Two Pathways of Grammatical Evolution

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In the paper "Toward A Diachronic Typology Of Relative Clauses", distributed to the participants of this symposium, Tom Givón suggests three stages[1] that characterize the diachronic rise of both complex verb phrases and relative clauses, and presumably of various other grammatical phenomena:

(1)

   (a) *Parataxis*: two separate intonation contours.
   (b) *Syntaxis*: one single intonation contour.
   (c) *Lexis*: co-lexicalization into a single word.

At the end of the paper, he reformulates this in terms of "two developmental steps":

(2)

   (i) From paratactic to syntactic complexity.
   (ii) From syntactic to lexical/morphological complexity.

An earlier version of the same ideas was presented already in Givón (1979: 213-214) where he speaks of "processes by which loose, paratactic, PRAGMATIC discourse structures develop – over time – into tight, GRAMMATICALIZED syntactic structures", which, however, are said to erode over time "via processes of MORPHOLOGIZATION and LEXICALIZATION". With the caveat that "the principles motivating the erosion of syntax are not necessarily identical to those that motivate its rise", Givón argues that "we are dealing with cyclic waves that may be characterized roughly as:"

(3)   *discourse* → *syntax* → *morphology* → *morphophonemics* → *zero*

However, in fact, the two first steps in this cycle, he says, "are often COUPLED (i.e. occur simultaneously)", and later in the paper (94) he strengthens this to say that "in almost every case where loose, paratactic structure is condensed historically into tight, syntactic structure, the condensation involves the simultaneous rise of grammatical morphology to better code the emergent syntax". This is an important observation, and I shall devote the rest of this paper to discuss the place of the development of what Givón here calls "grammatical morphology" to the schema (1).

In the study of grammaticalization processes, it is often suggested that grammatical forms undergo a development which can be summarized as follows (Dahl (2004: 106):

(4)   free > periphrastic > affixal > fusional

This schema has its roots in the 18th century and was originally thought as characterizing languages as wholes rather than individual grammatical markers. (4) is

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[1] Actually, Givón says "general steps", not "stages", but this is not consistent with how he uses the word "step" later in the paper, where "step" refers to the transitions between the three elements of (1) rather than the elements themselves.

reminiscent of (3), although it focuses on grammatical markers rather than constructions. (Recall that the original understanding of grammaticalization is as the process which turns lexical words into grammatical formatives.) It may be in place to compare briefly the characteristics of the evolution of constructions and grammatical markers, respectively.

For both constructions and grammatical markers, the changes that they undergo over time affect grammatical complexity in various ways. Givón and others have stressed the central place of condensation in grammatical evolution. Basically, condensation involves moving a certain amount of structure from a higher hierarchical level to a lower one, which usually means that the structure in question has to be squeezed into a tighter spot, so to speak: two phonological phrases are replaced by one, or a phrase is squeezed into a a word. This can be applied to a whole construction, but may also affect just one grammatical marker and the word next to it, as when a negation morpheme cliticizes to a verb or an auxiliary. But there are also other changes, which I have subsumed under the rubric "growth of non-linearity" (Dahl (2004: Chapter 3)), and which are particularly important in the evolution of grammatical marking, and are partly covered by the last step in (4), the one from "affixal" to "fusional". Non-linearity can be defined as everything that cannot be described in terms of the concatenation of mutually independent units ("the rosary ideal", or if you like, the Item-and-Arrangement model). For instance, inflectional morphology can be non-linear because (i) the choice of an affix depends on the identity of the stem; (ii) one surface unit represents several underlying units (portmanteau morphs); (iii) the borders between units is blurred (fusion); (iv) stems undergo unpredictable changes from one form to another or even are wholly replaced (suppletion); (v) markings are prosodic, affecting the whole word rather than just one segment. These developments are obviously not independent from condensation in the sense that they are more likely to take place in tight units but are not reducible to it. The rise of non-linearity fairly clearly involves an increase in the complexity of the grammatical system although it does not necessarily involve the addition of extra structure -- the number of surface units may even be reduced.

There are quite dramatic differences between human languages as to the amount of non-linearity in their grammars, in particular with respect to the size and character of the inflectional component. Also crucially, this variation appears to be correlated with the socio-history or "ecology" of the language, in that non-linearity tends to be reduced in high-contact languages, in particular creoles. Thus, in the recent debate on whether "creole grammars are the simplest in the world" (McWhorter (2001)), the complexity under discussion has largely been of the kind that can be subsumed under non-linearity.

Non-linearity is often seen as dysfunctional and as "historical junk", i.e. the accidental results of "blind" diachronic processes ("erosion"). Arguably, however, non-linearity may have processual advantages, but I won't go into that question here. But I want to make a point that is discussed in more detail in Dahl (2004): the rise of inflectional morphology is not adequately characterized as a result of "erosion", for several reasons. The first one is that erosion is a bad metaphor for phonological changes that come about when an element is squeezed into a tighter slot or given a less prominent position in the structure, as this change is adaptive rather than the result of

random entropy-increasing processes -- I have suggested that "trimming" is a better word for an element being reduced to make it fit better into the space allotted for it. The second reason is that the rise of inflectional morphology also can involve the creation of new abstract structure. Thus, previously unrelated forms can by various processes come to be understood as belonging to the same paradigm, most clearly perhaps in the case of suppletion, or the absence of a grammatical marking can come to be understood as meaningful (Bybee et al. (1994: 294-295)).

Inflectional systems also tend to have a number of quite specific properties that set them off from other parts of the language system. I argue in Dahl (2004, Chapter 9), that these can be seen as consonant with a description according to the "Word-and-Paradigm" model, in which word forms are seen as the manifestations of a lexeme and an unordered set of morphological properties. Thus, inflectional systems tend to involve closed sets of possible forms, arrangeable in paradigms, formally, n-dimensional matrices (where n is a small finite number corresponding to the number of inflectional categories). Among other things, this excludes recursivity (Matthews (1991: 213-214) and multiple meaning-bearing appearances of the same morpheme; it also entails that the order of elements is not by itself meaningful (typically the position of inflectional morphemes in a word is rigidly fixed).

Although inflectional systems are set off from the rest of the language system by their properties, as I just said, they interact quite intimately with other components, notably the syntax and the lexicon. Grammatical gender is a paragon example. In gender systems like the ones well-known from many European languages, gender is a lexical feature of nouns and an inflectional feature of adjectives and pronouns, which agree with nouns in gender given that they have certain syntactic relations to them. In fact, if we take a definition like that of Hockett (1958: 231), "Genders are classes of nouns reflected in the behavior of associated words", gender does presuppose syntax, although its direct manifestation is in morphology.

Given this intimate relationship between inflectional morphology and syntax, it is no wonder that the genesis of inflection takes part within the development of syntactic constructions, as Givón argued in his 1979 paper. Obviously, however, even if inflectional morphology often arises at or immediately after the transition from "parataxis" to "syntaxis", new inflections can also develop a long time after the syntactic structures have been stabilized as such. For instance, it is well known that definite articles commonly develop out of demonstrative pronouns, but even if there are languages in which combinations of demonstratives and nouns are looser than in, say, English, and it is possible that constructions of the looser type could serve as a diachronic source for tighter ones, there is to my knowledge no evidence of such developments in the languages where definite articles have developed and been morphologized.

Summing up so far, we see that inflectional morphology arises at Givón's Stage 2, "Syntaxis", together with syntactic constructions, with which it is intimately connected. The question now arises, what happens to inflections in Stage 3, "Lexis"? A priori, anything could happen: inflectional complexity may continue to grow, it may stay the same, or it may be reduced or go to zero. If inflectional complexity were a simple function of the tightness of a construction, we would expect the first to be the case. However, in fact, it seems that the growth of inflectional complexity and the

development of tighter, "co-lexicalized" constructions in fact have a rather strong negative correlation, and that there is in fact evidence for speaking of two separate pathways of development.

I shall use the phenomenon of differential object marking to illustrate what I have said. Cf. the following example from Southern Ute (Givón (1995: 189)):

(5)   Southern Ute

(a)

kwana-ci   'uway   paqa-puga
eagle-AN/OBJ   DEF/OBJ   kill-REM
'He killed the eagle'

(b)

kwana-paqa-puga
eagle-kill-REM
'He did some eagle-killing' or 'He killed eagles'

In (5)(a), there is an object noun phrase *kwana-ci 'uway,* which contains both a case-marking suffix *-ci* and a determiner *'uway.*[2] In (5)(b), there is no independent object noun phrase, rather the stem *kwana* 'eagle' shows up as an incorporated part of the verb. With respect to the way the direct object is realized, (5)(a) could be said to be a typical representative of "Syntaxis", whereas (5)(b) exemplifies "Lexis", more specifically the well-known phenomenon of noun incorporation. What we can note is that the object in 5b is not connected with any type of grammatical marking.

In fact, the Southern Ute sentences represent a very general pattern, in which direct objects are differentiated in such a way that high-referentiality objects get full grammatical marking while low-referentiality objects get reduced or no marking, with variation in how the two groups of NPs are delimited. Thus, in Turkish, accusative case-marking can be omitted with indefinite direct objects:

(6) Turkish

(a)

Ayşe   balıği   tutuyor.
A.   fish.ACC   catch.PRS.3SG
'Ayşe is catching the fish.'

(b)

Ayşe   balık   tutuyor.
A.   fish   catch.PRS.3SG
'Ayşe is catching fish.' (Nilsson (1985: 24))

Such zero-marked noun phrases are restricted to the position immediately before the verb (which is sentence-final in Turkish), a fact that could be interpreted as indicating

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[2] Strictly speaking, *'uway* is a "remote-invisible" demonstrative which here functions as a definite article (Givón & Southern Ute Tribe (1980: 55)).

that (6)(b) represents a tighter construction than (6)(a), even if it has not reached the stage of full incorporation.

These facts are of course well-known, and I could cite many similar examples. What I want to focus on here, though, is the fact that the tighter constructions 5b and (6)(b) contain no grammatical markings pertaining to the direct object. In other words, at least for these cases, it looks as if whereas the step from "Parataxis" to "Syntaxis" is connected with the rise of inflectional morphology, the further step from "Syntaxis" to "Lexis" shows the opposite tendency: inflectional morphology disappears. This pattern is not restricted to direct object marking but appears to be quite general. For instance, in some Scandinavian vernaculars, attributive adjectives are frequently incorporated (this is obligatory if the noun phrase is definite), and then do not display the agreement markers found in the syntactic construction, as in the following Elfdalian examples:

(7)

    (a)

        gambler   kaller
        old-PL.M.NOM   man-PL.NOM
        'old men'

    (b)

        gamt-kaller
        old-man.PL.NOM
        'old men'

We may then suggest that inflectional morphology is essentially a phenomenon of the "Syntaxis" stage, and thus even more intimately connected to syntax. The question now is what kind of diachrony is behind this. Again, there are alternatives: either the processes that take structures from the "Syntaxis" to the "Lexis" stage involve reduction of grammatical markings, or, structures that are thus condensated are the ones that do not contain any grammatical markings.

If we return to direct object marking, it seems to me that the second alternative is the most likely one in most cases. In many languages with differential object marking, the source of the grammatical morpheme that marks high-referentiality objects is fairly transparent, for instance, Spanish *a,* which has the original meaning 'to' and has expanded first to be a marker of indirect objects and then to animate direct objects. Inanimate direct objects, on the other hand, which represent the low-referentiality type in Spanish, have been unmarked since the breakdown of the Latin case system. A process that fused the latter with verbs to create structures analogous to that in 5b would not have to involve any reduction of grammatical marking. It can be argued that the factors that disfavour grammatical marking of direct objects are the same that favour a tightening of the link between direct object and verb. In general, it seems that high-referentiality noun phrases are resistant to incorporation.

However, it seems that at least some reduction of inflections does take place in the transition from "Syntaxis" to "Lexis". It is not uncommon for incorporated stems to be

reduced ((7)(b) is a case in point), so it is no wonder that inflectional elements can also be affected by the same processes. Croft & Deligianni (ms.) argue that constructions with preposed adjectives are in many languages "tighter" than those with postposed adjectives in the same languages, and in some Romance languages, reduced forms of preposed adjectives are found. Thus, in the Italian expression *il bel paese* 'the beautiful country', the absence of the usual masculine singular adjective ending *-o* in *bel* 'beautiful country' can hardly be explained in any other way than as the result of phonetic reduction.

There are a number of further problems here. It does appear to be if not universal so at least normal for incorporation to apply only to a subset of all direct objects, and the properties of that subset are similar from language to language. Thus, only some transitive VPs are condensated as to make their way into the tighter "Lexis" stage. But if one starts considering why this is the case, it becomes fairly obvious that the direct objects that are candidates for being incorporated must be in some sense or other more "tightly" connected to their verbs than those that are not, and that must be the case even in languages where incorporation has not taken place. That is, if there must be some difference between the verb phrases *kill the eagle* and *killing eagles* in a language like English that makes it possible to explain why only counterparts of the latter are plausible candidates for incorporation. So maybe expressions in languages have some kind of inherent "tightness", or inversely, their components have an inherent degree of independence from each other. If we take a standard case of the transition from "Parataxis" to "Syntaxis" -- the development from topic-comment to subject-predicate constructions, it is fairly obvious that there is a difference between these two types in their inherent degree of condensation, which relates to differences in the discourse role of topics and subjects. So what happens when a topic-comment construction is condensated to a subject-predicate construction is that the former extends its domain of use to cases with a higher degree of inherent tightness (this is an example of what I call "pattern spread" in Dahl (2004) and undergoes changes that are conditioned by this increase (which is what I call "pattern adaptation"). It is less clear that such a description applies to the development of object noun incorporation, since in those cases, it is hard to see that there is any change in inherent tightness.

The differentiation of transitive verb phrases in a language such as southern Ute into one "syntactic" and one "lexical" construction, where only the first one involves overt object marking, suggests that thinking of "Syntaxis" and "Lexis" as two consecutive stages is at least partly misleading. In the case of direct object marking, we could equally well speak of two alternative pathways. Given a construction that combines two lexical elements A and B, grammatical development can lead to results of two different kinds: either A and B coalesce into one word, or they remain separate but grammatical markers develop that eventually may fuse with either A or B. Thus, in the first case, the construction unequivocally moves to the "Lexis" stage, in the second, it remains at "Syntaxis". On the other hand, both cases involve the development of morphological complexity. So if we look at Givón's original developmental scale in (3), what we have to say is that the first is wholly at the morphology stage while the second is both syntax and morphology -- and of course Givón notes that the first two steps of his schema can take place simultaneously. But here is a further complication. If syntax and morphology arise at the same time, where does then that morphology come from?

Does that mean that there is an immediate jump from the "discourse" or "Parataxis" stage to the morphological stage? Well, if we look closer at things, we can see that this is not in fact the case. Suppose, for instance, we have a development of the following kind, which would give rise to object marking on the verb:

(8)

Parataxis   Syntaxis
I know him, John → I-know-him John 'I know John'

What we see here is that it is a simplification to say that the construction to the left of the arrow is at the "Parataxis" stage -- it is really only at the top level we have a relationship that can be called paratactic, since the (so-called) right-dislocation construction joins a dislocated noun phrase with a regular transitive sentence, which must be said to be at the "Syntaxis" stage -- and this is in fact crucial to the further development, given that the object pronoun in the dislocated construction is the source of the affixed object marker to the right. In other words, rather than saying that the two steps take place simultaneously, we should say that a construction and its components may have reached different degrees of condensation, and that it is the combination of these degrees that conditions the following step in the development, which involves on the one hand a step from "Parataxis" to "Syntaxis" at the level of the whole construction, and a step from "Syntaxis" to inflectional morphology with regard to the relationship between the object pronoun and the verb.

Similarly, noun incorporation occurs in progressive constructions in some West Germanic languages, like the following example:

(9) German (regional)

Ich	bin	am	Eis-essen.
I	be.PRS.3SG	at_DEF.DAT.M.SG	ice-cream_eating

'I am eating ice-cream.'

Here, the construction as a whole is still periphrastic, and thus at a syntactic stage, but the object-verb relationship is encoded at the "Lexis" level.

Some conclusions:

Inflectional morphology is intimately connected with Givón's "Syntaxis" stage not only in that it arises together with it but also in that it is essentially restricted to it. It appears that inflectional marking is a characteristic of medium tightness -- inflections characterize elements that are neither too loosely nor to tightly integrated into a construction.

We should probably replace Givón's schemata in (2) and (4) with something like the following

(10)

(a) paratactic constructions → syntactic constructions

(b) syntactic constructions → inflectionally marked words
(c) syntactic constructions → morphologically complex words

with the addition that when a development according to (a) affects a construction C, it may also involve developments according to (b) and (c) which affect the component expressions of C.

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