri-mari
then here clean-M then he-LOC-LINK-get

‘He kept looking — dirty water. Then here was some clear water. He brought it back’

A second Tiwi particle that could be construed as a conjunction is apa.

(36) Tiwi (Osborne, 1974: 97)

tu-wenti-rumuta apa, tuli tu-wentiimi
he-DUR-aim and spear he-stab

‘He took aim, and he speared her’

Apa is used in many other contexts, however, which could never be interpreted as coordinate structures.

(37) Tiwi (Osborne, 1974: 96)

pu-ne-ri-kuwuntir apa kwanipiri
they-LOC-LINK-race Kwanipiri

‘They had a race to Kwanipiri’

Apa functions as a pause filler, a signal that the sentence is not yet over, rather than as a formal marker of syntactic coordination.

The lack of a clear distinction between adverbials and clause conjunctions is not unusual among languages. Bogoras, in describing the Luoravetlan languages, including Kamchadal, explicitly abandoned all hope of distinguishing them. He remarked, “On the following pages I give a list of adverbs and conjunctions without attempting to differentiate between the two groups. The meaning of many of the adverbial or connective particles is so uncertain that a division seems hardly possible” (1922: 849). This situation is typical of languages in which clauses and constituents are normally combined by simple juxtaposition. Particles and clitics sometimes appear in
such constructions with meanings like ‘also’, ‘then’, ‘and so’, ‘and now’, etc. These particles usually appear more frequently with separate sentences, however. Their primary function is to provide a semantic or pragmatic link to previous discourse, not to specify a syntactic one.

The fluidity of the boundary between discourse adverbials and syntactic conjunctions is significant. The adverbial particles appear to be the source of most clausal coordinating conjunctions. Consider the history of conjunction in modern Mohawk, a Northern Iroquoian language of Quebec, Ontario, and New York State. Mohawk has a coordinating conjunction tanū that conjoins clauses, not unlike English ‘and’. It is not cognate to coordinating conjunctions in any of the other Iroquoian languages, even closely related ones, so it must have developed relatively recently. In fact, its source is identifiable through historical documents.

In other Iroquoian languages, a particle ta is used to tie new information to preceding discourse. It tends to appear at the beginning of paragraph-like units, and may be translated ‘and so’, ‘so then’, ‘so now’, or ‘now then’.

(38) Seneca (Mithun and Peterson, 1980: 111.15)
Tá: o:nē nā: kyō’ō sé nō’o:ta’ o:nē kyōʔō
so then really QUOT three days then QUOT
wa:ayō’. he arrived
‘Now then, after about three days, it seems, a man appeared.’

(39) Oneida (Lounsbury ms: 2)
Tá: né: kati’ ōnv tshaʔkáhewe’ onv wahanéklate’ laksá:. and now when the time came when he was born boy
‘And so when the time came for the baby to be born, ...

Early Mohawk grammars and texts recorded during the eighteenth and nineteenth centuries indicate that ta once functioned in Mohawk as in the other languages. The passage below is from a cosmology legend recorded at the turn of the century.

(40) Mohawk (Hewitt: 1903: 282.5)
Ta’, ne’ ka’ti’ wa’hi’ ne’ dji’ neň iakotehiá:ron’-
so, the so then verily the where now she grew up
neň’ eia’tase’ i’ke’n, neň’ wa’hi’
now she is maid it is, now verily
‘So then, of course, when she grew up and was a maiden, then, of course, …’

Ta is no longer used by most modern Mohawk speakers, although it is familiar to many.

At the time the cosmology legend was recorded, the particle tanū had not yet been grammaticized in Mohawk as a general conjunction. Other particles link sentences, clauses, and constituents in that text, but they are optional. These also appear in independent sentences, which indicates that their primary function was to supply a pragmatic, discourse level link.

A compound particle tahnū, the ancestor of modern tanū does appear in the cosmology text. (Tanū represents the combination of two particles, the ta mentioned above, and some other particle, possibly related to nū:wa ‘now’. The two components have now fused for most speakers.) In the cosmology text, tahnū was still an adverbial, usually translated ‘besides’, ‘moreover’, or ‘furthermore’. Like the other particles mentioned above, it appears most often at the beginning of a new sentence or paragraph, announcing a separate, but somehow related, statement.

(41) Mohawk (Hewitt 1903: 258.15)
Enwa'htkarne'dji'katoñriesethe', tahnon'
it will cease the where I breathe besides
enkwistohthenekieron'ke, nen'tahnon'...
it will make it cold the my flesh on now besides

‘My breathing will cease; besides that, my flesh will become cold, and then, also, (the joints of my bones will become stiff)'

Just within this century, tanū has taken over the function of a grammaticized general conjunction, similar to English’ and or French ‘et’. It appears systematically between conjuncts, and specifies syntactic coordination, as in the remark below.

(41) Mohawk (Muriel Rice, p.c.)
A:kenetsinanéwatyakv:tnu'katühkário'ks
oh the so long I was out and I am hungry
‘I was out a long time, and I’m hungry’

The Kwa, Cayuga, Nguna, and Mohawk examples show that coordinating conjunctions can enter languages at a variety of points. Some first
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develop into noun phase conjunctions from comitative constructions or particles meaning ‘also, too, as well’. Some develop into predicate constructions from aspectual particles. Some develop into clause conjunctions from discourse adverbial particles with meanings like ‘and then’, or ‘and so’. Yet in many if not most languages, particular coordinating conjunctions are not limited to single type of constituent.

In Nguna, for example, the particle *poo* conjoins only predicates, but another particle, *go*, can function adverbially to link new sentences to previous discourse, it can conjoin full clauses, and it can conjoin noun phrases. In the passage below, it functions as a discourse adverbial.

(42) Nguna (Schütz, 1969:122.11-15)

Go kanao pota sikai te too umai punusi ūila-na
and man another one he PRG COME see mother-his
poogi. Go mail-poogi te pano. Go ūila-na maa te
night and morning he go and mother-his also she
pa-ki roara ateata raki na-vinaga. Go waina e liliu,
go-to garden their for his-food and when she return
‘But at night, another man came to see the mother and left in
the morning. The mother, too, she left to go to the garden for
food. When she returned, …’

In (44), it conjoins clauses.

(44) Nguna (Schütz, 1969: 240.39)

Eu munu na-maloku, go eu sale poogi
they drink kava and they dance night.
‘They drank kava, and they danced at night’

It is obligatory, and adds no information beyond that of syntactic coordination. The conjoined clauses may represent sequential events, as in (44), or simultaneous or generic ones, as in (45).

(45) Nguna (Schütz, 1969:271.39)

Na-rei ki na-vei-va-wota-ana maaga eu too ganikani asa,
people of chief PL they PRG eat in it
go eu too mari na-saisai-ana
and they PRG make meeting
‘The chief’s people eat in it and have meetings …’
Go also appears obligatorily between conjoined noun phrases.

(46) Nguna (Schütz, 1969: 238.117)

*Tama ni kanao e ga veea paa-kotovi
father of boy he intr first pay
‘The father of the boy would first pay’

*suo e Pa-ki tama-na go pila-na
completion it to father-her and mother-her
‘He [would] go to the [girl’s] father and her mother’

This apparent multiplicity of functions could arise in two ways. Conjunctions that coordinate a variety of types of constituents might either develop all at once as general markers of coordination, or they might first be grammaticized in one context, then spread through the language gradually to additional contexts.

3 THE GENERALIZATION OF COORDINATION

Instances of the spread or generalization of coordinating conjunctions have in fact been documented. Recall that in Sarcee, a comitative postposition, *ih ‘with/and’, is currently being grammaticized as a noun phrase conjunction. Clauses are usually conjoined by simple juxtaposition. Cook reports that ‘conjoining is not a major syntactic device’ (1984: 98). He notes, however, *ih is now sometimes being used to conjoin clauses as well. In this context, it is affixed to *mi-, a third person singular specified marker referring to the preceding clause, and yielding the combination *mih ila).

(47) Sarcee (Cook, 1984: 97)

*tcüwa mih nánístlus-i nínádistlò
wait it with I-sew-nom.I go get
‘Wait and I’ll go get what I was sewing’

Cook also notes that Chipewyan has a particle *t’a ‘which is virtually identical to Sarcee *ih in its form class and function. Although they are not cognates, their historical developments appear to have been parallel’ (1984: 99).

As discussed earlier, the conjunctions coordinating noun phrases in many Bantu languages have developed relatively recently from comitative
verbs or particles. In most of the languages, they have remained restricted to this context. Welmer remarks:

in the vast majority of African languages, there seems to be a single simple word for 'and', frequently a monosyllable ... The beginner is almost sure to assume that he can use the same word to join verbs or sentences, to express combinations like 'they were eating and drinking'. That simply is not true in any African language to which I have had sufficient exposure to find out (1973: 305).

Clauses are conjoined by other morphological devices.

There is nothing like a conjunction joining verbs or sentences. Nouns may be conjoined, often in ways similar to English, but it is rare to find a language in which verbs are conjoined; the constructions themselves indicate a following or simultaneous action (1973: 365).

He points out, however, that

Akan is one of the very few languages in which a kind of verbal and clausal coordinating conjunction is found. Nouns may be conjoined by /na/ or /ńna/ 'and'. The same conjunction is also used between verbs and clauses, sometimes translatable as 'and' but frequently requiring the translation 'but' (1973: 372-3).

Coordinating conjunctions can thus originate as noun phrase links from comitative constructions, then spread to predicates and clauses.

Not all general coordinating conjunctions spread from noun phrases to clauses. They can also spread in the opposite direction. Recall the origin of the Mohawk conjunction tanū', from a discourse particle ta ('and so'), whose function was to link paragraph-like segments. Texts from the beginning of this century document its development into a discourse particle tahnu' ('moreover, and'), whose function was to link sentences to previous discourse. At that point, it was not used to conjoin noun phrases. In modern Mohawk, however, tanū' has become fully grammaticized as a regular marker of syntactic noun phrase coordination as well. The sentence below was the answer to the question 'What are you cooking?'.

(48) Mohawk (Muriel Rice p.c.)
    O'wà:rū tanū' osahè:ta wakekhū:ni
    meat and beans I food make
    'I’m cooking meat and beans.'

The generalization of this Mohawk conjunction from clauses to noun phrases yields an interesting result. It might have been assumed that the posi-
tion of conjunctions within coordinate constituents should point to
typologically interesting differences among languages. Languages do differ
in their placement of conjunctions. Compare English and, which appears
between coordinate constituents, with Latin -que, which follows the last con-
stituent. Differences in position can stem instead from the diachronic origins
of the markers themselves. Mohawk and Cayuga, both Northern Iroquoian
languages, are typologically similar in nearly every way. They have essentially
equivalent morphological structures and exhibit equivalent syntactic and
discourse patterns. Yet the Mohawk conjunction tanû' ‘and’ appears be-
tween coordinate nouns, as in (48), while the Cayuga conjunction hni’ ‘and’
follows them, as in (26), (27), and (28). The reason for this difference is
clear. The Mohawk conjunction developed from a discourse adverbial ‘and
so’, which preceded the new statement it linked to previous discourse. The
Cayuga conjunction developed from a particle ‘as well’, which followed the
additional information added to a list.

4 THE SUDDEN EMERGENCE OF GRAMMATICIZED CONJUNC-
TIONS

Coordinating conjunctions arise from a variety of sources, at a variety
of points in the grammar, and spread in a variety of directions. There does
not appear to be a universal path of development along which they necessari-
ly evolve.

A surprising number of coordinating conjunctions do share one
characteristic, however: their youth. Both internal and comparative evidence
indicate that conjunctions have been grammaticized quite recently from all
of the sources mentioned above, in languages all over the world. The evolu-
tion of noun phrase conjunction from comitative constructions in Sarcee
and West African languages are both still in progress. The grammaticization
of noun phrase conjunction in Cayuga from an additive particle is relatively
new. The development of the general coordinating conjunction in Mohawk
can be dated through documents to the early part of this century, a time
when Mohawk speakers were becoming widely bilingual, first in French,
then in English.

Several facts suggest that this bilingualism may be a significant factor.
An astonishing number of coordinating conjunctions have been recently
borrowed into languages that previously had none. Bogoras (1922: 881)
noted the presence in Kamchadal of local Russian conjunctions i, d'ai ‘and’, je ‘but’, potom ‘after that’, etc. Osborne’s Tiwi texts, like many other texts from Australian Aboriginal languages, show a surprising English loanword: ‘and’. The vast majority of coordinating conjunctions in languages throughout Mexico are borrowed from Spanish. Suárez noted that “in most of these [Mixe-Zoque] languages coordinating particles have been borrowed from Spanish, but in spite of that, coordination through mere juxtaposition (with different meanings according to context) is still very common” (109).

In Tequistlatec-Jicaque languages, “constituents of the clause and clauses may be linked by coordinating particles; in Coastal Chontal some of these particles are native, but in Highland Chontal all particles with this function are borrowings from Spanish” (115). “Coordination is made largely through juxtaposition in Huixtan Tzotzil. In Tojolabal, the same mechanism is found, although there are coordinating particles borrowed from Spanish” (120). In Huave, “in most cases coordination is marked with particles borrowed from Spanish, and the constructions with a reduced second clause match the Spanish patterns so closely that these have probably been imitated too” (132). Grammars of other Meso-American languages document the same situation. South American Indian languages in contact with Spanish, such as Guarani and Quechua, exhibit the phenomenon as well. (See, for example, Cole 1982: 78-80.)

It may not be a coincidence that the source languages for these conjunctions have literary traditions. Literacy itself may contribute to the development of grammaticized conjunctions. Loogman notes, for example:

Careful Swahili writers do not commonly interpolate na as a conjunction connecting clauses; however there is an increasing tendency to use na in this way, especially in too literal translations from English texts or in essays written under the direction of English speakers (1965:282).

Welmers recounts an interesting anecdote about Vai, a Northern Mande language of Liberia and Sierra Leone. Clauses are usually joined in Vai by simple juxtaposition alone, whether coordinate or subordinate. There is, however, a particle ámu ‘and then, and so’ that can occur optionally between clauses. Welmers writes,

The appropriateness of simple parataxis, and the optionality of the conjunctive /ámù/, are vividly demonstrated by a conversation (in English) with Fr. Kandakai after we had heard a little of a Vai news broadcast on a car radio. He mentioned that the particular announcer we had been listening to was well known for his
Radio news reporting is especially likely to influenced by a literary European style. The Vai are also well known for their own indigenous writing system. (See, for example, Scribner and Cole, 1981)

Cherokee, an Iroquoian language spoken in North Carolina and Oklahoma, now has several devices for indicating coordination. One, ale has clear cognates in the other Iroquoian languages meaning ‘again’. In Cherokee, it can now be used to coordinate clauses as well as nominals or predicates, and is easily elicited by request for translations from English. It is rare, however, in spontaneous spoken language. Pulte and Feeling (1975: 343) note that “it is used in relatively formal speech styles in Cherokee and in written style.” Speakers comment that it sounds Biblical. (Scancarelli p.c.) Recall that the Cherokee are not only generally bilingual in English, but they have also had a well known tradition of general literacy in their own syllabary.

It is intriguing that so many languages could exist for so long without grammatized coordinating conjunctions, then suddenly need them enough to grammaticize them spontaneously from any available source, internal or external. This suggests that grammaticized coordination might afford some power or quality of expression impossible with intonation and discourse particles alone, but that this extra power may not always be felt to be cognitively essential.

The linking of noun phrases by intonation alone can indeed indicate a conceptual link, but the precise nature of this link can be quite vague. Series of noun phrases may indicate sets as in the sentence below from Kupia, an Indo-European language of India, recorded by Christmas and Christmas (1973).

(49) abbo-si ayya-si uT-l-a
father-poss 3 mother-poss 3 waken-PASr-they
‘his father and mother woke up’

Simple juxtaposition can also link alternatives, however.

(50) Do9gr-e gec-a ker-a, wagg-o, welugu-lu, kicco
mountain-to go-PP do-PP tiger-PL bear-PL what
jantu Di:s-ile kuDa Do9gr-e tinto
wild animal appear-when even mountain-on from
peTT-a der-a je-yula
hit-PP bear-PP come-they will
‘Having gone up the mountain, they’ll shoot tigers or bears, or whatever wild animal happens to appear, and come carrying it down from the mountain’ (10.12)

It may also indicate apposition, quite a different type of link.

(51) ja-le taruwate jewe-ka ga:Nw-i-ca te:r
become-if then her-to village-in-ones female
bo:da-lu, well-ela mantiri na:nsu-l, gec-ula
child-PL big-PL old woman person-PL go-they will ...
‘Then the women of the village, the important senior women, will go to her …’ (28.15)

Most languages possess devices to disambiguate these relationships when necessary, such as comitative constructions, or particles like ‘as well’ or ‘in addition’. The formal grammaticization of conjunction, however, provides systematic overt disambiguation.

The linking of predicates and clauses by intonation alone can also mirror a conceptual link, but again, the precise nature of this conceptual link can vary considerably. The most common type of relationship between intonationally linked predicates or clauses in narrative is one of sequence, ‘and then’. The examples below come from the Kathlamet texts recorded by Boas (1901).

(52) Ilgē’gElga, iLgēxē’ma
he took him he threw him away
‘Then the man took him and threw him away’ (105.13)

Also very frequent, and not always distinguishable from sequence, is consequence (‘and so’), or cause.

(53) KpEm noxoā’xax tiā’xatakoax, qatciō’xax iā’lXam,
nothing became his reason he did it his town
Lpmites, Lpmites, Lpmites, Lpmites
break break break break
‘Then he lost his senses and destroyed the whole town’ (33.4)

(54) Niktcā’xamx qatcuxāwalōtā’-itx tiā’cuXtikc
he cried all the time he made them unhappy his relatives
‘He cried, because he made his relatives unhappy’ (32.9)
Juxtaposed clauses may describe simultaneous events or states.

(55) Tkapē' lak aē' Xt aqnu' nam, 
    dried salmon one dish 
    tkpanā'LkLiX aē' Xt adjnu' nam 
    dried and broken salmon bones one dish 
    'Dry broken salmon was in one dish, and pounded salmon bones were in the other' (34.5)

They may, instead, indicate a contrast.

(56) Kē' nuwa igāxkna, nēct igaxElā' lEmtck 
    try she was pulled not she moved 
    'They tried to pull her, but she did not move' (223.17)

They may specify a purpose.

(57) A' yaq aqa qałxE' laqL, ±LAGā'tpqa 
    quick then open the door they may come in 
    'Now open the door that they may enter' (37.10)

Frequently, juxtaposed clauses represent successive elaborations. A speaker introduces an idea, then, in successive clauses, adds more information.

(58) Igō' ya, igagE' loya akpē' cana 
    she went, she went to gather fern roots (225.15)

Often juxtaposed clauses are not actually coordinate pragmatically; some would be rendered in other languages by subordinate clauses. These may be adverbial, as below.

(59) Aqā' watiX ictō' qoya, igē' kim ē' yalXt ... 
    several times they slept he said his elder brother 
    'After a few days, his elder brother spoke' (105.4)

They may represent complements.

(60) O:, tgā' kñilau, aqiuqoa' nimx ikEnuwakcō' max 
    Oh it is forbidden he is laughed at the Thunderbird 
    'Oh, it is forbidden to laugh at the Thunderbird' (232.17)

(61) Anxku' Lē' tcguama, tiā' maq atktēlō' xoa  tgā' xēqLax 
    I will tell them shoot they will do them the hunters 
    'I will tell the hunters to shoot them' (233.12)
Prior to the grammaticization of clause conjunction, the relationships between juxtaposed clauses are usually interpreted from context. The grammaticization results in a systematic specification of the precise nature of link. It has another effect as well. The link is no longer merely semantic or pragmatic: it is also syntactic. While discourse adverbials relate the content of material within their scope to previous information, grammaticized conjunctions specify syntactic structure and overtly signal sentence boundaries.

The cooccurrence of grammaticized conjunction and contact with literary languages is probably no accident. As is by now well known, written language differs from spoken language in a number of pertinent ways. Chafe (p.c.) has discovered that within English there are substantial differences between the use of conjunctions in spontaneous spoken discourse and in planned written texts. Speakers use more sentence-initial coordinators, linking new sentences to previous discourse, than writers (32 versus 0.9 per 1000 words). This is reminiscent of the use of the pre-grammaticized discourse adverbials described above, whose function is to link information pragmatically to previous ideas, rather than to link structures syntactically.

Within clauses, speakers conjoin significantly fewer constituents than writers (9.9 versus 23.8 per 1000 words). Speakers, under constraints of memory and production time, typically produce syntactically simpler constructions (Chafe, 1987). They tend to introduce only one important piece of information per intonation unit. Writers, by contrast, have the luxury of time to produce long, elaborate sentences, adding new information to earlier statements or rephrasing at will. They may pause as they write to assemble new thoughts without being forced to end their sentences each time. Accordingly, written sentences are typically longer and packed more tightly with information (Chafe 1985).

Speakers do have an important resource at their disposal that writers lack. Intonation, with fine ranges of rhythm and pitch, and varying degrees of pause length and volume, can provide structural cues to hearers that punctuation in written language can only weakly imitate. The overt marking of grammatical relationships in written language is functional, guiding readers through highly complex structures.

As Chafe (1985), Pawley and Syder (1983), and others have demonstrated, many of the special characteristics of written language represent an adaptation to the conditions under which it is produced and processed. The variability in coordinating constructions across languages suggests more. The sudden grammaticization of coordination in languages all over the
world, at times when many of their speakers have been exposed to Indo-European languages with literary traditions, indicates that written language can, in turn, exert an influence on spoken language. Perhaps such influences are first felt in the speech of writers and readers, possibly in marked formal settings. The power of these influences, furthermore, is astonishing. In many of these languages, speakers who now use newly created or borrowed conjunctions are not themselves literate, nor even bilingual in a language with a literary tradition.

5 CONCLUSION

Although the intonational linking of concepts seems to be universal in spoken discourse, the grammaticization of coordination is not. In some languages, coordination is not formally marked at all, while in others, it is marked systematically and obligatorily. Even the development of formal systems for marking coordination is not uniform across languages. Coordinating conjunctions may originate in a number of different areas of the grammar, from a number of different sources, and spread in a variety of directions.

What seems like such a basic device is not only highly variable in form from one language to the next, but it is also easily borrowed. Exposure to language with written traditions, or, even more, exposure to literacy itself, may provide a stimulus for the overt marking of grammatical structures, and, eventually, the grammaticization of coordinating conjunctions. This grammaticization not only results in the systematic marking of distinctions often previously left vague, but perhaps also in the heightened identity of the sentence as a fundamental unit of linguistic structure.

ABBREVIATIONS

DI = discovery; for further abbreviations, see list on p. vii.

REFERENCES


