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The How and Why of Syntactic Relations

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1. The nature of communication: ostension and inference

Human communication takes place when one person does something that when seen or heard by another person is taken to be done with the intention to communicate, and the other person, having seen the communicator show his or her intention to communicate, then uses inference to determine what the communicator intends to communicate. This is possible because the addressee assumes that the communicator is a rational person, that is, acts with goals in mind (see Grice 1975), and so must be doing the act for a reason, and it is worth the addressee's effort to try to determine what that reason is, that is, determine the relevance of the act.¹ We refer to what the communicator does as ostension (from Latin *ostendere* 'to show') or an ostensive act. The inference used by the addressee is abductive inference:² having seen the ostensive act of the communicator, the addressee must infer why the communicator did that particular ostensive act in that particular context to that particular person, and by doing that, infer what the communicator intended to communicate. This sort of inference involves

¹ The cognitive mechanisms used in communication and the desire to achieve relevance ("make sense of things") are not particular to human communication. The desire to understand why someone has done something they have done is part of a general desire to understand the actions of other humans (we are social primates, and it is important to our survival that we understand the actions of those around us), which itself is part of a larger desire to understand and make sense of the world around us, again, a survival instinct (which also explains religion) (cf. Levinson 1995).

² Abduction: one observes some surprising situation, A; if B were true, A would not be surprising (it would make sense); therefore it is likely that B is true. This is the basis for much of our hypothesis creation and the way we understand the actions of others. See Peirce (1940, Ch. 11), Givón (1989, Ch. 7), Levinson (1995).

assembling a set of assumptions in which the doing of that particular ostensive act would “make sense” in that particular context and to that particular person; that is, the addressee must create a context of interpretation in which the relevance of the ostensive act will be clear to the addressee. In fact inference is involved in the entire interpretation process: the recognition of the ostensive act as a communicative act requires inference; recognition of the form of the ostensive act as, for example, a particular phrase or set of words in a particular language requires inference; “fleshing out” the so-called “sentence meaning” requires inference; and determining the communicative intention of the communicator (“speaker meaning”) requires inference. There is no coding-decoding process involved in communication; what is necessary for communication is not the exchange of symbolic expressions, but the successful determination of the reason for the communicator making the particular ostensive act that he or she made (see LaPolla 2003 for more discussion; see also Sperber and Wilson 1996 on the concept of relevance). The meaning is not in the words; it is created in the mind of the addressee (cf. Reddy 1979).³

The particular form that the communicator chooses for the ostensive act is also based on inference of what he or she infers will be the optimal form for the ostensive act given the particular situation and what assumptions the communicator assumes are manifest (known or accessible) to the addressee. The communicator attempts to choose a form for the ostensive act that minimizes his or her own effort, but at the same time allows the addressee to infer what the communicator wants the addressee to infer. This is where language comes in. Language is a tool for constraining the assembly of the set of assumptions that makes up the context of interpretation. Let us look at an example (adapted from LaPolla 2003:116):

- (1) Q: Do you want something to drink?
 A1: (points with finger)
 A2: I have soup.
 A3: No. I have soup.
 A4: No, because I have soup.
 A5: No, since I have soup, I don't need anything to drink.
 A6: No, I don't want anything to drink. Since I have soup, I don't need anything else to drink right now.

³ Another way to say this is that what is important is not what the speaker says, but what the addressee understands. This is why, for example with irony, what is understood can be the opposite of what is said.

This example occurred when a husband and wife were sitting down to dinner. The husband asked the wife if she wanted something to drink. Given the situation, she could have used any of the answers given in (1). The answer in (A1) would require the husband to assume that she is answering his question and infer that by moving her hand in that way she is pointing at something, and that the pointing is the ostensive act she has chosen to answer his question, and he has to guess what it is that she is pointing at, and inferring it is the bowl in front of her finger, he has to notice that the bowl has soup in it, and infer that the soup in the bowl is somehow relevant to his answer, and then notice that the soup is thin and infer that it is a kind of drinkable liquid, and infer that she intends him to infer all of this and then infer that since she has a bowl of drinkable liquid, she doesn't need anything else to drink. That is, he would have to assemble all of these assumptions and inferences together to form a context in which her pointing would achieve relevance. She could have also chosen to say (A2), and then at least the first few steps in the inferential process would have been made easier for the husband by constraining his search for assumptions to create the context of interpretation in which the ostensive act would achieve relevance. If she chose to say (A3), another part of the process would have been made easier, as he could assume negation was somehow involved, though he would have to infer the relationship between the sense of negation and the rest of her statement. If she chose (A4), the subordinate conjunction *because* would make the inference of the semantic relationship between the sense of negation and the rest of the statement more determinate. The answer in (A5) would again reduce the difficulty of the inferential process, as the conclusion would be made more explicit, and (A6) goes a step further in terms of explicitness. All of these answers were possible, but the wife actually chose (A1). Even though this was the most difficult for her husband, it was the easiest for her, and she inferred that he was capable of creating a context of interpretation (putting together all of the assumptions mentioned above) in which her action would make sense as an answer to his question.

Communication does not require language, but language makes the job of both the communicator and the addressee easier, much like a shovel makes it easier to dig a hole as compared to using one's hands to dig the hole. Language is in fact a tool like any other in our society, a conventionalized method of achieving some goal more easily, but unlike many other tools that people purposefully create, and more like a path through a field, which is not created purposefully, most of language is not

created with the purpose of creating language, but develops as a result of communicators trying to constrain the addressee's process of inference. It is then a phenomenon of the third kind (an "invisible hand" phenomenon): man-made, but not intentionally created, a by-product of the effort to achieve some other goal, like the creation of an economy or a traffic jam or a path through a field (see Keller 1994). Language structure develops as particular ways of constraining the context of interpretation are repeated over and over again, until they become habits at the individual level and conventions at the societal level. That is, one person innovates in some way, and if it somehow helps the addressee infer the communicator's intention, the communicator will continue to use that form, and then others, noticing it is effective, will also begin to use it, until it becomes conventionalized, and part of the language. Conventionalization is of course a gradual process, and so any particular feature can be more or less conventionalized. What we think of as the "rules" of language, which when violated produce "ungrammatical" utterances, are simply those structures that have become fully conventionalized (see Hopper 1987, 1988 on grammar as emergent from discourse), and on the individual level are ingrained habits of behaviour. Such structures become obligatory in the language, and so become obligatory constraints on interpretation.

Notice that the greater explicitness and the consequent reduction in inferential difficulty as we moved from (A1) to (A6) in the example above was due to greater use of both grammatical and lexical material. Grammatical and lexical material differ in terms of being manipulated holistically or analytically (see Lehmann 2002), but both types of material constrain the creation of the context of interpretation; there is no distinction between "conceptual" (lexical) and "procedural" (grammatical) information in this regard (contra Wilson and Sperber 1993), and no difference between contextualization cues (Gumperz 1992) and the rest of language in this regard—all of language is a contextualization cue.

As language structure develops because of the effort to constrain the addressee's search for relevance (i.e. to constrain the assembling of assumptions to go into the context of interpretation), what particular structures develop in each language will be a matter of what semantic or functional domains the speakers of the language feel it is important to constrain the interpretation of. As each community of speakers is unique, so each language will be unique in terms of what becomes conventionalized to the point of obligatorily constraining the construction and interpretation of utterances. The differences between languages then can be seen in terms of what semantic or functional domains are

obligatorily constrained (e.g. role identification, or the time of the action relative to the time of speaking), the degree to which they are constrained (e.g. how many tense distinctions are made if the interpretation of the time of the action relative to the time of speaking is to be constrained), and the particular lexicogrammatical form that is used to constrain the interpretation (e.g. possessive modifier on a noun vs. affix on a verb to mark possession) (see LaPolla 2003 for examples and discussion).

2. The nature of syntactic relations

The sort of conventionalization discussed above includes all aspects of language; lexical and grammatical material are both the result of conventionalization from repeated use. What we are interested in here are syntactic relations, which are conventionalized patterns for constraining the identification of referents and the roles they play in events or states of affairs (see LaPolla, to appear).⁴ They may be conventionalized associations of position of a referring expression in the clause with some semantic role, such as in English, where a preverbal reference to some referent in a clause with an active transitive verb will constrain the interpretation to one in which that referent is seen as the actor of the action denoted by the verb, and a postverbal reference to some referent in the same clause will constrain the interpretation to one in which that referent is seen as the undergoer of the action (e.g. given the expression *Bob hit Bill*, the conventions of English usage constrain the interpretation to one in which Bob is seen as the one doing the hitting and Bill is the one being hit).

They may be conventionalized associations of marking on nouns or pronouns with particular semantic roles, such as in Old English, where nominative case marking of a pronoun in an active transitive clause constrains the interpretation to one in which the referent of the pronoun is seen as the actor of the action denoted by the verb, and accusative case marking of a pronoun constrains the interpretation to one in which the referent of the pronoun is seen as the undergoer of the action. Pronouns

⁴ Note that the identification of the role of the referent in an event or state of affairs is crucial to the concept of syntactic relations. There are other types of conventionalized constraints on referent identification in some languages, such as the sortal classifiers of Thai and Chinese, but as these do not constrain the interpretation of the role of the referent, they are not considered syntactic relations of the type relevant to this volume.

may also become affixed to the verb and so form an agreement or cross-reference system (see discussion below).

Syntactic relations may also be conventionalized assumptions that referring expressions in two clauses both refer to the same referent, such as in English, where there is a conventionalized assumption of coreference in conjoined clauses such that a referring expression representing a particular role in one of the clauses and a particular role represented by a zero pronoun in the other clause must be understood as coreferential (e.g. in *Jim picked up the newspaper and threw it*, the forced assumption that the referent of *Jim* is the same referent as the omitted actor of the second clause, the one that threw the newspaper).⁵ Many other possible ways of constraining this particular functional domain exist as well.

Each of these conventionalized forms has the function of limiting the possible interpretation(s) of the role of a referent referred to (overtly or covertly) in an utterance. Although traditionally these structures have been seen as part of one grammatical category, e.g. “subject”, they are not “one thing”, but instead are individual ways of constraining the interpretation of who is doing what to whom, and languages differ in terms of whether or not they constrain this functional domain at all, and if they do constrain this functional domain, they differ in terms of which particular structures constrain the interpretation and which particular roles are identified, and in terms of the particular mechanisms used to constrain the interpretation. I have given examples of these differences and arguments why syntactic relations do not form a single category in any one language, and so of course are not part of any cross-linguistic category, in another paper (LaPolla, to appear; see also LaPolla and Poa, to appear; Van Valin 1977, 1981; Van Valin and LaPolla 1997, Ch. 6; Dryer 1997), so I will not repeat them here. What I would like to do here is focus on the how and the why of syntactic relations.

⁵ Note that the identification of the referent of *it* as the same as that of *the newspaper* is not due to syntactic relations, but simply to pure inference; there is nothing in the grammar that obligatorily constrains the interpretation, the way the inference of the relationship between *Jim* and the thrower of the newspaper is constrained by the grammar.

3. How syntactic relations develop

Many syntactic theories assume all languages exhibit syntactic relations, and some even assume all languages exhibit the same syntactic relations, particularly the supposed category of “subject” (taking English as the model), yet I have shown in a number of publications (LaPolla 1993, to appear; LaPolla and Poa, to appear; Van Valin and LaPolla 1997, Ch. 6) that not all languages exhibit syntactic relations, and even if they do exhibit some constraints on referent role identification, they are not necessarily of the type associated with English “subject”. As mentioned above, lexicogrammatical structure becomes part of the language through repeated use to constrain the assembly of the context of interpretation in a particular way, so ontogenetically we start with no structure, including no syntactic relations. There are synchronically some languages, such as Riau Indonesian (Gil 1994) and Mandarin Chinese (LaPolla 1993), which have not conventionalized constraints on referent identification of the type associated with syntactic relations (though they may have conventionalized other types of constraints on interpretation). What this means is that there are no conventionalized associations which relate position in word order, the marking on the nouns or verb, and so on with particular semantic roles, and so the structures of the language do not force particular interpretations of the role of referents mentioned in discourse. The addressee can still assemble a context of interpretation in which the ostensive act will achieve relevance, but the addressee’s inferential process is relatively unconstrained compared to a language that forces a particular interpretation of this functional domain, and so the addressee will have to rely more on the assumptions of “real-world semantics” to achieve relevance.⁶ This does not mean that there are no conversational implicatures that influence the interpretation. For example, as there is a rather strong frequency correlation

⁶ An interesting side issue is the relative degree of effort required by speaker vs. addressee in using different languages. With a language which has conventionalized a large number of obligatory constraints on the interpretation of a particular functional domain, the speaker will have to expend more effort to produce a “grammatical” ostensive act, while the addressee will have an easier time of finding the relevant interpretation. With a language that does not constrain that particular domain, the speaker may have an easier time producing a “grammatical” utterance, but the addressee will have to work harder at the inferential process (the same as for the different degrees of effort required by speaker vs. addressee for the different answers in (1) within a single language). I have treated this issue in a separate paper (LaPolla 2005).

between topic and actor in Chinese (and many other languages), there is a conversational implicature that the topic (the referent referred to by the utterance-initial referring expression) is the actor. It is simply a conversational implicature because it can be cancelled by the semantics of the referents or the requirements of the context of interpretation, such as in *Xuéshēng fā-le chéngjī* [student(s) distribute-ASP grades], which would more often be understood as ‘The student(s) were given their grades’ rather than ‘The students gave out grades (to someone else)’, as students normally receive grades, not give them out. What happens in the conventionalization of syntactic relations is that a conversational implicature of this type appears so often in discourse that it becomes a conventional implicature, and then becomes so strongly conventionalized that speakers cannot accept any other interpretation.⁷

In Chinese this has not (yet) happened, but we can see the same process in the grammaticalization of the progressive aspect marker out of the locative verb *zài* (Chao 1968:333). Initially there was no constraint on the interpretation of an on-going action, though when a locative expression was used in a serial verb construction with an action verb there was a conversational implicature that the action was going on at that location. Over time this locative expression weakened, to just locative verb plus unstressed demonstrative pronoun, as the implicature strengthened, until finally the locative verb alone came to force an interpretation of on-going action.

The differences among conversational implicature, conventional implicature, and obligatory marking forcing a particular interpretation is the degree to which speakers are free to use or not use the particular form to constrain the hearer’s inferential process, and also the degree to which the form forces a particular interpretation. Old English did not constrain the identification of the role of a referent with word order, though it did constrain the interpretation of referent role using a complex system of case. Even so, the frequency with which reference to actors preceded the verb in topic position led to a conversational implicature that gradually

⁷ Even as a conversational implicature the default interpretation can be very strong. For example, the implicature that actions occur in the order that they are talked about is quite strong in English, and so the average speaker would say that *they got married and had a baby* means something different from *they had a baby and got married*, but the implicature can be cancelled, e.g. by adding *but not in that order* after either of the two possible orders.

strengthened as the case marking system weakened, until we ended up with the current system of Modern English, where word order alone constrains the interpretation of the role of the main referents, and what was originally the primary means of constraining the interpretation of the role of the referent (the case marking) is now non-existent or, in the case of pronouns, is now secondary, often assigned by word order.

Conventionalized constraints on the interpretation of coreference across clauses also develop in a similar way. Initially there is no syntactic constraint on cross-clause coreference, and so the interpretation of what noun phrases corefer is completely dependent on inference from real world semantics (what makes sense given common knowledge about the world). For example, in the following example from Rawang, a Tibeto-Burman language of northern Burma, any of the three coreference patterns given in the three translations would be possible, and which would be correct would depend on the addressee's inference of which is most likely the interpretation intended by the speaker given the addressee's assumptions about hitting and crying and what is known about the people involved.⁸

- (2) əp^hūŋí əduw̄səŋ̄ ədip buw̄ɰ̄ nuw̄ŋ̄ ŋuŋ̄a: ?mì
 əp^hūŋ-í əduw̄-səŋ̄ ədip buw̄-à nuw̄ŋ̄ ŋuŋ̄-ap-ì
 Apung-AGT Adeu-LOC hit PFV-TR.PST PS cry-TM_{dys}-INTR.PST
 (i) 'Apung hit Adeu and (Apung) cried' or
 (ii) 'Apung hit Adeu and (Adeu) cried', or
 (iii) 'Apung hit Adeu and (someone else) cried'

Utterances of this type are somewhat rare, though; more often only one possible actor is mentioned, as in an utterance like *John finished eating and left*, and so the conversational implicature that the actor is the same in both clauses (and it is only an implicature at first) can become strengthened to the point that it becomes conventionalized as the only possible interpretation, as in English, where a clause such as *John put the rock next to the chameleon and turned brown* has to mean that John turned brown,

⁸ Abbreviations used: AGT agentive marker, INTR.PAST intransitive past tense marker, LOC locative marker, PFV perfective aspect marker, PS predicate sequence marker (marks non-final clause), TM_{dys} time marker (marks a past action as having occurred within the past few days), TR.PAST transitive past tense marker. In the Angami examples in (3), the tones are marked as follows: *ā* mid-level tone, *â* low falling tone.

even if it makes no sense, unlike in a language where this coreference pattern has not conventionalized (e.g. Chinese, Italian) and so it would more likely be interpreted as meaning the chameleon turned brown.

Agreement or cross-referencing on the verb develops as an unstressed pronoun is reinforced by a stressed pronoun or full noun phrase often enough for the unstressed pronoun to become cliticized to the verb. We clearly see this process in Angami Naga, a Tibeto-Burman language of Northeast India (Giridhar 1980: 32, 59): the verbal prefixes (1sg *ā-*, 2sg *h̄-*, 3sg *puô-*) are transparently derived from the free pronouns (1sg *ā*, 2sg *nō*, 3sg *puô*), and can be used together with the free pronouns, as in (3a), or with a noun phrase, as in (3b) (see LaPolla 1992a, 1994 for other examples from Tibeto-Burman languages).

- | | | | | | |
|--------|-------------------|----------------|----|------------------------|-----------------|
| (3) a. | <i>nō</i> | <i>h̄-dōvī</i> | b. | <i>nh̄cūnyô</i> | <i>puô-dōvī</i> |
| | 2sg | 2sg-clever | | boy | 3sg-clever |
| | ‘You are clever.’ | | | ‘(The) boy is clever.’ | |

Relational marking on noun phrases generally arises through marking of location (including ablative and allative), when a locational noun is used to constrain the inference of the relationship of some referent to the state of affairs being predicated to a locational sense, and then gets extended to the marking of other sorts of participants (e.g. agents) through predictable pathways (see below for more discussion).

4. Why syntactic relations develop

We have seen that syntactic relations develop from a form that is repeated over and over again in discourse to the point that it becomes conventionalized as an obligatory part of the language, and thereby obligatorily forces a particular interpretation where otherwise there would be two or more possible interpretations. But why would speakers repeat a form so often that this would happen?

The answer lies in the culture of the speakers of the language, their way of thinking, their value system. For a form to be used often enough for it to become conventionalized, it must constrain the interpretation of the addressee in a way that is important to the speaker, so important that the speaker is willing to put extra effort into constraining the addressee’s

inferential process in that particular way to make it more likely the addressee will “get it right”. That is, the speaker wants to make sure the addressee will infer that part of the communicative intention correctly, more so, possibly, than other parts of the intention, and so uses a particular form that he or she has used successfully before (and other people have used successfully before) to constrain the interpretation in the same way as he or she has done before, over and over again. (We are creatures of habit and imitation, and although we sometimes innovate, we more often go along with our usual habits and also will imitate others.)

In the case of syntactic relations, what must be important to the speakers is that the addressee correctly infer the roles of the major participants. The clearest example of this is the development of relation morphology on the noun phrase of the type agentive, patient, and/or anti-agentive.⁹ Marking of participant role is, at least initially, marking of semantic role. In many of the languages I’ve looked at (the Tibeto-Burman languages; LaPolla 2004), there is a clear development of agentive marking through the extension of ablative or instrumental marking to constrain the inference of which participant is the agent. This begins only in contexts where there could be confusion, such as when there are two human referents mentioned in an utterance, and it is optional at that stage. The first speaker to do this would have had the desire to constrain the interpretation of the semantic roles, and in order to do so used a form already in the language (e.g. ablative marking; it is easier to use material already in the language than to create totally new material). Over time this marking can become obligatory and can also be extended to other sorts of agentive referents. The motivation for patient or anti-agentive marking is the same, but in the case of these markers the speakers chose to constrain the interpretation of the role of a non-agent rather than an agent. In some of the older systems this type of marking can go beyond simple semantic marking, as speakers use material already in the language (the semantic marking) to constrain the interpretation in new ways.

In some cases the pattern that gets conventionalized might not specifically involve extra effort on the part of the speaker, but simply reflects the discourse habits of the speakers (which again will reflect the culture of the speakers). For example, in a culture where actors are very

⁹ Anti-agentive marking differs from patient marking in that it is not marking what role a particular referent has, but what role it does not have: it marks the mention of a human referent (at least human patients and datives, but sometimes possessors as well) as not being agents. See LaPolla (1992b, 2004).

often made the topic of conversation, and topics are mentioned in clause-initial position (also a choice that influences the construction of the context of interpretation), we might see this over time result in the conventionalization of a word order constraint such as that in English. We can see this tendency developing in some Tibeto-Burman languages, such as Qiang (LaPolla with Huang 2003), but it has not yet fully conventionalized. For example, in a Qiang transitive clause with two unmarked noun phrases referring to human referents, usually the first one will be understood as referring to the agent, but pragmatics still controls word order more than semantics, and so if some other referent is more topical than the agent, the noun phrase referring to the agent will not appear first, and it is in this kind of situation that agentive marking is often used to constrain the addressee's interpretation of the relative roles. Agent-first is then the default and unmarked situation, and could develop into an obligatory interpretation with more reinforcement through repeated occurrence.

The motivation for the development of constraints on a particular functional domain may not originally be part of the native culture, but can come through language contact: when people are bilingual in another language that obligatorily constrains the interpretation of some functional domain, e.g. the marking of source of information, and they use that language often enough for the habit of constraining the evidential sense to become established, they may eventually feel the necessity to constrain the interpretation of source of information when using their own language, and so use native material to do just that, and it may then develop into an obligatory category in their own language. This is still repeated action based on the desire to constrain the interpretation in a particular way leading to conventionalization, but in this case the motivation came into the culture of the speakers through influence of another culture. Relevant to syntactic relations, the development of person marking on the verb in some Tibeto-Burman languages seems to be related to language contact (see LaPolla 2001).

Although all conventionalization has its origin in repeated actions that have a cultural motivation, it isn't always possible to find a direct link between some motivation and the linguistic form post facto, especially if the conventionalization happened in the far-distant past (though see Enfield 2002). This is because we continue to use forms that are no longer transparently motivated just because they are there, and are part of our habits of language use. We can see this in the layering of marking, for example the fossilization and maintenance of the *-r* plural in *children*, even

though it is not seen as a plural marker by most modern English speakers. The motivations for many words used in English today are opaque to modern English speakers, such as why we say *dial* to make a phone call, but they use the forms anyway. In some cases sound changes can make what was once transparently motivated opaque. For example, the modern word for ‘crow’ in Mandarin Chinese is *wū*, which is not transparent, but when we look at the way it would have been pronounced when it was first used (reconstructed as **ʔa*), we can see it was at that time motivated as onomatopoeia.

5. Conclusion

We have seen that communication involves ostension and inference, and language develops as a by-product of speakers’ repeated attempts to constrain the addressees’ inference of the speakers’ communicative intention in the same way. Syntactic relations in particular develop where speakers feel the need to constrain the interpretation of the roles of the participants in a state of affairs being talked about. They use certain forms to do this over and over again, and so the forms may develop over time into obligatory constraints on interpretation, obligatorily constraining the range of interpretations for that structure, where there had been alternate possible interpretations previously.

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