

What counts as (an instance of) Grammaticalization?

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ABSTRACT: I discuss here various ways in which one might devise a counting heuristic for grammaticalization with an eye to testing the quantificational claims that have been made against specific implementations of such a heuristic. More specifically, I address the question of grammaticalization as a phenomenon of individuals versus a phenomenon of speech communities versus a phenomenon of languages. Similarly, I hope to show, once the individual versus group issue is dealt with, that by adopting Haspelmath's 2004 definition of grammaticalization as the tightening of internal dependencies, and thus a weakening of boundaries, between elements, we are in a better position to undertake a census since linguists have developed a reasonable idea of the sort of grammatical boundaries that need to be posited (word boundaries, clitic boundaries, morpheme boundaries, phoneme-to-phoneme transitions, etc.). Further, this view generalizes to offer a solution to the problematic notion of gradience in grammaticalization – cf. Kurylowicz's famous definition of grammaticalization as taking in movement from “more” to “less” grammatical – since linguists have long posited a hierarchy of boundary strength that can be appealed to.

1. Introduction

For nearly thirty years now, at least as far as the western linguistic academic scene is concerned,¹ the examination of the effects and changes that have come to be associated with and labeled as “grammaticalization” has occupied a major role in historical linguistics and in other related areas

¹ I phrase this statement in this way, with reference to western academia, so as to avoid the issue of whether grammaticalization studies started in the early 20th century with Antoine Meillet or in the 18th century with John Horne Tooke or even earlier. Whenever the first recognition may have been of “grammaticalization” in any form, it is clear that grammaticalization studies has burgeoned in the last 30 years.

of study. Moreover, there are well-recognized definitions of these effects, including the oft-cited ones in (1):

(1) Meillet 1912: “[l’]attribution du caractère grammatical à un mot jadis autonome”

Kuryłowicz 1965: “Grammaticalization consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from less grammatical to a more grammatical status [...]”

And there are other characterizations as well, sometimes focusing on the properties associated with an element taking on grammatical value. Nonetheless, it seems fair to say, as is made clear in the introduction to this volume, that “a loose use of the term *grammaticalization* does not contribute any longer to our understanding of the mechanisms involved in the emergence of grammatical forms and constructions”. To paraphrase Thomason 1980 in her review of Anttila 1977, a fascinating book dealing entirely with analogy in all its facets, if grammaticalization is everything, then it explains nothing.²

That is, if the term “grammaticalization” is used, loosely, to refer to almost any type of grammatical change, or even to change not involving grammar per se, such as in regard to the creation of lexical items, conventionalization of pragmatic strategies, etc., then any explanatory power that might be associated with the summoning up of the term and the constructs and assumptions that are associated with it would seem to vanish. That is, one can ask, to take a development of the sort that have been discussed under the rubric of grammaticalization, what is

² Thomason specifically says (p. 419): “If he is correct in his repeated claim that ‘everything’ in language is analogical’ (12), then he is also correct—trivially—when he says that analogy explains everything in language. But then it is equally correct to say that analogy explains nothing”.

grammatical about the employment of a imperative such as English *say* in sentence-initial position as an attention-getting element (e.g. *Say, have you seen the latest Harry Potter movie?*)?³ It certainly has a function in discourse, and its meaning is divorced from its etymological source in the *verbum dicendi* *say*; moreover, it is more restricted than a simple imperative of *say*, e.g. in terms of its positional possibilities in an utterance, but overall it seems merely to reflect a semantic shift with no particular grammatical use attached to the shift. This use can be contrasted with the use of *be like* in present-day American English to signal (an approximation of) a direct quote, as in the virtually stereotypical *I'm like, "Oh my god!"*, where there is a grammatical value attached, that of introducing a particular kind of complement clause. Thus with *like* in this use one sees both a semantic shift and the addition of a clause-introducing grammatical function; *say*, by contrast, is not involved in grammar per se, having only an innovative discourse function.

If some of the interest in grammaticalization is fuelled by a desire to understand language change and thereby understand language history, one could say that we learn nothing about either if the very real situation of grammatical uses emerging for items that did not previously have grammatical uses is conveniently labelled and then considered to be explained by virtue of the label. That is, the use of such a label without restraint or constraint does not advance the understanding of language change.

2. Motivating the Title to this Piece

A concomitant issue is not just what grammaticalization is, but also how we know we have grammaticalization and more particularly how we know we have a countable instance of

³ In some ways, then, this *say* would be somewhat like the development of *prithae* discussed in the grammaticalization literature (e.g. Akimoto 2000, Traugott and Dasher 2002).

grammaticalization, hence the title of this piece, “What counts as (an instance of) Grammaticalization?”. This title actually encompasses some ambiguity, so that some deconstruction of it is in order.

There is one construal of the title that could take it to point to a discussion of the question of whether a particular development that one might be interested in displays the appropriate characteristics that would allow it to be classified as an instance of grammaticalization. The use of the instrumental case within the history of Russian offers a suitable example to consider here. Nichols and Timberlake (1991: 129) discuss “the gradual extension of the use of the instrumental case (at the expense of the nominative) in Old Russian with predicative nouns”, treating this extension, quite rightly, as an innovation. Hopper and Traugott (2003: 131, hereafter H&T), drawing on Nichols and Timberlake’s account, place these developments within the context of grammaticalization, saying that Russian shows “changes in the uses to which the instrumental case has been put that are akin to grammaticalization in so far as they involve the coding of grammatical relationships, but are unlike grammaticalization in its prototypical directional sense, in so far as they simply demonstrate a shift in the way relatively stable grammatical networks operate.”

H&T then attempt to explain away this apparent counter-directionality. They observe (p. 131) that “in Old Russian, the instrumental was allowed only with nouns expressing status or role that could change over time (e.g., ‘tsar,’ ‘secular leader,’ ‘nun’), and only in contexts of entering that status (inception), or continuing in it for a period of time. Later Russian, however, virtually requires the instrumental with such nouns referring to status or role; also quasi-status nouns (agentive nouns such as ‘bribe-giver’) can now allow the instrumental in contexts of durative aspect.” In this way, they say, “There is certainly no case of ‘more > less grammatical’

here.” H&T further note that Nichols and Timberlake (1991: 142) say that “the overall effect has been to fix usage in one domain and develop variation in another”. H&T then continue (p. 131): “Rather than being a counterexample to the unidirectionality of grammaticalization, the Russian instrumental is an example of rule generalization over a lengthy period of time (about 1,500 years). It also illustrates the potential longevity of certain types of grammatical organization, and suggests that persistence is not limited to the meanings of grammatical items, but is also evidenced by purely grammatical inflections.”

This discussion can be interpreted as follows. H&T seem to be inclined to consider the Russian developments with the instrumental to be within the scope of “grammaticalization”, despite the fact that it does not share all the properties typically associated with grammaticalization. This kind of discussion, trying to decide if a given development or set of developments is or is not an instance of *grammaticalization* occupies a considerable amount of the literature about grammaticalization, but for me here, this particular sort of debate is not irrelevant but is actually somewhat beside the point. It should be noted that I am here glossing over the much debated issue of whether “grammaticalization” is a separate type of change in its own right, as argued by Haspelmath 1998, 1999, or is instead merely a label for a series of independent changes, as argued by Campbell 2001, Janda 2001, and Joseph 2001, among others, as this issue is tangential to my main focus here.⁴ My focus is rather on a different sense of what it means to “count” as an instance of grammaticalization.

⁴ One might think that if a causal connection between seemingly independent changes could be established, with one change seemingly triggering another, then Haspelmath’s position would be preferable to Campbell’s. Still, the question here would be what it means for one change to trigger another one. Unless one change immediately follows another one, it would be hard to say that the first triggered the second; any significant temporal gap between the two would vitiate any claim of a causal connection. There do seem to be such linked changes, but as argued

That is, what I am more interested in here is the question of not whether some development can be labeled as grammaticalization, per se, so that it “counts” in that way, i.e. can be brought in under the umbrella of the notion ‘grammaticalization’, but rather whether it can literally be counted, i.e. included as part of an enumeration of grammaticalization changes.

3. What Counting Grammaticalization Might Mean: Some Case Studies and Discussion

With regard to what it might mean to “count” instances of grammaticalization, it is important first to note that grammaticalization is indeed treated as an entity that can be enumerated, since claims have been made about it that are stated in quantificational terms, on both sides of the debate about the nature of grammaticalization and the validity of unidirectionality. I offer in (2) a sampling of such claims, where “antigrammaticalization” and “upgrading” are the terms used for developments that ostensibly go against claims of unidirectionality for grammaticalization, showing change in status from more grammatical to less grammatical, what is called “degrammaticalization” in Norde 2009, the term adopted here:

- (2) Newmeyer (1998: 275-6): “a rough impression is that downgradings have occurred at least ten times as often as upgradings”

Haspelmath (2004: 29, reiterating a claim first made in Haspelmath (2000: 249): “[there are] eight cases [of antigrammaticalization] ... these cases are real exceptions [to unidirectionality]”

below in §3.3, it is rarely the case that any subsequent change is inevitable. Note too that often what linguists refer to as a sequence of changes can involve even different generations of speakers (cf. Janda 2001 on this).

Haspelmath (2004: 37, reiterating a claim first made in Haspelmath 2002: 249): “my impression is that they [i.e., upgradings] are rather a hundred times as frequent [as downgradings]”

Heine (2003: 582): “a number of examples contradicting the unidirectionality hypothesis have been identified ... however ... such cases are few compared to the large number of examples that confirm the hypothesis”

Claims of this sort clearly rest on an assumption that we know what the units are that are to be counted, yet there does not seem to be any direct consideration of this issue to be found in the literature, other than a brief discussion in an earlier work of mine, Joseph 2011. In that work, I observe how tricky it can be to count instances of grammaticalization, using the familiar example of the development of the future tense in Medieval and Modern Greek, to which I now turn, as a case study.

3.1 Counting Grammaticalization(s) in the Modern Greek Future

The facts of the development of the Modern Greek future are well known.⁵ It involved the shift of a volitional verb with a subjunctive complement to a futurate function, followed by a series of changes in the once-main verb of volition together with a subordinating element, leading to Modern Greek futures marked with a verbal prefix *tha*. The steps are roughly as in (3):⁶

⁵ See Bănescu 1915, Joseph and Pappas 2002, and Markopoulos 2009 for relevant discussion.

⁶ I use here a convenient and traditional, though admittedly unsuitable, transliteration of Greek orthography; it is unsuitable in that for the later stages, and most likely even the earliest stages represented in (3), the < th > ,

- (3) a. *thelō hina VERB* ‘I want that VERB’
 b. => *thelō hina VERB* ‘I will VERB’
 c. => *thelei ina VERB* ‘it will that VERB’
 d. => *thel na VERB*
 e. => *thenna VERB*
 f. => *thana VERB*
 g. => *than VERB*
 h. => *tha VERB*

where all the steps involve regular sound change or well-motivated analogical changes (and all are attested; see Joseph and Pappas 2002, Markopoulos 2009).

An examination of (3a) - (3h) shows that clearly a lot has gone here between early Medieval Greek and the modern language, and a rather large number of changes has certainly taken place. Yet, it is fair to ask how many instances of grammaticalization are represented here? In particular, is it 1 (*thelō hina VERB* > *tha VERB*), i.e. the whole chain of cumulative changes? Is it 1 (WANT > FUTURE in (3a)), i.e. the initial impetus that moved a lexical verb into the grammatical domain? Is it 7 (3a > 3b, 3b > 3c ... 3g > 3h), that is, all of the developments seen here? Or something else, some number in-between perhaps? Without answering this definitively, yet, I mention here several further issues relevant to enumerating that are raised by this case study and that need to be considered.

transliterating the Greek letter theta, is to be pronounced as a fricative, [θ], < ō > (Greek omega) as [o], and the seeming diphthong < ei > as [i].

First, the difference between (3a) and (3b) is partly a matter of what it means “to become grammatical” and “to become more grammatical”. This is an issue that goes beyond mere enumeration, though I come back to it in section 4 with a concrete answer.

Second, Haspelmath 2004, in the discussion of possible exceptions to unidirectionality that led him to identify the eight real such cases he knew of, as noted above, actually counts as one of those eight “English and Mainland Scandinavian genitive suffix $-s > \text{clitic } =s$ ” (p. 29). Yet, however similar the English and Scandinavian developments may appear, they took place in different places at different times in the mouths (and minds) of different speakers, so it seems to be a bit disingenuous to count them as somehow being the “same” case. (See Norde 2009 and elsewhere on this.)

Third, some of these developments cut across the cline of grammatical type, the Word – Clitic – Affix cline, in that (3a) $>$ (3b) $>$ (3c) seem to involve no change in the morphosyntactic status of the forms involved, i.e. *thelō* and *thelei* are words at all of these stages, and *(h)ina* is too, though some might call it a clitic, but its status does not change in this mini-chain of events. Some of the later stages do involve shifts along this cline, since *tha* in Modern Greek is arguably a prefix.⁷ Does it only count as grammaticalization when there is a shift along this cline? Possibly relevant here is the distinction made by some (e.g. Lehmann 1995, Traugott 2002, Detges and Waltereit 2002, von Mengden 2008) between the movement into grammar in the first place and subsequent developments (roughly, Traugott’s “primary grammaticalization” and “secondary grammaticalization”). Without such a distinction, it becomes very hard to see what to enumerate, but introducing such a distinction also would force a radical re-evaluation of instances that have been claimed in support of this or that aspect of grammaticalization.

⁷ See Joseph 2001, 2002 for discussion of this point.

Moreover, if enumeration is the goal, then with such a distinction would come the need for greater specificity in classifying particular cases. It is interesting to note that Haspelmath's definition of grammaticalization from his 2004 article, "a grammaticalization is a diachronic change by which the parts of a constructional schema come to have stronger internal dependencies",⁸ would not treat the first shift, from a volitional construction to a futurate construction as "a grammaticalization", whereas Heine and Kuteva (2002: 310) include that very shift as within their "lexicon of grammaticalization". In a case like this, the first point above comes into play since qualitative judgments as to what "counts" as within the scope of grammaticalization intersect with questions of what to enumerate as "a" grammaticalization.

Fourth, H&T (2003: 131) seem to point the way to an answer to the first point above when they say that "a particular grammaticalization process may be, and often is, arrested before it is fully 'implemented'". Such a statement seems to be saying that "full implementation" is a relevant criterion in the consideration of grammaticalization. If such a criterion is taken seriously, though, it would seem to imply that any examples that are treated as "grammaticalization", or more particularly as enumerable "grammaticalizations", should have to pass this additional test before they can be counted. That is, perhaps we do not have "a grammaticalization" that can be counted unless it is "fully 'implemented'". That, of course, raises the question of how one knows what constitutes full implementation. In the case of the Greek future, is (3a) > (3h) full implementation or is each stage in (3) such an instance?

Fifth, pushing this point a bit farther and keeping H&T's point in mind about arrested development, we might be disinclined towards treating (3a) > (3h) as the way to count "a" grammaticalization here when we realize that languages can stop at any point along a series of

⁸ Note that Haspelmath uses "grammaticalization" here as a count noun, as it occurs with the indefinite article, which suggesting its enumerability.

cumulative changes, so that there is nothing deterministic about this particular sequence of changes. Greek got along just fine for several decades (or more) with unreduced *thelō hina* for future, and with unreduced *theli na*, etc. That is, each stage in (3) represented a fully completed change for the speakers involved in the change in the period in which the change occurred, and there was no necessity that any such stage be further altered, any more than there is any guarantee that something further does not happen to the Modern Greek stage with *tha*; if it is possible to discern some stage beyond *tha* that is waiting to happen, it would mean that (3a) > (3h) is not (yet) “fully ‘implemented’”. But in that case, one has to wonder whether any particular development one might want to treat as an instance of grammaticalization would ever pass the “full implementation” test. This point has been made many times by others, including Lehmann and Hopper and Traugott, but it is important to emphasize here its relevance for the issue of counting and enumerating. Since nothing impels the collocation on to the next stage, how would we know when a suitable endpoint has been reached that justifies our enumerating a given development, or set of developments, as an instance of “grammaticalization”, as “a” grammaticalization? It might be more reasonable therefore simply to count each stage.

Sixth, if it is the case that each stage should be counted, how do we know we have all the relevant discrete stages? This issue comes up again below in section 3.3 regarding change in general.

Seventh, and further, the points raised above about “grammatical” versus “more grammatical”, i.e. of “being embedded in the grammar” as a scalar notion, and about the relevance of the word-clitic-affix cline to counting instances of grammaticalization are worth returning to. In particular, one can legitimately ask if it would matter at all in an enumeration of what was going on with the Greek future developments that some of the stages result from

(regular) sound changes, e.g. the degemination in *thenna* > *thena*, and some from analogy. It is not unreasonable to think of sound change as somehow more “organic”, more spontaneous, more governed by physiology and thus more ineluctable and more inevitable than analogy, inasmuch as analogy is more “cognitive” and thus more prone to being interrupted. As natural sorts of changes that presumably stand outside of grammaticalization, some such sound-change determined stages could be interpreted as interrupting a “grammaticalization process” so that a new process then starts, especially if one adheres to the view of Hopper and Traugott mentioned above about the possibility of a grammaticalization process being arrested before completion. If so, then we might view the Greek developments as involving perhaps two or three interrupted grammaticalization processes, that is a count that is somewhere in-between the two extremes of one instance versus seven instances.

So, there are several ways in which the Greek future developments could be counted as far as enumerating instances of grammaticalization is concerned. For what it is worth, my view is that the first development, by which *thelō hina X* with lexical meaning (‘want that X’) came to be employed -- with no change in form -- as a future, with grammatical meaning (‘will X’), was the grammaticalization here, representing the entry of a lexical form into the grammatical realm via a semantic shift, that is to say, a functional shift. The remaining developments did not alter the status of the collocation as a grammatical functor but simply moved the functor along the word-to-affix scale -- or not as the case may be -- over a considerable amount of time and in the mouths and minds of different speakers at different chronological stages. Those are grammatical changes, to be sure, but not necessarily, in my view, “grammaticalization”, since once embedded in the grammar as part of a future construction, the element *thelō*, or its descendants, would have been serving a grammatical purpose all along.

Thus, this case study exposes problems with a number of basic definitional issues. At the same time, too, it shows how difficult it can be to decide, even with definitions in hand, just where to make appropriate cuts in the reduction cline, cuts that might allow one to determine how to count instances of grammaticalization. Moreover, there are cross-cutting issues of the function that a given construction is put to, which admittedly may be more of a semantic issue per se than a purely grammatical one, and the status of the particular functor in the overall grammatical system, which may be more of a morphological issue. The result is that however one slices things, the decisions are fraught with difficulty.

3.2 *Counting Grammaticalization(s) in the American English Mitigating Qualifiers*

Another case study offers an important lesson at this juncture. The starting point is the observation that in English today, at least in American English, there are two mitigating qualifiers *kinda* and *sorta* that can qualify noun phrases, verbs, adjectives, and adverbs, as in (4):

- (4) a. Robin is kinda/sorta the idiot of the family
 b. Robin kinda/sorta likes her
 c. Her car is kinda/sorta yellowish
 d. Serious mistakes kinda/sorta always happen

As is well known, historically these represent reductions of the fuller forms *kind of* and *sort of*, with which they share the same functions and essentially the same distribution; these therefore surely started life as what their literal and compositional sense would imply: as noun phrases *a kind/sort of* that took an *NP* as complement with *of* and served as a way of qualifying, in a

somewhat mitigating way, that NP complement. The spread to use with constituents other than noun phrases is due to a reanalysis of these phrasal mitigators/qualifiers as being like other mitigators/qualifiers such as *somewhat* / *almost*, which can occur with any kind of syntactic category, as indicated by the sentences in (5):

- (5) a. Robin is somewhat/almost the idiot of the family.
 b. Robin somewhat/almost likes her
 c. Her car is somewhat/almost yellowish
 d. Serious mistakes almost always happen

What is instructive about *kinda/sorta* comes from some speculative but suggestive thoughts about the acquisition of *kinda/sorta* relative to the fuller *kind of* / *sort of*, for there are lessons to be learned about grammaticalization and degrammaticalization and about enumerating instances of the two.

In particular, it seems reasonable to suppose that children are more likely to learn the reduced forms first, since the reduced forms *kinda/sorta* are commoner in conversation and thus represent more likely input to early language acquisition than are the fuller forms *kind of/sort of*. But once children have learned those reduced forms, it is fair to ask what happens as they mature a bit and at some point realize, possibly through exposure to written English through formal education, that the reduced forms have equivalent fuller forms. Once they connect the fuller and reduced forms, assuming of course that they do at some point,⁹ essentially mapping from the

⁹ This assumption may not be warranted, and it seems entirely reasonable that a connection between *kinda/sorta* and the fuller forms *kind of/sort of* may escape some speakers altogether. But for those that do connect them, the

first-acquired reduced forms to the later-learned fuller forms, those children are operating counter-directionally, in a degrammaticalizing way, as they are “rebuilding” structure from reduced material, and thereby reversing the putative unidirectional reductive processes.

I would like to suggest that not only is this a case of degrammaticalization that could be added to Haspelmath’s 8 cases (or 9 or 10, due to his lumping together of the English and Scandinavian genitive *-s* developments) but it also actually represents potentially millions and millions of cases. That is, in principle, each child who makes the connection – in a counterdirectional, degrammaticizing way – between reduced *kinda/sorta* and their respective fuller forms *kind of/sort of* is essentially a single token, a single instance of degrammaticalization, i.e. “a” degrammaticalization. If we reckon up the number of speakers who presumably have made such a connection and realize further that this is a connection that they are unlikely to pick up from someone else (unlike an individual reduced form), we then have, indeed, literally millions and millions of instances of degrammaticalization, summed over all the speakers of English in even the past century, even if only a fraction of the speakers at any given time recognize the connection between *kind of* and *kinda*, etc.

This example raises another key point in regard to the issue of enumerating examples of grammaticalization or degrammaticalization. In particular, not only how do we count, but what do we count? Do we attend to changes in individual behavior or changes in group grammars? Haspelmath says that with his eight cases of degrammaticalization he is focusing on “types of changes, not tokens” (2004: 28). But under most views of how language change works, changes start in small “locales”, either in the grammar or in time and space, and diffuse from there. For developments that show socially realized diffusion, the diffusion surely is not at

considerations discussed here are relevant. Speaking in favor of making a connection is the fact that the reduced form and the full form have essentially the same distribution and serve the same function.

all tied to anything like “grammaticalization” but is a social fact, a social fact that utilizes/draws-on linguistic material to be sure, but a social fact. We have to pay attention to tokens, in individual grammars, even if there is some generalization to be made to types over an entire community grammar.

This is something of an impasse, admittedly, and it does raise the sticky question of whether the spread of a changed form from one speaker to another represents an instance of grammaticalization or is just a matter of Speaker B borrowing material from Speaker A, in any form. We often give labels to various developments as “loans from language X” in the mouths of any speaker of the borrowing language, when in fact, that speaker may have borrowed it from another speaker of his/her language and not from a speaker of the original donor language; the same is true with labels like “spelling pronunciation”, as with the occurrence of a [t] in English often ([afən] vs. [aftən]), yet it need not be the case that all speakers with the *-t-* have it because of the spelling – that is likely to be the original impetus for the reintroduction of the *-t-* but need not be the reason for any given speaker who can be observed today with the *-t-*.

This is a general problem that we need to confront, in grammaticalization studies as well as in general historical linguistics, and there is no easy answer here. Nonetheless, it is important to know that this problem exists and to keep it in mind for cases where, as here, it might affect an outcome.

3.3 A Related Enumeration Issue: Gradualness of Change

Another problem that needs to be confronted, one that is hinted at in the discussion above about *thelō* in the Greek future, concerns gradualness and what this means for “counting”. In the *thelō* case there were at least seven steps between the Ancient Greek starting point and the Modern

Greek form, and it was not clear whether to count each step or just what. But this is a general problem, and a huge one at that, in general historical linguistics – how, for instance, do we count instances of a sound change?

That is, given a gradual sequence such as: $ki > k^v i > k^f i > t^f i > t^f$, where there is a commonly found outcome such as t^f from an earlier velar before a front vowel, we are inclined to say that $k > t^f$ is “a sound change” even though it is certainly the case that there can be a large number of “intermediate stages”. Compare this with the famous case of Proto-Indo-European $*dw^{10} > \text{Armenian } erk-$ ([jerk]), where no one would think of $dw > jerk$ as somehow a common outcome, even though it shows the same sort of cumulative sequencing of a number of sound changes that were regular for Armenian ($w > g, d > t, g > k$ after $t, t > r$ before a consonant, prothetic $e-$ before an initial cluster, and prothetic $j-$ with an initial $e-$).

With morphological change or with a borrowing, on the other hand, we may be dealing with more abrupt-looking changes, but I would like to suggest that even with the cumulative effect of several sound changes -- “cumulative” being a more revealing term than “gradual” here -- each shift, each development indicated by a “>”, is an abrupt step. They may well be “micro-steps”, but they are abrupt steps nonetheless, discrete deviations from a previous stage. Further, when it is recalled that any language can in principle cut the accumulation off at any point, since there is nothing that forces speakers to go on to yet another change, there is not a nirvana-like endpoint that all are attempting to get to. That is to say, even if common, t^f is not an inevitable outcome of any of the steps listed above that move away from a starting point of ki .

As a further angle to consider in the counting issue, it can be noted that if the term or notion “grammaticalization” is used, loosely, to cover an increasingly broader range of

¹⁰ This reconstruction is indicated by the occurrence of [dw] in Sanskrit, Greek, and Slavic and reflexes of a [dw] in other branches (e.g. Germanic, with $tw-$ from the regular devoicing of Grimm’s Law).

developments, then the issue of counting is going to be multiplied many times over; any development that shows any kind of gradualness or step-wise realization is going to run into this problem of identifying units.

4. Enumerating Grammaticalization: Steps toward a Solution

Another very real concern that affects enumeration comes, as suggested above, with the second part of Kurylowicz's definition, that having to do with an element that is already grammatical becoming more grammatical. This matters because it sounds gradient or scalar, yet if one is going to do any counting, it can really only be done by counting discrete stages/steps.

Thus in a sequence of changes $A > B > C > D > E > F$, each pair ($A > B$, $B > C \dots$) is a potential instance of grammaticalization or degrammaticalization (or a "lateral shift" in the sense of Joseph 2006). But to count, a given pair would have to meet certain criteria. If A is lexical, then B would have to be within the domain of grammar ("grammatical" in that sense), in order to count. This criterion really deals with the meaning of an element, and so it may not be an easy one to decide, as earlier discussion suggests, even if most linguists have reasonable intuitions about what would qualify as "grammatical" as opposed to lexical. There is also a form-related criterion, having to do with the "cline" of word to clitic to affix; this criterion, I suggest, can be operationalized in terms of Haspelmath's 2004 definition ("a grammaticalization is a diachronic change by which the parts of a constructional schema come to have stronger internal dependencies") with a formal interpretation imposed on it based on what is known about the sorts of boundary elements that need to be posited in linguistic analysis.

That is, it is widely recognized that certain kinds of boundaries are needed to adequately describe language data. For instance, in the literature one finds reference at least to

word boundaries, clitic boundaries, morpheme boundaries, and phrasal boundaries,¹¹ and to that the analytic boundaries of phone(me)-to-phone(me) transitions within words and morphemes can be added.¹² Various symbols are found for these boundaries, but the characteristics that motivate the boundary in the first place are more important than the symbols. Still, symbols can be helpful as shorthand for various behaviors, so in what follows, # is used for a word boundary (with ## for separate words in a phrase, one on each side of each word, and # alone for compounds), = for a clitic boundary, + for a derivational morpheme boundary, and - for an inflectional morpheme boundary,¹³ while nothing is used for the transition from phone to phone within morphemes

¹¹ Other boundaries could be mentioned, such as compound boundaries, and, as an astute reader kindly pointed out, some of the distinctions implicit in these boundaries are very hard to be certain about in individual cases. The element *-like*, for instance, as in *catlike* (or *cat-like*, as the case may be), could be treated as forming a compound, given that there is an adjective *like* (as seen in the phrase *in like manner*), but as the adjective seems to be obsolescent, *-like* could be a derivational element for some speakers. I do not have a definitive answer to this issue, but would suggest that whatever solution one might opt for can be brought to bear on the matter of how to enumerate instances of grammaticalization. I assume that it could be readily worked into the inventory of boundaries given here. In fact, if the compound-versus-derivation decision rests on whether there is a free word X matching the occurrence of X in a composite form, and if the fate of the free word is independent of the fate of a corresponding composite element, then a judgment as to whether a grammaticalization has occurred is not a matter of some process affecting the element itself but rather on a complex of independent developments. This is akin to the issue alluded to earlier of whether grammaticalization is a separate process of change or just the outcome of a cluster of several changes, each with its own motivation and operating principles. Note that the decision as to whether a sound is a phoneme or an allophone can be affected by external events, such as the borrowing of a word with a contrasting sound, as in the case of English [v], originally an allophone of /f/ intervocalically, but elevated to phonemic status when borrowings from French gave minimal pairs such as *feel* vs. *veal*.

¹² I say “analytic boundaries of phoneme-to-phoneme transitions” because acoustic phonetics shows us that there may not be the sharp segment boundaries in the speech stream that our use of discrete symbols like /bid/ for *bead* might suggest. Nonetheless, there are some transitions from one sound to another, even if some features of one bleed into an adjacent one, and it is those transitions that I want to draw attention to here.

¹³ This use of + and - is perhaps idiosyncratic to this paper, but recognizing a distinction between derivational morphemes and inflectional morphemes makes sense, based on their differential behavior in analogical levelling and paradigm uniformity effects and on differences in the parsability of inflectional vs. derivational affixes, with inflection being generally considered to be easier to parse.

(other than the juxtaposition of two phonetic symbols without a boundary connecting them).

These boundaries, these “transitions” between elements in a string, can serve to define a metric for Haspelmath’s “tightening of internal dependencies”, if it is assumed that word boundaries are the loosest dependency, not “internal” at all, and the phone-to-phone transition the tightest, with clitic, derivational, and inflectional boundaries in between. That is, these boundaries can be seen as a scale (or “cline”):

##	#	=	+	-	Ø (phone-to-phone)
LOOSE			STRONG		
<i>Cline of internal dependency boundary strength</i>					

and this scale allows for the operationalization of Haspelmath’s definition of grammaticalization in a precise enumerable way. The number of grammaticalizations or even degrammaticalizations can be indicated by the number of boundary changes involved, counted by looking at the changes in boundary symbols.

There may of course be some movements into grammar that one might want to call grammaticalization that would not be measurable in this way. For instance, if the move from volitional *thelō* ‘want’ into a grammatical role as future (‘will’), shown in the case of the first stage in (3a) to (3b) above, is to be considered grammaticalization, especially in the etymological sense of the term of “becoming grammatical”, there would not be a boundary change to count. Here, in the absence of a boundary change to point to, the shift in meaning would have to be taken as a decisive criterion; still, it would only amount to a single instance, and the grammaticalization with the future in Greek would appear to be localized to that particular

development. But many instances of change that are generally considered grammaticalization in the literature would be countable in this way, such as the examples in (5):

- (5) a. #*child* # *hād*# (compound) > #*child* + *hood*# (derived noun with derivational affix) [one change in boundary type, thus 1 grammaticalization]
- b. Latin # *clarā* # # *mente* # (phrase) > #*clarā* # *mente* # (compound) > (Fr.) #*claire-ment* # (inflectional, creating adverbial modifier out of adjectival modifier, though possibly #*claire+ment*#, derivational, deriving adverb from adjective) [two changes in boundary type, therefore 2 grammaticalizations, whatever the proper synchronic analysis of the French form is]¹⁴

And, the whole sequence with the Greek future, taken from (3), can be recast in these terms, as shown in (6), where the full set of developments is compressed a bit:

- (6) # *thelō* # # (*h*)*ina* # # *VERB* # [VOLITION]
- > # *thelō* # # (*h*)*ina* # # *VERB* # [FUTURE]
- > # *thelei* # # *na* = *VERB* #
- > # *thel* = *na* = *VERB* #
- > # *thenna* = *VERB* #
- > # *thana* = *VERB* #

¹⁴ Spanish *mente* adverbs allow for the absence of the adverb-forming element in the first of conjoined adverbs, so that one finds *rapida y claramente* meaning ‘rapidly and clearly’. Such forms may still be in the compound stage or may have been in the derivational/inflectional stage and reverted to the compound stage due to learned borrowing (and reintroduction) of Latin *mente*.

> # *than* - VERB #

> # *tha* - VERB #

In this case, then, there would be no countable “Haspelmath grammaticalization” in the shift from VOLITION to FUTURE, but the meaning criterion of a shift into grammatical status would allow for a count of 1 at that stage; the rest would show only 3 countable grammaticalizations, or possibly more, if the change from a = boundary to no boundary, e.g. *thel=na* > *thenna*, is not a one-step development. Viewed this way, not every stage in this well-known and essentially prototypical¹⁵ grammaticalizing reductive sequence would count as an instance of grammaticalization; moreover, those that do count would count only with regard to the boundary-based formal criterion, since the meaning is equally grammatical at all stages, once the shift into marking future has occurred.

What about degrammaticalization? One such putative case involves change in the Middle/Modern Greek verbal endings in which they were re-shaped so as to appear to be formed from the incorporation of personal pronouns (Joseph 2006). Some of the relevant changes are given in (7):

- (7) 1PL –o-mestan > -o=mas=tan (cf. weak 1PL oblique pronoun *mas*)
 2PL –e-ste > -o=sas=te (> -o=sas=tan) (cf. weak 2PL oblique pronoun *sas*)
 3PL –o-ndo-stan > -o-n=dus=tan (cf. weak 3PL oblique pronoun *tus*)

¹⁵ As noted above, Meillet 1912, after all, used it to illustrate grammaticalization.

In the 1PL, therefore, there is one instance of degrammaticalization, the change from no boundary, i.e. just the phone-to-phone transition found between the morpheme-internal segments, to a clitic boundary as the vocalism of the weak pronoun *mas* is incorporated into the ending making it parsable in the way indicated on the right, and so also in the 2PL and 3PL. Viewed this way, these developments would yield three instances of degrammaticalization to add to Haspelmath's list.¹⁶ Similarly, consider the case in (8), discussed in Joseph 2011:

- (8) *The baby is hiccoughing* ([hɪkəp-ɪŋ], no boundaries other than word-internal phone-to-phone transitions and the inflectional boundary with *ing*) => colloquial American English *The baby is hicking up* ([hɪk-ɪŋ # əp], with a # boundary with *up*, treated now as a separable particle)

Here there is one change in boundary type, therefore 1 more degrammaticalization to add to the list.

Recognizing and employing the known typology of boundaries therefore provides a means for being more precise about claims concerning grammaticalization and degrammaticalization, in ways that do allow for clear enumeration.

5. Conclusion, and one Further Case Study

Even if boundaries can be used as a way of getting a handle on how we might count instances of grammaticalization, various issues remain. For instance, one still has to decide how to count general “cases” as opposed to individual instances, and how to discount replicated (diffused)

¹⁶ See Janda 1995 and Doyle 2002 for similar sorts of degrammaticalizing changes involving verbal endings from New Mexican Spanish and Irish, respectively.

instances across different individual speakers of a language as opposed to counting individual speakers coming up with – or utilizing – the same grammaticalization pathway as another speaker.

It might well be the case also that there is a general disinclination about finding instances of degrammaticalizations because many linguists working within a grammaticalization framework may simply not be on the lookout for such cases. If something is not on your radar screen, so to speak, you are not going to find it. This means that it might be best simply not to try to enumerate grammaticalization, or degrammaticalization, and rather to just take each case as it comes along, analyze it as to its particular characteristics, see what it says about the history of the particular language it pertains to, and so on, without trying to keep score, as it were about grammaticalization versus degrammaticalization.¹⁷

Declaring a moratorium on counting instances of grammaticalization or degrammaticalization removes from consideration one of the two main counter-arguments that grammaticalizationists have made against those who advocate recognizing that degrammaticalization can and does occur, namely that supposedly grammaticalization is far more prevalent than degrammaticalization. That is, by not keeping count, that kind of argumentation becomes moot, pro or con.

At this point, it is appropriate to dispel further oft-repeated counter-argument against recognizing degrammaticalization. A characterization that is often made concerning

¹⁷ I say this not from a loser's perspective, given that I have elsewhere (Joseph 2006, 2011) championed degrammaticalization, but rather, given my interpretation of the case of *kinda/sorta* being reconstituted as *kind of* and *sort of* respectively as potentially showing millions of individual instances of degrammaticalizational behavior, I am saying this from the perspective of being a magnanimous and gracious winner.

degrammaticalization in dismissing it is that it is “sporadic” or “unsystematic”, and that instances of it show no general pattern.

It is instructive, however, to consider one case of degrammaticalization not recognized in the grammaticalization literature to date, though discussed in Joseph 2011, namely the developments in various languages that have come to be referred to as instances of Watkins’ Law (Arlotto 1972, Collinge 1985). In this development, inflectional material, specifically a 3SG verbal ending, develops into derivational material, specifically a stem-forming element. For example, a case in point is the passage from early Greek end-stressed present tense forms to forms marked with the stem-stressed endings, with the old 3SG form as the new stem:

(8)	1SG	rot-ó	‘I ask’	=>	rotá-o	(cf. 1SG <i>kán-o</i> ‘I do’)
	2	rot-ás	‘you ask’	=>	rotá-is	(cf. 2SG <i>kán-is</i> ‘you do’)
	3	rot-á	‘(s)he asks’	=>	rotá-i	(cf. 3SG <i>kán-i</i> ‘(s)he does’)

Interestingly, while the new present (imperfective) stem is *rotá-*, the perfective stem is *rot+is-*, e.g. aorist *rót+is-a* ‘I asked’, so that even *rotá-* should be segmented as *rot+á-*, with the *+a-* as a stem formative, i.e. a derivational element. Since derivational material is generally considered less grammatical than inflectional material, as we have seen, the change from *-a* being an inflectional ending in Greek to it being a derivational suffix (*+a-*) would represent a step backward on the cline of degree of grammaticalness, and thus a case of de-grammaticalization.

What makes this interesting from my perspective is that first of all it would be a hitherto generally undiscussed case of degrammaticalization, but more importantly in the context of the reexamination of grammaticalization that has prompted this piece, it would be a case that is

generalizable in virtually the same form to many languages. That is, numerous cases of the Watkins' Law phenomenon have come to light since Watkins first discussed it. Watkins 1962 demonstrated this change based on Sanskrit, Persian, Welsh, and Irish, but now several other cases have been found in Greek (Householder and Nagy 1972, Janse 2009), in Provençal (Bybee and Brewer 1980), and in Romantsch and Hua (Haiman 1977), and Koch 1995 argues that it is actually a rather widespread phenomenon once one takes into account inflectional material being reanalyzed not just in verbs but also in nouns. While it may not be the case that all instances of such reinterpretations yield configurations of facts that would qualify the reanalyzed material as derivational, as opposed to simply being a fused and indivisible part of a stem, it is safe to assume that some portion of them would lend themselves to such an analysis. That being the case, it becomes then a nonsporadic, general, and widely attested type of degrammaticalization, thereby removing one other characterization that is often used in dismissing attested cases of degrammaticalization.

So the end result is that taking counting/enumerating seriously when it comes to grammaticalization studies leads us to a position where the oft-cited differential degree of occurrence and differential nature of degrammaticalization as opposed to what is found with grammaticalization evaporate. This then is a plea for taking each individual instance seriously, for not trying to generalize too broadly, and for paying attention to details of analysis, even formalization, which is often anathema to many grammaticalization-based studies. And, it all is a result of trying to be rigorous about quantifying.

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