Main clauses are innovative, subordinate clauses are conservative

Consequences for the nature of constructions*

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1. Introduction

In 1973 Sandy Thompson and I wrote about the discourse basis for the relative conservatism of subordinate clauses with respect to word order patterns used for topicalization, contrast and presentative focus. Since then other authors have approached the related topic of the conservatism of subordinate clauses with respect to ongoing change. The best-known examples involve word order changes in main clauses that are not immediately duplicated in subordinate clauses, e.g. in Old English (Hock 1986), German (Vennemann 1975, Givón 1979: 259–61), Kru (Givón 1979: 124–26). In addition to changes at the syntactic level, there are also well-documented cases of innovation in main clauses and conservatism in subordinate clauses in grammaticization (Klein-Andreu 1990, Bybee et al. 1994: 230–36), in morphological replacement (Aldai, 2000) and even at the level of morphophonemic change (Matsuda 1993, 1998).

Matsuda 1998 examines four possible avenues for explaining facts such as these. These explanations rely on syntactic, discourse-pragmatic, stylistic and processing considerations. Matsuda rules out syntactic accounts such as The Penthouse Principle (Ross 1973) and the Root Transformation hypothesis (Emonds 1970) as not able to account for the full range of facts, as demonstrated in Hooper and Thompson 1973, and furthermore, as only describing the situation rather than providing an explanation. Stylistic explanations are also rejected by Matsuda on the basis of his own data, which shows an effect of the main vs. subordinate continuum across careful and casual speech styles. The discourse

explanation provided by Hooper and Thompson (and later echoed by Givón 1979) is that subordinate clauses contain backgrounded information that is much less likely to be subject to topicalization, contrast and presentative focus; such manipulations are more appropriate and more commonly occur in main clauses. Matsuda finds no reason to reject this explanation, nor does he reject the processing explanation, which is, simply, that subordinate clauses are more difficult to process and thus less likely to be subject to additional permutations or incipient changes expressed by variable rules. He concludes that discourse-pragmatic factors and factors of processing both help to explain the phenomenon. The view taken here builds on Matsuda's conclusions.

Two approaches to the phenomenon in question are possible: one could attempt to explain the more innovative nature of main clauses, or the more conservative nature of subordinate clauses. In fact, both approaches are necessary to explain the full range of facts. On the one hand, we have the well-known fact that the constituents of assertions are fully manipulable for the purposes of foregrounding and backgrounding and at the same time we need to explain why subordinate clauses do not simply fall in line behind main clauses. I will argue that subordinate clauses are constructions that are processed in relatively large chunks, which makes their constituents less independent and not so likely to change. Of special concern here will be the consequences for a theory of grammar. The facts suggest that main and subordinate clauses are not all equally instances of 'S', but that the set of constructions that govern main clauses and the set of constructions that provide subordinate clauses can be partially independent of one another. Furthermore, the level at which subordinate clause conservatism is attested, which includes the morphological and morphophonemic levels, suggests that subordinate clause constructions contain a considerable amount of detailed information.

2. A continuum between main and subordinate clauses

Clause-types range from those that are fully independent, with a finite verb, appropriate case marking and no noun phrases shared with other clauses, to those that are reduced in various ways, e.g., by lacking verbal inflection, by having the case of noun phrases determined by other clauses and various other restrictions. In the present work, we are concerned primarily with subordinate clauses that have finite verbs. In other words, we will be dealing only with a small range on the continuum — main clauses and those subordinate clauses

that most resemble main clauses. Thus the distinctions to be made are in some cases fairly subtle.

Even on this high end of the continuum between main clauses and finite subordinate clauses, there is also a scaling according to the degree of subordination, as measured in pragmatic terms. Hooper and Thompson 1973 argue that some clauses that are grammatically subordinated, such as some complement clauses and some relative clauses, actually contain the main assertion of the utterance. Consider the complement to *think* in the following excerpts from conversation (Thompson, to appear).

(1) [Game Night] (talking about a photo collage on the wall)
TERRY: *I think it's cool.*
ABBIE: *it i=s cool.*
MAUREEN: *it i=s great.*
yeah.

(2) [Monster] (talking about and blowing out birthday candles)
1 KEVIN: *I think they're re=lightable.*
2 WENDY: (blowing) *they* [*a=re*].
3 KENDRA: [*they are=*].
4 KEVIN: [*they .. are*].
5 MARCI: [*I didn't think*] *they were,*
6 *but I think* [*they maybe are*]=.
7 KEVIN: [*they are,*]

In these very typical uses, *I think* functions as an epistemic qualifier of the main assertion, which is the following clause (Hooper and Thompson 1973, Hooper 1975, Thompson and Mulac 1991, Thompson 2000). Other main predicates that function in this way are *bet, believe, guess, imagine, see,* etc. (For other examples and extensive discussion, see Thompson 2000). Confirming evidence that the clause following *I think* is the main assertion is the fact that *I think* and the other similar phrases can be used as parentheticals, qualifying main clauses, with no change in sense or function. Some examples from Thompson 2000:

(3) L: ... *this is=,*
... *pepsin,*
I think,
... *I'm not sure.*

Thompson 2000 shows that in spoken English these are the most common uses of what appear grammatically to be main clause predicates plus complement clauses.

In addition, there are cases in which the complement is pragmatically more subordinate in the sense that the complement repeats or paraphrases something that has gone before.

(4) A: *that's interesting,*
I mean th- that you should pair the word aesthetics,
... with advertising.

In cases such as these, the subordinate clause may differ from a main clause in various ways. In example (4), the use of *should* not indicating obligation is particular to subordinate clauses.

Thus the notion of subordination will be treated as more a pragmatic notion than a strictly grammatical one, and it will be treated as gradient (Haiman and Thompson 1988. Matthiessen and Thompson 1988). Thus non-restrictive relative clauses, which can contain new, asserted information, are more independent than restrictive relative clauses (Tao and McCarthy 2001); complements to epistemic and evidential predicates are more independent than complements to evaluative predicates (Hooper 1975); and adverbial clauses vary in their structural and pragmatic level of subordination (König and van der Auwera 1988).

3. Main clause pragmatics

In Hooper and Thompson 1973 we pointed out that certain deviations from SVO word order in English were characteristic of main clauses because they function to topicalize certain NPs (5), produce exclamatory emphasis (6) or serve as presentative constructions (7). The following examples were constructed by Hooper and Thompson:

(5) *Each part Steve examined carefully.*

(6) *Never in my life have I seen such a crowd.*

(7) *Standing next to me was the president of the company.*

Such functions are used in main clause assertions, but rarely appropriate in subordinate clauses whose functions are much more modest: For instance, as shown by Fox and Thompson 1990, relative clauses either serve to give further characterization of a new head NP, or to provide information needed to identify a given NP. Complement clauses such as those in (4) serve to recall the

information that had somehow been shared earlier. Adverbial clauses that are subordinate use given information to help the hearer identify causes, conditions, times and place. Thus the goals of subordinate clauses do not include topicalizing, exclaiming or presenting new NPs.

Given this functional explanation, it is not surprising that major changes in the order of subject, verb and object are more likely to take place earlier in main clauses than in subordinate clauses. Vennemann 1975 argues that the change of word order in English and German from verb-final to verb-second occurs first in main clauses because the verb-second word order has as its function the marking of the initial element as the topic. While in the development of English, subordinate clauses eventually changed to SVO word order as well, in German subordinate clauses tend to maintain SOV order. As might be expected from the preceding discussion, the choice of V-2 or SOV word order in German conversation depends upon the extent to which the clause in question is pragmatically subordinate (Günthner 1996). Germanic word order, then, constitutes a primary example of syntactic conservatism in subordinate clauses.

It has also been found that many newly grammaticizing constructions occur preferentially in main clauses (Givón 1979). Klein-Andreu 1990 finds that the newly developing periphrastic past anterior of 14th century Spanish is used more in main clauses while the older Latin Pluperfect is used more in subordinate clauses. Below we will discuss this case and others that result in a retention of an older verb form in certain subordinate clauses. These facts suggest that the greater richness and explicit semantics of the newly grammaticized form is more appropriate in the assertive context of main clauses.

4. How subordinate clauses remain conservative: constructions

Thus one explanation for the relative conservatism of subordinate clauses is that change takes place more readily in main clauses because of the more complex pragmatic relations and content of main clauses. In contrast, typical subordinate clauses are pragmatically flat just as they tend to be intonationally flat and less susceptible to permutations for pragmatic purposes.

From the point of view of processing and storage, the fact that conservative syntax or morphology can be maintained in subordinate clauses over long periods of time (as in the case of German syntax, or subjunctive verb forms to be discussed below) means that subordinate clause constructions are at least partially autonomous from main clause constructions. That is, a subordinate

clause 'S' is not just another instance of the main clause 'S'; while they certainly have properties in common, they must be stored and processed separately. The cases discussed here, then, provide evidence for the specificity of constructions, as argued for in different ways by Hopper 1987, Bybee 1998, and Croft 2001. These authors suggest, among other things, that constructions are specific sequential units, often containing explicit morphological material, which have at least one variable slot in which any member of a category may appear. While specific subordinate constructions may differ from main clause constructions in terms of morphology or word order, similarities are likely to appear in terms of the categories that fill the open slots, categories such as noun phrase or verb.

A second important point concerns the maintenance of idiosyncratic morphosyntactic properties: the only way to maintain idiosyncratic properties is to store them in memory. This means that even a sequence as long as a subordinate clause must be processed as a whole chunk, similar to the way irregular verbs are processed as chunks. Considering the morphosyntactic properties that can be associated with subordinate clauses, we must conclude that the constructions that produce subordinate clauses, in addition to being quasi-autonomous from the constructions that produce main clauses, also contain a considerable level of detail ranging from word order to particular morphological forms for verbs. It is this latter point that provides special insight into the nature of constructions and the level of detail provided by constructions. The evidence is taken up in the next section.

5. Level of detail of constructions

Even more common than special word orders for subordinate clauses are cases of special morphological forms used in subordinate clauses, i.e. subjunctive verb forms. In Bybee et al. 1994 we argued that many examples of subjunctives in the languages of the world are the result of the grammaticization of a new morphological form in main clauses and the retention of older forms in subordinate clauses. In the following I describe some typical examples.

5.1 The Spanish Pluperfect becomes the Imperfect Subjunctive

Klein-Andreu 1990 is the first to attribute the development of a subjunctive to the interaction of older and newer grammaticizations in particular discourse contexts. She discusses the change of the Latin Pluperfect Indicative into the

Spanish Imperfect Subjunctive in *-ra*, which she attributes to the development of the periphrastic Perfects in Spanish. In Latin and early stages of Spanish, verb forms ending in *-ra* (such as *pudiera* 'be able to + *ra*' and *llegara* 'arrive + *ra*') were past anteriors, meaning for example, 'had been able' or 'had arrived'. New perfect forms from resultatives began developing in late Latin with forms of the auxiliaries *haber* and *ser* plus the Passive Perfect Participle, now known simply as the Past Participle (Harris 1982). This periphrastic construction, now with *haber* only, has gradually developed into the modern Present Perfect and Pluperfect Indicative. The later forms have replaced the original Latin Pluperfect in *-ra* in past anterior functions. Now the *-ra* forms only occur in certain types of subordinate clauses and have taken on past subjunctive meaning and function. Klein-Andreu argues that the older forms came to be restricted to subordinate clauses for pragmatic reasons having to do with the fact that subordinate clauses are positions of low focus.

Klein-Andreu's study shows that in a text written in the transition period in the 1300's, the new periphrastic past anterior tends to be used most often in contexts with high 'focus', while the old Pluperfect tends to be relegated to clauses with lower focus. Klein-Andreu identifies clauses of high focus as those which describe transitive events, have animate subjects and objects, and are first mentioned in sequences of events. Low focus is associated with negation, description of states and occurrence in relative clauses.

The text count shows that even though the old Pluperfect is at this period still more frequent than the new periphrasis (occurring about three times more often), it has a higher than average occurrence in low focus environments, while the periphrastic construction has a higher than average occurrence in high focus environments. This tendency apparently persisted and grew stronger as the periphrastic past anterior continued to develop. The result was that the old Pluperfect was eventually restricted to subordinate clauses, and is thus viewed by grammarians today as a past subjunctive. Typical current uses show the *-ra* form signaling modal information in a past or conditional context rather than signaling past anterior.

(8) *Temía que no llegara a tiempo.*
fear-IMPF that no arrive-IMPF-SUBJ on time.
'I was afraid (s)he would not arrive on time.'

(9) *Si lloviera no iría.*
If rain-IMPF-SUBJ, NEG go-COND
'If it rained, I would not go.'

Such uses of the *-ra* form today are quite conventionalized and obligatorily occur in the particular grammatical constructions associated with complement-taking verbs, such as example (8) or hypothetical conditionals introduced by *si* 'if', as in (9), just to name two cases. Let us consider in more detail how the current situation arose and what consequences it has for our understanding of grammatical constructions.

First, this case provides an excellent example of a frequently-occurring discourse tendency becoming conventionalized as part of the grammar. What is at first just a tendency — for the newer more semantically explicit periphrastic form to be used in clauses of greater focus (e.g. in main clauses) — increases in frequency to the point that language learners extend the tendency until it becomes a convention. The older forms remain in the cases where they can be associated with particular constructions, becoming dependent upon certain main verbs and certain subordinating conjunctions. Thus sequences such as *si ...*VERB*-ra...* or *temía que ...*VERB*-ra* become frozen into the automated sequences we regard as constructions. Not only do such automated sequences retain the older verb form, but the occurrence of that verb form in these sequences imbues it with the modal meaning present in the whole construction (Bybee et al. 1994).

A second point is that in this case it is not a syntactic property such as word order that is conservative in subordinate clauses, but the lower-level morphological property of verb conjugation that is preserved. This fact indicates that verb forms, such as subjunctives, are represented directly in constructions.

In addition to the case studied by Klein-Andreu where a past anterior becomes a past subjunctive, there are cases in which an erstwhile present indicative gets trapped in subordinating constructions as a new present progressive develops and takes over more general present functions (Bybee et al. 1994).

5.2 Armenian simple verb forms

In Classical Armenian there was a synthetic present tense, a past imperfective and a perfective, as well as subjunctive forms (Thomson 1975). In the centuries between the Classical and the Modern period, a periphrastic progressive arose which consists of a non-finite main verb (with suffix *-um*) and forms of the verb 'to be.' Following a typical path for present progressives, this periphrasis has extended its usage gradually taking on habitual functions as well and thus becoming a general present. The forms of the older present indicative still exist, but they are not used with indicative function. Rather, these 'simple verb forms' as they are called show up in the following contexts: (a) in future formations, where they occur with a prefix *kʻə* or a particle *pʻitʻi*; (b) in purpose clauses; (c) in protases of reality conditions; (d) with future time reference following the conjunction 'until'; (e) in the complement to 'to be necessary'; and (f) in main clauses in a function described as 'present optative' (Fairbanks and Stevick 1958).

Bybee et al. 1994 propose that the old forms are preserved in just these constructions for the following reasons: First, the future grams use the old simple present probably because the new progressive was developing at about the same time as these futures developed, and combining future with progressive would give future progressive meaning. Second, the subordinate clause uses — purpose, protasis, complement to 'be necessary' and adverbial temporal clause — are all present situations viewed, not as in progress even at some future time, but rather as single perfective situations. For instance, the verb in the following purpose clause is perfective in aspect, not progressive: *He is saving his money so that he can buy a car.* In Bybee et al. 1994 we argue that since a progressive sense is usually inappropriate in clauses fulfilling these functions, the Modern Armenian Progressive has not moved into these contexts.

5.3 The Cairene Arabic Imperfect

The Classical Arabic Imperfect was a general present tense that was also used for future time reference as Classical Arabic lacked an explicit future marker. Some dialects of colloquial Arabic have developed progressive grams and future grams that are gradually restricting the contexts in which the old Imperfect can be used.

In Cairene Arabic the simple Imperfect is no longer used for any indicative present tense functions. The prefix *bi-* is used on the Imperfect verb form for present progressive, habitual and generic statements. The use of the Imperfect in subordinate clauses is widespread: it is used in the complements to predicates meaning 'be able to,' 'know how to,' 'like to,' 'let,' 'continue to' and 'begin to;' it is used in purpose clauses following verbs of motion; it is used after many temporal conjunctions (Mitchell 1956: 83–85). Thus the new construction with the prefix *bi-* has all the characteristics of a present indicative, while the older simple Imperfect has all the characteristics of a present subjunctive.

The case of Cairene Arabic appears then to be parallel to the Armenian case. A new present progressive generalizes to become a present, while the old present that is being replaced loses its main clause functions and is gradually

restricted to subordinate clauses of certain types — in particular those in which a progressive or habitual aspect is not appropriate.[1] These examples show that subordinate clause constructions may contain explicit mention of both lexical and morphological material, and the conservative nature of this morphological material suggests explicit memory storage.

5.4 The Canadian French Subjunctive

Interestingly, a case in which subjunctive forms are being *lost* provides additional evidence to support the same point. Poplack 1992, 1995 has studied the variable use of the Present Subjunctive in Canadian French. Her study is based on a corpus of three and a half million words of naturally occurring spoken language from 120 adult native speakers. We observe first that in Canadian French, the meaning and form of the Subjunctive have been highly eroded. Indeed Bybee and Thompson 2000 argue, in agreement with Poplack, that the Subjunctive has basically been lost, but residue remains in the most frequent contexts, with some indications of minor productivity.[2] Poplack's data shows that Subjunctive verb forms now occur only in the most frequent syntactic contexts and with the most frequent verbs.

Poplack's study focuses on noun clauses embedded as complements to certain matrix verbs. In her corpus, Poplack identified 6000 sentences with a matrix verb governing the Subjunctive at least once. It is important to note, however, that one factor leading to the demise of the Subjunctive/Indicative distinction is the fact that for most verbs there is no phonological distinction between mood forms. So in this set of sentences, about half the embedded verbs were ambiguous between Subjunctive and Indicative. This left 2694 instances in which Subjunctive and Indicative usage could be distinguished. Note that the verbs that do maintain a formal contrast between Indicative and Subjunctive are irregular and among the most frequent verbs of the language. Bybee and Thompson 2000 observe that the maintenance of the mood distinction in this subset of verbs is due to what they term the Conserving Effect of high token frequency. (See also Bybee 2001 for more discussion and examples of this effect.)

In the sentences to be analyzed, then, the main verb is one which is used with the Subjunctive at least once and the embedded verb is one which distinguishes mood formally. In these sentences the Subjunctive was used 77% of the time. The goal of Poplack's study was to determine what factors predict the occurrence of Subjunctive forms.

A statistical analysis of a number of factors led Poplack to conclude that the Indicative/Subjunctive distinction is not performing any particular functional or semantic work. This conclusion is supported by examples such as those in (10) and (11) in which the same speaker repeats essentially the same message to the same interlocutor but alternates between Indicative and Subjunctive:

(10) a. *Faut que je lui* ***dis*** *(I) c'est vrai.*
'I have to tell him it's true'
b. *Faut je lui* ***dise*** *(S) c'est la vérité.*
'I have to tell him it's the truth'

(11) *Fallait qu'elle* ***répond*** *(I) "oui, tu peux faire trois pas de géant". Fallait qu'elle* ***réponde*** *(S) la phrase complète.*
'She had to say "yes, you may take three giant steps." She had to say the whole sentence'.

Given that there is the lack of a clear functional difference corresponding to mood choice, the question arises as to why French speakers are still using Subjunctive verb forms. The evidence suggests that the answer lies in the fact that most of the Subjunctive forms occur in certain highly entrenched phrases with particular matrix verbs and particular embedded verbs. As in the Spanish, Armenian and Arabic cases we have just examined, the evidence suggests that the use of special verb forms in subordinate clauses is due the automation of sequences involving certain main clause lexical verbs paired with subordinate clause morphological forms. The particulars of Poplack's data support this claim.

The most commonly occurring matrix verb is impersonal *falloir* 'have to' which accounts for 62% of the 2694 matrices, and is followed by a Subjunctive verb form in 89% of the cases. The embedded verbs that occur most frequently in the Subjunctive are high frequency irregular verbs. In fact, only ten verbs account for two-thirds of the examples with Subjunctive, among these are *avoir* 'to have', *être* 'to be', *aller* 'to go', *faire* 'to make, do', etc.

(12) a. *Même pour un job aujourd'hui, faut tu* ***sois*** *(S) bilingue.*
'Even for a job these days, you have to be bilingual.'
b. *Bien certain, faut qu'ils* ***aient*** *(S) une place eux-autres aussi pour vivre.*
'Well, of course, they should have a place to live, too.'
c. *Faut j'****aille*** *(S) voir pour de l'ouvrage.*
'I have to go look for a job.'
d. *Bien ça, fallait tu* ***fasses*** *(S) ton huit heures par jour.*
'Well, there you had to do your eight hours a day.'

We argue in Bybee and Thompson that these main verb-complement constructions are not generated from highly generalized syntactic schemas of the form [verb [S]], but rather that very specific constructions ("routines" in Poplack's terms), with some lexical items indicated, are stored and accessed in production, as shown in (13).

(13) *(il)* { *faut* / *fallait* / . / . / . } *(que)* (PRO) { *faire* / *aller* / *avoir* / être / . / . } + SUBJ...

Further support for the position that constructions, complete with very specific lexical items and morphological forms, are accessed in these cases comes from the second factor that Poplack found to be significant, the distance factor. That is, if a word or some parenthetical material intervened between the main and subordinate verb, it is more likely that the Indicative form would be used. If it is true that these sequences are automated and entrenched, then it would follow that intervening material, which interrupts the automated sequence, might result in an Indicative form. That is, if the speaker gets derailed from an automated sequence such as *Il faut que...* then s/he is less likely to resume with the routinized form and more likely to access the more generally used Indicative form.

The importance of particular lexical items is also evident in the other 38% of the matrix verbs. Two verbs, *vouloir* 'to want' and *aimer* 'to like', make up 11% of the remaining cases and they show a high percentage of Subjunctive usage (91% and 67% respectively) (Poplack 1995). With these verbs, too, the irregular embedded verbs favor Subjunctive use.

The loss of subjunctives, then, demonstrates the same principle as the formation of subjunctives — that subordinate clauses have a higher degree of automation or entrenchment overall than main clauses and this entrenchment makes their structure more rigid and preserves older characteristics longer in the face of ongoing change.

5.5 Japanese analogical change

The case that originally interested Matsuda (1993) in the effect of subordinate status on the maintenance of older forms was one involving an even lower level

of morphological change — analogical change in certain morphophonemic alternations. Japanese verbs stems can be divided into two conjugation types, depending upon whether or not the stem originally ended in a consonant or a vowel. The consonant stems have a higher type frequency and in some cases, the vowel stem verbs have developed alternate forms using consonant-stem suffixes. Thus in the Tokyo dialect, vowel stem verbs have two possible suffixes for the Potential, the conservative *-rare* and the innovative *-re*, e.g. *mirare, mire* 'can see'. Matsuda 1993 studied the conditions under which the two forms were used, using interview data that contained over a thousand tokens of the Potential form. He tested a number of social and linguistic variables, most of which turned out to have a significant effect on the variation. The variable of interest in the current context is the embeddedness of the Potential form. Here Matsuda found a significant difference between three levels of embedding: (i) independent clause, (ii) adverbial clauses and gerunds, and (iii) embedded clauses, which includes relative clauses, noun complements, predicate complements and indirect quotes. The innovative form occurred least often in the embedded clauses, more in the adverbials and gerunds and most in the main clauses.

This analogical change is not associated with any semantic or pragmatic content, and thus could be considered to represent a lower level of detail than the other cases we have considered here. To understand the significance of this case, it is necessary to be clear about the mechanism of change involved, especially since 'analogy' is such a vague term. The innovative form is constructed on the model of the more productive conjugation, by combining *-re* with the stem, e.g. *mi-* or *mir-* to produce a form that has the same pattern as the productive class, e.g. *kake* 'can write'. The more conservative form is likely to be stored in memory as a chunk, *mirare*, and accessed whole, since these forms are part of the minority, less productive conjugation (Bybee 1985, 1995). This case, then, bears a resemblance to the other cases we have discussed here in that the more conservative form in the subordinate clause appears to be a part of a larger chunk with many features prespecified, while the forms used in main clauses are more likely to be constructed from their constituent parts.

6. Other kinds of cases

Since sociolinguistic studies often use subordination as a variable, a number of cases have been discovered in which the main-subordinate clause distinction helps to predict the occurrence of one variant or another. However, not all cases

have the same explanation as the cases discussed in Section 5. For instance, it is possible that the main-subordinate variable is significant because it happens to correspond to some other highly significant variable. A case in point is the deletion of *ne* in spoken French, as studied by Ashby 1977, 1997. Ashby finds that the rate of deletion of *ne* is greater in main clauses than in subordinate clauses, constituting another case of innovation in main clauses and conservatism in subordinate ones. However, given that *ne*-deletion is a process which is at least partially phonologically-motivated as a reduction in high frequency combinations, especially involving clitic pronouns, it is not likely to have the same explanation as the cases already discussed. Rather, it may be that in this case the particular phrases which encourage the deletion of *ne*, just as *je ne sais pas* 'I don't know' are more likely to occur in main clauses than in subordinate clauses. This possibility is supported by the fact that *ne* is more often deleted in what Ashby calls "preformed expression" than elsewhere.

Another case that may have a different motivation is the use of the object-marker *-o* in Japanese. Matsuda 1998 reports that *-o* is used more in subordinate clauses than in main clauses. His suggested explanation for this fact is that the disambiguating function of the object marker is more necessary in subordinate clauses, which in general are more difficult to process. Thus it is important to recognize that there might be other reasons for differences between main and subordinate clauses.

7. Main and subordinate clauses: different yet the same

The cases discussed here, then, provide additional support for the hypothesis that many diachronic changes occur earlier in main clauses than in subordinate clauses. The reasons suggested are that main clauses are pragmatically richer, containing the focussed information and the possibility of setting off old from new information, while subordinate clauses tend to be pragmatically more even, replaying previously presented or supplementary material. Thus both word order permutations and new grammaticizations tend to occur in main clauses for the additional specificities they can supply in both the semantic content and pragmatic dimension. An additional consequence of the distinctions between main and subordinate clauses was discussed here: the consequences for a theory of grammatical representation.

The evidence shows that the constructions for producing subordinate clauses can be independent of those for producing main clauses since they can

use different word order and morphology. This fact suggests independent storage of constructions that produce subordinate clauses. Our evidence also points to the inclusion of very specific lexical and morphological material in these constructions. Yet strong relations between main and subordinate clauses are also evident in language structure: in many languages these two ends of the continuum have the same grammatical properties and in those languages where they differ, there is an eventual drift toward using main clause patterns in subordinate clauses. Thus despite independent storage of specific constructions, the constituents of these constructions are sorted and classified with other similar constituents in other constructions. Constructions, then, are made up of very specific material, forms such as *that, for, to*, affixes such as *-ing*, specific verb forms such as subjunctives, specific verbs that take complements, as well as more general slots, such as NP, that also occur in other constructions and allow for connections between constructions. Such open slots allow for the productive use of constructions. Thus subordinate clause constructions will contain some prespecified, automated parts and some parts that allow for the selection of items from large classes. The similarity of subordinate clauses to main clauses in their constituent structure is what will, in the end, motivate changes in subordinate clauses that bring them into line with main clauses once again.

Notes

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1. In both of these cases, current main clause uses of the older forms have developed modal value, primarily as hortatives. See Bybee et al. 1994 for discussion of how this might occur.

2. According to Poplack, descriptions of other dialects of French (including the standard) suggest that only more frequently used constructions and verbs maintain the Subjunctive forms.

References

Aldai, G. 2000. "Split ergativity in Basque: the pre-Basque antipassive–imperfective hypothesis". *Folia Linguistica Historica* 31:31–97.

Ashby, W. J. 1977. *Clitic inflection in French: an historical perspective.* Amsterdam: Rodopi.

Ashby, W. J. 1997. The negative variable (*ne*) in spoken French: a change in progress? Ms. University of California, Santa Barbara.

Bybee, J. L. 1985. *Morphology: A Study of the Relation between Meaning and Form.* Philadelphia: Benjamins.

Bybee, J. 1995. "Regular morphology and the lexicon". *Language and Cognitive Processes* 10 (5): 425–455.

Bybee, J. 1998. The emergent lexicon. *CLS 34: The Panels.* University of Chicago: Chicago Linguistic Society, 421–35.

Bybee, J. 2001. *Phonology and language use.* Cambridge: Cambridge University Press.

Bybee, J. Perkins, R. and Pagliuca, W. 1994. *The Evolution of Grammar: Tense, Aspect and Modality in the Languages of the World.* Chicago: University of Chicago Press.

Bybee, J. and Thompson, S. 2000. "Three frequency effects in syntax". *Berkeley Linguistic Society* 23:65–85.

Croft, W. 2001. *Radical Construction Theory: Syntactic theory in typological perspective.* Oxford: Oxford University Press.

Emonds, J. 1970. Root and structure preserving transformations. MIT: Doctoral dissertation.

Fairbanks G. H. and Stevick, E. W. 1958. *Spoken East Armenian.* New York: American Council of Learned Societies.

Fox, B: A. and Thompson, S. A. 1990. "A discourse explanation of the grammar of relative clauses". *Language* 66:297–316.

Givón, T. 1979. *On understanding grammar.* New York: Academic Press.

Günthner, S. 1996. "From subordination to coordination? Verb-second position in German causal and concessive constructions". *Pragmatics* 6.3:323–356.

Haiman, J. and Thompson, S. A. 1988. "Introduction". In J. Haiman and S. A. Thompson (eds), *Clause combining in grammar and discourse.* Amsterdam: John Benjamins, ix-xiii.

Harris, M. 1982. "The 'Simple Past' and the 'Present Perfect' in Romance". In N. Vincent and M. Harris (eds), *Studies in the Romance verb.* London: Croom Helm, 42- 70.

Hock, H. H. 1986. *Principles of historical linguistics.* Berlin: Mouton de Gruyter.

Hooper, J. B. 1975. "On assertive predicates". In J. Kimball (ed.), *Syntax and semantics IV.* New York: Academic Press, 91–124.

Hooper, J. B. and Thompson, S. A. 1973. "On the applicability of root transformations". *Linguistic Inquiry* 4:465–497.

Hopper, P. J. 1987. "Emergent grammar". *BLS* 13:139–157.

Klein-Andreu, F. 1990. "Losing ground: a discourse-pragmatic solution to the history of *–ra* in Spanish". In. S. Fleischman and L. R. Waugh (eds), *Discourse-pragmatics and the verb: evidence from Romance.* London: Routledge, 164–78.

König, E. and Auwera, J. van der 1988. "Clause integration in German and Dutch conditionals, concessive conditionals and concessives". In J. Haiman and S. A. Thompson (eds), *Clause combining in grammar and discourse.* Amsterdam: John Benjamins, 101–33.

Matsuda, K. 1993. "Dissecting analogical leveling quantitatively: The case of the innovative potential suffix in Tokyo Japanese". *Language variation and change* 5:1- 34.

Matsuda, K. 1998. "On the conservatism of embedded clauses". *Theoretical and applied linguistics at Kobe Shoin* 1:1–13.

Matthiessen, C. and Thompson, S. A. 1988. "The structure of discourse and 'subordination'". In J. Haiman and S. A. Thompson (eds), *Clause combining in grammar and discourse.* Amsterdam: John Benjamins, 275–329.

Mitchell, T. F. 1956. *An introduction to Egyptian Colloquial Arabic.* Oxford: OUP.

Poplack, S. 1992. "The inherent variability of the French subjunctive". In C. Laeufer and T. A. Morgan (eds), *Theoretical analyses in Romance linguistics.* Amsterdam: John Benjamins, 235–63.

Poplack, S. 1995. "The sociolinguistic dynamics of apparent convergence". In G. Guy, J. Baugh and D. Schiffrin (eds), *Towards a Social Science of Language: Papers in Honor of William Labov.* Amsterdam: John Benjamins, 285–309.

Ross, J. R. 1973. "The Penthouse Principle and the order of constituents". In C. Corum et al. (eds), *You take the high node and I'll take the low node.* [Papers from the Comparative Syntax Festival], Chicago: Chicago Linguistic Society, 397–422.

Tao, H. and McCarthy, M. J. 2001. "Understanding non-restrictive *which*-clauses in spoken English, which is not an easy thing". *Language Sciences* 23:451–677.

Thomson, R. W. 1975. *An introduction to Classical Armenian.* Delmar, New York: Caravan Books.

Thompson, S. A. To appear. 'Object complements' and conversation: towards a realistic account. *Studies in Language.*

Thompson, S. A. and Mulac, A. 1991. "A quantitative perspective on the grammaticization of epistemic parentheticals in English". In E. Traugott and B. Heine, (eds), *Approaches to Grammaticalization, Vol II.* Amsterdam: John Benjamins, 313–30.

Vennemann, Theo. 1975. "An explanation of drift". In C. Li (ed.), *Word order and word order change.* Austin: University of Texas Press, 267–305.