Grammaticalization, constructions and the incremental development of language:  
Suggestions from the development of Degree Modifiers in English

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1. Introduction

When we consider the topic of “language evolution: cognitive and cultural factors”, one of the first questions that come to mind is what is meant by “evolution”: language change over the course of recorded history (the time-span of which is very short, some seven thousand years only), or the biological and cognitive development of the language capacity in the species (the time-span of which is geological, possibly of over two hundred thousand years). As a historical linguist I will be discussing “language evolution” in the first sense, assuming that the historical record (all written until about a century and a half ago, when live recording began) reflects modern cognitive ability and a stable stage in the evolved human language capacity.1 By hypothesis, millennia ago, there were earlier stages that had not evolved as far; possibly, millennia from now, it will evolve further, but neither the very distant past nor the future are accessible, and can only be the subject of speculation. Another question is which model of the human language capacity seems likely to be plausible in the pursuit of hypotheses about the origins and development of language in the biological sense.

In this paper I explore some aspects of the relationship between linguistic constructions and grammaticalization. I assume that language is fundamentally a symbolic system that pairs form and meaning. Since constructions as theoretical objects are designed to capture systematic associations between form and meaning, I assume that constructions, conceived in recent traditions of Construction Grammar (e.g., Goldberg 1995; Kay & Fillmore 1999),

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1 When this modern capacity developed is controversial; so too is the extent to which its development was rapid or slow (see Wong 2005 for discussion). I assume here that the development was relatively gradual, without major saltations.
and especially Radical Construction Grammar (e.g., Croft 2001), form part, possibly all, of the building-blocks of grammar.\(^2\) I also assume that grammaticalization, understood as the output of processes of language use that lead to systematic changes in morphosyntactic form and meaning (e.g., Traugott 2002; Hopper & Traugott 2003 [1993]), is a basic type of change that may lead to the reorganization of central aspects of language, both syntagmatic and paradigmatic.

The organization of the paper is as follows. I start with overviews of earlier characterizations of the relationship between constructions and grammaticalization (section 2), and outline some of the salient features of Construction Grammar and Radical Construction Grammar (section 3). I then provide a sketch of the development in English of the degree modifiers/quantifiers a sort/lot/shred of from [NP1 [of NP2]] > [[NP1 of] NP2] (section 4). In Section 5 I interpret these changes from the perspective of grammaticalization, and in Section 6 from that of Construction Grammar. In Section 7 some thoughts are presented on how the material discussed might be relevant to the larger topic of this volume.

2. Claims about “constructions” and grammaticalization in earlier work

Although many concepts germane to grammaticalization were articulated before Meillet,\(^3\) he is thought to be the first to have used the term. He saw it as the result of reanalysis (in his view, the only way to innovate new grammatical material, a point to which I will return in section 7). He considered “lexical items” to be the source of most instances of grammaticalization, but also included word order, and lexical items in context of phrases. For example he discussed the function of French suis ‘I am’ in the context of a phrase such as chez moi ‘at home’ rather than of a lexical items such as allé ‘went’ (1958 [1912]: 131). Such contexts have often been called “constructions” in the literature on grammaticalization, and have been seen as the source as well as the outcome of grammaticalization, e.g., Givón (1979), Bybee, Perkins & Pagliuca (1994), Heine (2003), Hopper & Traugott (2003 [1993]), Traugott (2003), and Himmelmann (2004). Representative of this

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\(^3\) For short histories of grammaticalization, see Lehmann (1995 [1982]), Heine (2003).
perspective are the following two quotations from Bybee, Perkins & Pagliuca’s study of the development of tense, modality, and aspect in the languages of the world:

(1) a. Reduced to its essentials, grammaticalization theory begins with the observation that grammatical morphemes develop gradually out of lexical morphemes or combinations of lexical morphemes with lexical or grammatical morphemes (Bybee, Perkins & Pagliuca 1994: 4).

b. It is the entire construction, and not simply the lexical meaning of the stem, which is the precursor, and hence the source, of the grammatical meaning (Ibid.: 11).

However, it is not always clear that “construction” in these works means much more than “syntactic string”, or “string in morphosyntactic context”. For example, Lehmann’s work in the development of adpositions from prepositional and postpositional phrases, and of auxiliaries from main verbs, etc., led him to conclude that lexical items alone do not grammaticalize. They do so only in specific contexts, e.g., case markers derive from nouns, classifiers from numerals only under certain specifiable linguistic conditions:

(2) [G]rammatikization does not merely seize a word or morpheme … but the whole construction formed by the syntagmatic relations of the elements in question. (Lehmann 1992: 406)

More recently, Himmelmann has said:

(3) [I]t is the grammaticizing element in its syntagmatic context which is grammaticized. That is, the unit to which grammaticization properly applies are [sic] constructions, not isolated lexical items. (Himmelmann 2004: 31; italics original)

Despite this apparent focus on syntagmatic strings, it has also been clear that grammaticalization is multilayered, and involves a number of correlated changes. In Lehmann’s view these are structural (identified as six “parameters”: three paradigmatic constraints, called “integrity”, “paradigmaticity”, and “paradigmatic variability”, and three syntagmatic constraints, called “structural scope”, “bondedness”, and “syntagmatic variability”). But he has not limited the correlations to these structural constraints:
(4) A number of semantic, syntactic and phonological processes interact in grammaticalization of morphemes and of whole constructions.
(Lehmann 1995 [1982]: viii)

Bybee, Perkins & Pagliuca see this interaction as so tightly correlated that they have developed the hypothesis of “coevolution” of morphosyntax, semantics and morphophonology:

(5) Our hypothesis is that the development of grammatical material is characterized by the dynamic coevolution of meaning and form.
(Bybee, Perkins & Pagliuca 1994: 20)

Another approach to multi-layeredness is Himmelmann’s suggestion that grammaticalization is characterized by three types of expansion (2004: 32–33):

(6) a. “Host-class expansion”: a grammaticalizing form will increase its range of collocations with members of the relevant part of speech (noun, adjective, verb, or adverb). This is increase in type-frequency, i.e. productivity.

b. “Syntactic expansion”: this involves extension to larger contexts, e.g., from core argument positions (such as subject and object) to adpositions (such as directional and temporal phrases).

c. “Semantic-pragmatic expansion”: a grammaticalizing form will develop new polysemy in pragmatic or semantic contexts.

According to Himmelmann, in grammaticalization all three contexts expand (but not necessarily together); by contrast, in lexicalization the first does not, while syntactic or semantic-pragmatic contexts may stay the same, expand, or narrow.

The importance of pragmatic and semantic environments for morphosyntactic change are highlighted in e.g., Traugott & König (1991) and Heine (2003). As Heine has said:

(7) Since linguistic items require specific contexts and constructions to undergo grammaticalization, grammaticalization theory is also concerned with the pragmatic and morphosyntactic environment in which this process [shift from lexical to functional categories ECT] occurs.
(Heine 2003: 575)
As I show in the next section, it is this kind of perspective on grammaticalization that underlies Croft’s (2001) theory of Radical Construction Grammar.

3. Construction Grammar approaches

Construction Grammar is one of the few theories of grammar that builds correlations directly into the model, and so it is useful to consider its relevance to the multilayered views of grammaticalization outlined above. It is a cognitive, holistic, and (in most proponents’ view) usage-based framework (Fried & Östman 2004: 23–24), in other words, no one level of grammar is autonomous, or “core”. Rather, semantics, morphosyntax, and phonology, and, in some models, pragmatics, work together in a construction:

(8) Construction[s] in C[onstruction] G[rammar] are multidimensional objects that represent generalizations about speakers’ linguistic knowledge. As such, they allow for both the gestalt, holistic view of linguistic patterning (unlike formal theories of language) and for keeping track of the internal properties of larger patterns (like any other grammatical theory). (Fried, in preparation)

Accounts by Goldberg (1995) and Kay & Fillmore (1999) focus on parts of the grammar, especially those that show idiosyncracies:

(9) Any linguistic pattern is recognized as a construction as long as some aspect of its form or function is not strictly predictable from its component parts or from other constructions recognized to exist.

(Goldberg 2006: xx)

This work is for the most part conducted with the objective of showing that lexical items have relatively indeterminate meaning, and rather than being polysemous, they acquire their meaning from a construction in systematically related ways (Goldberg 1995: 159). As a consequence it is hypothesized that the construction imposes a meaning, and under the right implicit circumstances “coerces” interpretations (Goldberg 1995: 159; Francis & Michaelis 2002; Michaelis 2004). Examples are drawn extensively from “mismatches” such as *She had a beer*, where *beer* is used as a mass, not count noun.

Wiener & Bisang (2004: 9) comment that Goldberg’s and Fillmore & Kay’s approaches are synchronic, concerned with idiosyncracies, and syn-
tactic in orientation (where “syntax” includes argument structure and grammatical relations), and therefore their approach may be less than optimal for diachronic work on grammaticalization. By contrast, Croft (2001) highlights the Construction Grammar perspective that ultimately all of linguistic structure is constructional. In his version, Radical Construction Grammar, constructions are symbolic units conceived as in Figure 1 (Permission needed):

![Diagram of constructional structure]

*Figure 1. Model of the symbolic structure of a construction in Radical Construction Grammar (Croft 2001: 18; Croft & Cruse 2004: 258)*

According to Croft, the link between form and conventional meaning is construed in semantic terms, and as internal to the construction. This model has been built to account in part for cross-linguistic typological variation, and in part for grammaticalization. It therefore seems especially well suited for developing a more articulated approach to the correlations between grammaticalization and constructions than has been developed to date.\(^4\)

While Croft does not give any detailed examples of grammaticalization within his framework, he puts forward some general observations, including:

\(^4\) Owing to limitations of space, I will not go into the significant differences between Radical Construction Grammar and other varieties of Construction Grammar (see Croft & Cruse 2004: 283–289). What is important here is the six-layered construction model.
(10) a. In the grammaticalization process, the construction as a whole changes meaning. 
(Croft 2001: 261)

b. [T]he [new] construction is polysemous with respect to its original meaning … the new construction undergoes shifts in grammatical structure and behavior in keeping with its new function.

(Ibid.: 127)

c. Extension of constructions to new uses is a change in the distribution of that construction, and such changes are theorized to follow connected paths in conceptual space. 
(Ibid.: 130)

(10a) and (10b) are reminiscent of (5) above on coevolution of form and meaning. (10c) is a crucial reminder that grammaticalization is hypothesized to occur in small, local steps (known as the “gradualness” hypothesis).

Heine and his colleagues have conceptualized plausible local steps, particularly from a conceptual point of view, as “grammaticalization chains” (see Heine 1997). The steps are fine-grained structural differences that are constrained by plausible structural shifts along a continuum via morphosyntactic reanalysis and analogy. Very briefly, reanalysis involves change in constituency, hierarchical structure, category, grammatical relations or boundary types (Harris & Campbell 1995); it involves new structural configurations for old material.5 By contrast, analogy involves attraction of extant forms to already existing structures, hence generalization. Naturally, many reanalyses result from attraction to existing structures, and evidence for reanalysis derives from generalization to new contexts, so reanalysis and analogy often work together (Hopper & Traugott 2003 [1993]: ch. 3, Andersen In press a). In some cases they may be hard to distinguish – each analogical change is after all a reanalysis of the former string (Tabor 1994, and, from a different perspective, Kiparsky Forthcoming). These local steps of grammaticalization also involve equally fine-grained and constrained semantic and pragmatic shifts, sometimes with indeterminate intermediary stages, whether metonymic (e.g., Traugott & König 1991) or metaphorical (e.g., Heine, Claudi, Hünnefeld 1991). Such semantic and pragmatic shifts may themselves be conceptualized in terms of semantic and pragmatic reanalysis and analogy (Anttila 1992).

5 Andersen (in press b) provides a broader view of reanalysis, including shifts in individual speaker-hearers’ competence as changes are adopted by the community. Only structural reanalysis will be considered here.
4. Some examples: the development of three degree modifier constructions

English and most European languages have a large number of expressions with the pattern NP1 of NP2. This syntactic string has a wide array of functions, among them locative the back of the house, partitive a piece of the plate, approximative (a) sort of a frog, emotionally charged epithet an idiot of a teacher, subjective genitive the singing of the diva, and objective genitive a portrait of a hunter. NP1 of NP2 strings therefore participate in a number of different constructions, where syntax, meaning, and pragmatic function can be construed at various degrees of granularity ranging from general classes to individual idiosyncratic combinations which differ with respect to the kind of noun or determiner that can realize either NP, or with respect to the pragmatics associated with the string.

As a generalization, we may use an abstract string of the type illustrated by a piece of the plate:

(11) [NP1 [of NP2]]

This construction is binominal. Here NP1 is the head, the part that is perspectivized as in the foreground. A piece of the plate is about the piece (where it was found, whether it can be glued back, etc.). This is a “partitive” construction, since the semantic relationship between NP1 to NP2 is that of part/member to whole (N1 can usually be substituted by a phrase such as part). However, not all constructions to be discussed have the same semantics strictly speaking. For example, sort of (= ‘subtype’) in a (special) sort of rose is in a taxonomic (‘kind-of’) rather than partitive (part-of) relationship to NP2 (see Croft & Cruse 2004: ch. 6).6

The string in (11) is contrasted with that in (12), where the relationship between NP1 and NP2 is different, specifically NP2 is the head, as in a sort of a frog:

(12) [[NP1 of] NP2]

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6 In a more fine-grained analysis, partitive and taxonomic, degree modifier and quantifier uses would probably be considered separate subtypes of construction. It should be noted that the partitive discussed here involves an alienable relationship. Inalienable partitives such as body-part relationships have a very different history, typically becoming case markers (Heine 1997).
Here NP1 functions as a modifier, often a quantifier, substitutable by a degree phrase like *more or less, somewhat,* and NP2 is perspectivized as in the foreground, as in *A sort of a frog (= ‘frog-like thing’) jumped out at me, He is a bit of a liar.* Pragmatically such phrases cast doubt on the accuracy of the description ‘frog’ or ‘liar’. Such doubt may be a classificatory one as in the first instance, or a social one regarding whether the interlocutor will accept the description. Criteria for distinguishing (11) and (12) include agreement patterns: in (11) the determiner in NP1 agrees with N1 only, but in (12) it can agree with N2, cf. *these sorts of skill* (11) vs. *these sort of skills* (12) (colloquial). Furthermore, in (11) NP2 can be preposed, but in (12) it cannot, cf. *Of frogs this kind/sort is becoming extinct* (partitive) but *Of wine this is a lot* (degree modifier) (see Denison 2002).

A small subset of such constructions have been investigated from a historical perspective, most notably *(a) kind of N, (a) sort of N* (e.g., Tabor 1993; Denison 2002, 2005), *a bit (of) N, a shred (of) N* (e.g., Traugott forthcoming b). At some point in their histories they all participated in the Partitive Construction and at a later point also in the Degree Modifier Construction.

The change can be schematized as:

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\begin{align*}
(13) \quad [\text{NP1} \, \text{of} \, \text{NP2}] & \quad \rightarrow \quad [[\text{NP1} \, \text{of}] \, \text{NP2}] \\
\text{Head} = \text{NP1} & \quad \rightarrow \quad \text{Head} = \text{NP2} \\
\text{NP1} + \text{Mod} & \quad \rightarrow \quad \text{Mod} + \text{NP2}
\end{align*}
\]

(13) is a standard type of grammaticalization, as shown by the rebracketing and functional shift of NP1 (in some cases accompanied by phonological reduction (*kinda, sorta). *Kind of, sort of,* and *a lot* can be used as free adjuncts as in *I like it a lot,* but a shred (of) cannot. Two of the strings, *a bit of N* and notably *a shred of N* have come to be used largely in negative polarity contexts (negative, interrogative, conditional, etc., see Israel 2004).

Here I briefly outline the history of *a sort of, a lot of,* and *a shred of.* The changes are considerably more complex than suggested here, but must be abstracted away from for limitations of space. My purpose is two-fold. One is to illustrate aspects of grammaticalization, notably changes in the relationship between the two NPs, and the locality of structural and semantic changes. The second is to consider ways in which work on grammaticalization...
calization and Construction Grammar can together help capture the various changes involved.

4.1. (a) sort of NP

The noun sort was initially, at Step I, borrowed from French in the fourteenth century in the meaning of ‘group’ or ‘set’, i.e. as the superordinate term (see also kind, manner, type, Denison 2002, 2005), as in (14):

(14) Step I, pre-partitive use

Well may [h]e be called valyaunte and full of proues that hath such a sorte of noble knyghtes unto hys kynne
‘Well may he be called valiant and full of prowess that has such a group of noble knights among his kin.’

(a1470 Malory, Works 526/21 [MED, sort 1a])

In (14) sorte is a set or group consisting of knights. However, in the sixteenth century we find sort with meanings that suggest it denotes member of a set (i.e. partitive), rather than the superordinate set, especially when preceded by a quantifier (15a). There has been a semantic reversal from the term for a superordinate set to that for a member of the set. This crucial step aligns the string with many other NP of NP strings; without it the subsequent changes could not have occurred, so it merits special note.

(15) Step II, partitive use

a. The countrie aboundeth with all sort of corne, flesh, and fruit
(1594 Ashley tr. Loys de Roy 10b [OED, sort n2, 6d])

b. He’s a sort of a prentice, but he’s not fastened (= ‘bound by contract’).

(1632 Lithgow Trav. VIII. 353 [OED, fasten, v.])

When both NP1 and NP2 have indefinite articles, as in (15b), the indefiniteness may trigger the inference that because the class membership is not

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8 A crucial factor contributing to the shift under discussion is the changing status of the preposition of, which in Old English meant ‘out of’, but during Middle English came to be the default preposition (Denison 2002). Another crucial factor was the development of the indefinite article, another Middle English phenomenon.
uniquely identifiable, it is not exact. In this kind of context NP2 came to be reanalyzed as the head and *a sort of* became a degree modifier conveying the speaker’s assessment that the entity referred to is not an adequate or prototypical exemplar of NP2 (16a), or that NP2 is not an exactly appropriate expression (16b). In other words, it has a partially epistemic meaning. It can therefore sometimes be used as a hedge to save face if NP2 might be negatively evaluated by the addressee, as in (16b):

(16) Step III, degree modifier use

a. I do think him but *a sort of a*, kind of a *... sort of a Gentleman*
   (1720 Shadwell, *Hasty Wedding II. iv* [OED, *sort* n2, 8b])

b. I am a kind of a what d’ye call ’um *a Sort of a* Here-and-thereian;
   I am Stranger no where (1701 Cibber, *Love makes Man IV. iv* [OED, *here* 9d])

Over time, the use of an indefinite article with N2 declined for both the partitive and degree modifier uses. The development of the degree modifier use is particularly apparent when (*a sort of* is extended (like other degree adverbials such as *very*) in the form *sort of to* verb (17a) and adjective (17b, c) contexts (early examples are dialectal):

(17) a. It *sort o’* stirs one up to hear about old times
   (1833 Hall, *Legends West* 50 [OED, *sort* n2, 8c; Denison 2002])

b. I bees *a sorter courted*, and *a sorter not*
   (1839 Marryat *Diary Amer. Ser. I. II. 218* [Tabor 1993])

c. One is *sort of* bewildered in attempting to discover …
   (1858 Pirie, *Inq. Hum. Mind i. 10* [Ibid.])

As (17) illustrates, in the Degree Modifier Construction *sort of* loses its compositionality as a NP: *a* is dropped before N1, and *of* loses its prepositional function, eventually becoming cliticized to *sort as -a* (*sorta*, see also *kinda*). It has the status of an adverb (cf. *rather, quite*).

A further step is the use of the degree modifier as a free adjunct that can be used without NP2 as in (18a), often in an elliptical tag, and in the twentieth century as an independent response (a downtoning agreement marker, as in (18b)):
(18) Step IV, free degree adjunct use
   a. He chalked me down like a fool, me and Tom Staples; being old
      friends, or sort of
      (1835 Bird, Hawks of Hawk hollow II. viii. 78 [OED chalk, v.])
   b. ‘Friend of this hombre?’ ‘Yes; sort of’
      (1918 Mulford Man fr. Bar-20 viii. 79 [OED, hombre])

All uses of (a) sort in NP1 of NP2s strings, except those at step I, continue
to be available in Present Day English.

4.2. A lot of NP

A lot of (and its congeners a bit/bunch of) has many similarities to a sort/
kind of in its development, but there are also differences. Initially lot re-
ferred to an object (usually made of wood) by which persons were selected,
e.g., for office, with appeal to God or chance (see throw a lot, lottery), or,
by metonymy, to the share that falls to a person by chance or inheritance
(19) (see allotment, lot ‘parcel of land’). Here it is a limited partitive in the
sense that it can only be used with NP2s that denote concrete inanimate
objects. Like a bunch, but unlike a bit, it appears always to have been used
with mass, plural, or collective NPs:

(19) Step I, limited partitive use

   On Fearnes felda ge byra· twega manna hlot landes in to Sudwellan
   ‘In Fearn’s fields you extend two men’s parcel of-land in to Southwell’
   (= ‘…you extend a parcel/share of land large enough for two men…’)
   (958 Grant in Birch Cartul. Sax. III. 230 [OED, lot 2a])

In one early Middle English text, Ormulum, there are several occurrences of
a lot of being used to mean ‘part’, or ‘group’ of things or persons forming
part of a larger whole (see OED and MED), one of which is cited in (20a).
Examples in other texts occur considerably later, usually with reference to
groups of items for sale (20b, c). Although the changes are minor (host-class
expansion to animates and groups), they are an essential step toward the
development of the degree modifier/quantifier uses, and can be considered
a separate stage (still partitive, but expanded):
(20) Step II, expanded partitive use

a. He ne wass nohht wurrpenn mann..Forr to forrwærppenn anig lott
   Off Moysæsæss lære
   ‘He not was not become man for to overthrow any part of Moses’
   teaching’ (= ‘He did not become incarnate to overthrow any part
   of Moses’ teaching’)  (c1200 Orm 15186 [MED, lot 2c])

b. Mrs. Furnish at St. James's has order'd Lots of Fans, and China,
   and India Pictures to be set by for her, 'till she can borrow Mony
   to pay for 'em.
   (1708 Baker, Fine Lady's Airts [LION, English Prose Drama])

c. Nothing could make amusing Mr. O'Rouke's method of setting out
   crocus bulbs. Mr. Bilkins had received a lot of a very choice vari-
   ety from Boston.  (after 1860, Aldrich, Marjorie Daw [UVa])

In this use of a lot of NP2 may refer to a conceptually bounded entity or
group (a limited amount) as in (20a) or a group of considerable (but un-
bounded) size, as in (20b, c). This is particularly clear when lot is plural as
in (20b). In such unbounded contexts, a lot/ lots of invites the inference of
large quantity.

By the nineteenth century we find examples in which a lot of functions
as a quantifier meaning ‘many/much’. At first this meaning is associated
with the represented speech of servants, rustic or comic characters (21a, b),
but by the mid-nineteenth century it is more widely used. However, in con-
temporary grammars it is still considered “informal” (Quirk et al. 1985) or
“characteristic of casual speech” (Biber et al. 1999). As a quantifier it can
be modified by the degree modifier quite (21c); this appears to be an early
twentieth century development. Unlike the approximator degree modifiers
sort/kind of; adverbial a lot was used in only very limited ways with ad-
jectives: it occurs with comparative adjectives from about 1900 on (21d), but
not (sort of/*a lot lumpy) or verbs (sort of/*a lot ran):

(21) Step III, degree modifier use

a. Sir, there's a lot of folks below axing for – are you a Manager, Sir?
   (1818 Peake, Amateurs and Actors [LION, English Prose Drama])

b. Learning at bottom, physic at top! / Lots of business, lots of fun, / Jack
   of all trades, master of none!
   (1833 Daniel, Sworn at Highgate [Ibid.])
c. the moon had risen and was letting quite a lot of light into the bank
   (1902 Hornung, The Amateur Cracksman [UVa])

d. “If Marilla wasn't so stingy with her jam I believe I'd grow a lot faster.”
   (1909 Montgomery, Anne of Avonlea [UVa])

Like sort/kind of, a lot (without of) came to be used as a free adjunct, at first
through ellipsis (in (22a) we understand a lot of the hillside), but later as an
adjunct to a verb (22c). This free adjunct came to be used as an independent
response (22b).

(22) Step IV, free degree adjunct use

a. My house faces east and is built up against a side-hill, or should I
   say hillside? Anyway, they had to excavate quite a lot.
   (1847, Stewart, Letters of a Woman Homesteader [UVa])

b. "How many are there?” “Oh, a lot, perhaps a hundred.”
   (1900 Wharton, The Touchstone [UVa])

All uses of a lot of, including ‘parcel of land’ at step I, continue to be avail-
able in Present Day English.

4.3. (Not) a shred of NP

My final example is a shred of. Again, this phrase (and its congeners a
drop/jot of) has many similarities to those discussed above, but there are
also differences. Although ultimately related to shear (sheep), in Old Eng-
lish it meant a “fragment cut or broken off from fruit, vegetable, textile,
coin, vessel” (OED) and in Middle English was generalized to bodies (the
religiously symbolic Host, humans and animals) (23a). From its beginning
it was, like lot, available in a partitive construction, but in this case the
NP2s with which it could be used were limited almost exclusively to con-
crete count nouns:

(23) Step I, limited partitive use

a. With strengthe of his blast / The white [dragon] brent than rede, /
   That of him nas founden a schrede / Bot dust
   ‘With the strength of his blast, the white dragon burned the red, so
   that of him (the red) not a shred was found, only dust’
   (c1300
   Arthur & Merlin 1540 [MED, shrede a]); note of him is preposed)
b. he is paid for his workmanship, vnlesse by misfortune his shieres slipp away, and then his vailes is but a shred of homespun cloth ‘He is paid for his workmanship, unless by misfortune his shears slip away, and then his profit is merely a shred of homespun cloth’ (1592 Greene, A quip for an upstart Courtier [LION, EEOB])

In the sixteenth and seventeenth centuries a shred of was further generalized to NP2s including language, mankind, nature, all of them mass nouns, or used as mass nouns (24). In these contexts it came to be evaluated as a small, insufficient, inadequate part of NP2:

(24) Step II, expanded partitive use

a. A despis’d Shred of mankind (1645 Daniel, Poems [OED, shred 6])

b. [objecting to tyrants who] fix their talents on the poor / (As if a slave was not a shred of nature / Of the same common nature with his lord) (= tyrants treat slaves as if they were not part of nature) (1742 Blair, Grave 224 [OED, shred 6])

In the nineteenth century it was reanalyzed as a degree modifier/quantifier (not ‘the (smallest) part of’ but ‘some/any’). The new head (NP2) is typically an abstract mass noun that is positively evaluated (evidence, character, hope, reputation, credibility, but not fear, dishonor, falsehood). By the twentieth century it is largely restricted to negative polarity contexts (25a, b), but does still occur in positive ones as well (25c):

(25) Step III, degree modifier use

a. Loto has not a shred of beauty. She is a big, angular, raw-boned Normande, with a rough voice, and a villainous patois (1867 Ouida, Under Two Flags [LION, 19thC Fiction])

b. You’re so worthless, you can’t even recognize the shred of petty virtues in others, some of which I still have (1965 Osborne, A Patriot for Me, III. v. [LION, 20thC Drama]; note the agreement mismatch between singular shred and plural virtues)

c. A lot of lies and a shred of truth (2005 Heading, NewsForge [Google])

A shred of has not been extended to adjective or other syntactic contexts, nor has it become a free adjunct.

All uses of a shred of persist in Present Day English.
5. The developments from the perspective of grammaticalization

All three patterns are examples of grammaticalization in that they involve:

a) Change from strings in which the NPs are free to occur with any determiner and in any number, to strings with significant constraints in this regard.

b) Change from strings in which both NPs have literal, concrete meanings, to ones in which NP1 becomes far more abstract.

c) Rebracketing (reversal of head relationships).

d) Functional shift in which NP1 comes to serve a grammatical modifier function such as ‘quite’, ‘somewhat’.

e) Host-class expansion from concrete lexical heads to abstract ones.

f) Syntactic expansion in that they become degree modifiers or quantifiers; in addition, (a) sort of has been further expanded to pre-adjective and pre-verb contexts; (a) sort of and a lot have been expanded to free adjunct status.

g) Semantic-pragmatic expansion in that there is a shift to status as approximator (a) sort of or degree modifier/quantifier a lot (of), (not) a shred of.

i) Coexistence of older and newer meanings and uses (a phenomenon commonly called “layering” in the grammaticalization literature, see Hopper 1991). In other words, there has been systematic polysemy within each of the NP of NP strings, at least for a time. Doubtless a lot that is for sale is not currently thought to be polysemous with a lot in a lot of land (= ‘much land’), but at the time when the degree modifier meanings were coming into existence, speakers must have been aware of such polysemes.

j) Renewal of already extant categories. From earliest Old English there have been degree modifiers (cf. swi,e ‘very’) and free degree adjuncts used as responses (cf. gea ‘yes’). Over the history of English these categories, especially degree modifiers have been added to.

j) Cross-linguistic replication. In so far as a shred of and other expressions referring to small amounts (a drop of, a bit of) share a tendency to be associated with negative polarity, they are reminiscent of similar changes in French, where pas ‘step’, point ‘dot, point’, mie ‘crumb’, gote ‘drop’, etc. came to be understood as reinforcement of the negative (after competing with the others, (ne) pas became the default negative marker in French, a phenomenon widely known as the “Jespersen Cycle”; see Eckardt 2002 for an account of the semantics involved).
The changes may be summarized in the change-schema in (26). In (26) PrePart is short for the source NP of NP pattern, with pre-partitive (a sort of) or limited partitive uses (a lot of, a shred of); Part for extended partitive, DegMod for degree modifier, DegAdv for degree adverb, and DegAdjct for free degree adjunct uses.

(26) PrePart > Part > DegMod > DegAdv > DegAdjct

Change schemas such as (26) are overarching macro-abstractions, “paths” of change that can be observed over considerable lengths of time and across large quantities of data. They are linguists’ extrapolations: hypotheses about the likely development of particular form-meaning pairs over time, given ways in which speakers and hearers strategize interaction (Andersen 2001, in press a, b). The particular sets of changes that the individual strings and their congeneres have undergone are themselves abstract sub-types of change, while the individual textual representations are tokens of those changes.

When we study particular subtypes of change from the perspective of macro-types or schemas, we are likely to find that any particular subtype has undergone only partial change. It may be in progress, or its development may have been arrested, because people stopped using it (e.g., manner of ‘method of’ came to have partitive meaning (1876 all other manner of fools [OED, republican B. n, 2a]) and even some aspects of degree modifier use (surviving in the fixed phrase in a manner of speaking), but ceased to be used in either function (Denison 2002). In other words, changes do not have to “go to completion”; they do not even have to occur (Hopper & Traugott 2003 [1993]: 131).

6. From the perspective of Construction Grammar

If we consider the three examples of grammaticalization from the perspective of Construction Grammar, the most striking observation is that we can no longer focus on strings, which represent form-meaning pairs, but overtly reference only one member of the pair, but rather must consciously consider form and meaning together. More specifically, from the perspective of Radical Construction Grammar, we must keep all of the six correlated factors in Figure 1 in focus as we conduct our analysis.

Another striking observation is that, despite such apparent differences, there are significant overt similarities with respect to levels of analysis. In work on grammaticalization we distinguish between:
– schemas, the macro-structures like (26) that are the overarching frame
within which particular changes can be described,
– generalized change-types: sets of similarly-behaving strings, e.g., (a) sort
of, (a) kind of as a subset distinct from the subset a lot (of), a bunch (of),
a bit (of) as distinct from the subset (not) a shred of, (not) a jot (of), etc.
– specific change-types, such as (a) sort of, a lot (of), and (not) a shred of,
– the empirically attested tokens, which are the locus of change.

Likewise, in Radical Construction Grammar (and other types of Construc-
tion Grammar) we can distinguish between what I will call:

– macro-constructions: meaning-form pairings that are defined by structure
and function, e.g., Partitive, or Degree Modifier Constructions, etc.,
– meso-constructions: sets of similarly-behaving specific constructions,
– micro-constructions: individual construction-types,
– constructs: the empirically attested tokens, which are the locus of change.

Neither in the case of grammaticalization nor of Construction Grammar in
its various versions, is the hierarchy given here restricted to these four levels.
More elaborate levels of generalization may be relevant in some instances,
in others, fewer.9

With these two factors in mind we can model the changes in 4.1–4.3 as
in Figure 2.

The columns identify macro-constructions, and the rows represent indi-
vidual constructions. Meso-constructions are not included. Note that for
convenience the same labels are used as in (26). However, in (26) they are
used for patterns that are essentially form-meaning pairs (where morpho-
syntactic form are and meaning are crucial), while in Figure 2 they are used
for constructions in which form and meaning each have three sub-levels
(for a total of six correlated levels).

Figure 2 provides concrete, visual support for the claim cited in (1b) that
“It is the entire construction, and not simply the lexical meaning of the
stem, which is the precursor, and hence the source, of the grammatical
meaning” (Bybee, Perkins & Pagliuca 1994: 11). It also reveals at a glance

9 The abstract lower and higher levels are related by “inheritance hierarchies”
(Fried & Óstman 2004); these are not of direct concern here and will not be dis-
cussed.
that each of the constructions, despite similarities, has considerable local differences. For example, syntax may stay constant from Step I to II (sort of), and phonology form Steps II to III (a shred of). There is therefore no necessary “coevolution of form and meaning” (Bybee, Perkins & Pagliuca 1994: 4, quoted in (5)).10 However, the more restrictive statement found in

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10 For earlier arguments against the necessity of coevolution of form and meaning, see Bisang (2004). We should also beware of statements like “grammaticalization … seize[s] the whole construction” (Lehmann 1995 [1982]: viii, quoted in (2)); Lehmann clearly did not intend “construction” in the sense developed by Croft, but rather “string in context”.
Bybee & Dahl (1989: 68) that coevolution occurs in the development of affixation may still be valid.

One of the aspects of Construction Grammar approaches that has drawn much attention is the hypothesis that a construction imposes meaning (see (10b)). As we have seen, the macro-constructions are highly abstract schemas, and it is not here that such attraction operates, except in a very general, largely morphosyntactic, way (e.g., allowing agreement mismatches of the type found in *these sort of skills*). Rather, to the extent that semantic attraction occurs, it does so at the meso-level, but even here each individual construction maintains not only its own idiosyncracies with respect to structure (e.g., constraints on the use of indefinite *a*), but also with respect to the particular lexical Ns that can occur as NP2 (or adjectives and verb, if these are available)\(^{11}\).

By hypothesis, speakers and hearers match parts of constructs (tokens) based on one construction (e.g. Partitive) to parts of a different (e.g. Degree Modifier) construction, given pragmatic and other contexts that make such a match plausible. If the construct is innovatively matched to a construction of which it would not traditionally be an instance and the innovation is replicated, it may be conventionalized by other speakers as a micro-construction. Stronger integration with the multiple layers of a construction-type may occur, leading to alignment with meso-construction-types and ultimately with hierarchically high-level functions (similarly Fried in preparation).

7. Some implications

In this section I raise a few issues pertaining to grammaticalization and constructions that may be relevant for the larger theme of this volume: the relationship of language to evolution and to culture.

It seems plausible that constructions could be the building-blocks out of which language could have evolved biologically. Being form-meaning correlates, they can be seen as the manifestations of the ability associated with modern human society to store symbols outside the human brain (whether as tools, drawings, language or other symbolic expressions). Constructions

\(^{11}\) Geeraerts, Speelman & Tummers (2005), citing a debt to concepts in Gries & Stefanowitsch (2004), are developing a way to give an account of the measure of the strength of association between a schematic slot in a construction and the lexical fillers of that slot (“colostructions”).
are abstract schemas and do not spell everything out in an efficiently computational way but rather leave room for generalizations, realignments, and negotiated interaction, hence change (see Trousdale Forthcoming on emergent and grammaticalizing constructions). In Andor (2004) Chomsky suggested that if language were designed for communication, then everything would be spelled out and nothing would be hinted at. This assumes that communication is transfer of information. But if instead we view communication as negotiated interaction, then hints are optimal. Each participant in the communicative event is given some leeway that allows for saving face (one’s own or others’), and creative thinking beyond the immediate situation.

In Construction Grammar analogy has been an important factor. Attractor sets can be construed as analogical templates. It may be that “Humans are simply analogical animals” (Anttila 2003: 438), and that much language change involves the emergence of family resemblances, but where the families come from is an important issue, as is the way in which new membership in a family comes about. This is where change becomes relevant, including the kinds of changes discussed here, in which strings are reanalyzed (e.g., partitive > degree modifier uses), and analogized to other strings within a construction (e.g., sort of to kind of).

While work on Construction Grammar has been focused on analogy, work on grammaticalization has been focused extensively on reanalysis. As indicated at the beginning, Meillet conceived of reanalysis as the unique way by which new structures could be developed; he contrasted it with analogy, which he understood as simply expanding the instances of an already extant structure. Since then grammaticalization has been widely associated with reanalysis, although to what extent reanalysis is coterminal with grammaticalization is a matter of significant debate (see Haspelmath 1998, and a summary of issues in Hopper & Traugott 2003 [1993]: ch. 3). In the early days of work on generative historical syntax, Lightfoot (1979) sought to focus attention on “catastrophic” reanalyses (one of his examples was the development of syntactic auxiliaries in English, along with special rules for placement of not, inversion in interrogatives, and presence or absence of “dummy do”). In constructional terms, one might think of such changes as occurring at the level of macro-constructions. However, it soon became clear that an alternative way of thinking about this change was that rather than being a new syntactic category, auxiliaries were in fact relics of older word orders, and a series of very small, local steps, along with the spread of verb-object word order which had always existed in English, led to a significant reorganization of the verb system in English (Kroch 1989).
One could say, then, that in this case the changes emerge out of use of constructs (tokens) patterned on particular constructions. This would be exemplar-based analogy (the occurrence of which requires very local reanalysis).

From this perspective, Construction Grammar and work on grammaticalization complement each other, and provide ways to understand “local reanalysis”. As Andersen points out, if we can shift from thinking of change, especially reanalysis, as error or mis-analysis, to thinking of it as a manifestation of our creative ability to symbolize, then

(27) [T]he formation of grammar (and other cultural systems) demonstrates an overperformance of human minds, a capacity for forming new symbols for immediate use that surpasses any need to acquire precisely all the details of extant patterns of usage. (Andersen, in press a)

Analogizing to an extant construction is essentially a case of renewal. Meillet (1958 [1915–16]) noted that expressions of clause connectives and of negation are especially open to renewal. But in fact every functional category is likely to be renewed many times, and therefore to have many alternative forms. What may once have been a functional category with a relatively small number of expressions may be expanded exponentially.12 It appears that having several forms that are very close in meaning for one functional category is useful in negotiating meaning. The category of degree modifiers is one that has expanded; so too has membership of various types of adverbial categories. The fact that in English large numbers of expressions were semantically reanalyzed as having degree modifier meanings in the sixteenth century (Peters 1994; see also Borst 1902) must be cultural. So presumably is the favoring of heads with positive meanings such as honor, dignity, evidence in the negative polarity context of shred of. That such a restriction is a social tradition and not a strictly cognitive phenomenon is suggested by the fact that a bit of, which is also favored in negative polarity contexts, is not constrained to occurring with the positive member of a pair of antonyms. We may consider also the division of labor in recent developments in Dutch of the items bar and bijster ‘very, all that’ reported in Hoeksema (1996–97). Bar has come to be used in positive polarity contexts, but with heads that are negative members of an antonym set, while bijster has come to be used in negative polarity contexts with heads that are positive members of antonym sets.

12 Reductions are also possible, e.g., the reduction of a large inventory of subordinators in eighteenth century French (Schlieben-Lange 1992).
One of the theoretical contributions of research in grammaticalization has been the hypothesis of unidirectionality. The change-schema in (26) is unidirectional in the sense that degree adjuncts are not expected to become degree modifiers, nor are degree modifiers expected to become partitives, whereas the reverse order is widely attested. Although the reasons for directionality are a matter of considerable debate, it seems likely that they result from speaker production strategies, including two much-discussed competing motivations (e.g., Langacker 1977; Slobin 1977; DuBois 1985). One is “Be quick and easy” (“Zipf’s Law”; Zipf 1929). Economy in speaker production leads to reuse of old material for new means (hence analogy), and routinization. The second motivation is “Be clear”. While this appears to be hearer-oriented, it presupposes speakers having hearers in mind, and leads to greater explicitness. A less widely-acknowledged motivation is the tendency for speakers to recruit material to the purposes of text-making, i.e. giving symbolic expression to rhetorical strategies (Traugott & Dasher 2002). A particularly obvious example is the recruitment of descriptive speech act verbs (e.g., promise) and mental verbs (e.g., recognize) for illocutionary purposes. The development of sort of and a lot as free responses is another example: such responses express the speaker’s assessment of someone else’s linguistic expression.

The hypothesis of unidirectionality is often greeted with skepticism, as to some it suggests that there was a stage of language in which an item toward the right in a change-schema may not have been available at an earlier stage of the language. However, since the change-schemas are generalizations about how classes of form-meaning pairs (symbols) may develop once they have come into being, nothing is claimed about the development of the concepts themselves. A more extreme form of concern has been that unidirectional schemas might lead to the reconstruction of a language stage that violates the uniformitarian principle because it would have features that are not evidenced by extant languages (e.g., Lass 2000). If we assume

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13 Competing motivations are usually based on the assumption that change is change in use (Croft 2001). By contrast, Kiparsky (forthcoming), assuming that change is change in grammars, proposes that unidirectionality arises out of universal optimization principles.

14 Recent work on syntactic parsing suggests that speakers are not as altruistic as usually thought. There is growing evidence from processing studies that production is not always motivated by perceived needs of the addressee. Speakers use ambiguities, and Addressees resolve ambiguity from contextual information (e.g., Roland, Elman & Ferreira 2006; also Wasow 1997).
that development of the language capacity was incremental and adaptive, this is not an issue, since we can have no way of knowing what language was like prior to modern humans. It presumably had characteristics that were unlike those of modern human languages, e.g., it may not have had recursion, but we do not know for sure what they were. By hypothesis whatever communicative system preceded the modern language capacity was retained and built upon, not discarded. Furthermore, as Comrie (2003) has stressed, the uniformitarian principle as used in relation to geology (where it was first developed), concerns not states but processes. It seems probable that concepts did at some point precede certain symbolic expressions of them, probably prior to the development of modern languages, and that the processes that have led to the expression of concepts have been uniform over time. What has changed is the pairing of concepts with forms.

8. Conclusion

Categorization into classes and members of classes, or evaluation of entities on a scale are presumably part of general cognition and experience. We may assume that they developed as human beings evolved. Croft’s hypothesis in his theory of Radical Construction Grammar is that there is a “universal conceptual space” (2001: 9; see also Langacker 1987), and that:

(28) universals of language are found in the patterned variation in distribution of constructions and the categories they define. (Croft 2001: 5)

These constructions are said to be primitives (Ibid.), but also language-specific (Ibid.: 6). A solution to the apparent contradiction between “primitive” and “language-specific” status might be to develop a theory in which macro-constructions are primitive, and presumably universal, while lower-level micro- and meso-constructions are language-specific. Grammaticalization, which concerns the dynamic realignments of form-meaning pairings, can then be seen as a theory of the relationships between such pairings, and their likely directionality over time. But not everything can be accounted

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15 See Dahl (2004), Andersen (in press a) for extensive discussion of ways in which terminology from the physical sciences, especially evolutionary studies has been used in linguistics, often in metaphorical ways that may produce profound conceptual problems.
for in terms of cognition and experience. Dahl (2004: 114–1115) has suggested that certain properties of languages may evolve over time as a direct result of grammaticalization,16 including inflectional morphology, grammatical gender, agreement, word order that violate adjacency (e.g. V2), specific marking of subordinate clauses, and tone (exactly where these fit in constructional hierarchies remains to be determined). And the fact that certain innovations take hold in a community, i.e. are transmitted and then may spread to more communities, or become entrenched in constructions, is a social and cultural fact.

The kinds of developments discussed in this paper are relatively recent, having occurred only over the last six hundred years or so. Framed in terms of the intersection of grammaticalization and constructions, they appear to be consistent with the view that:

\[(29)\] The complex content of human cultures has been built incrementally, with cognitive equipment present at least 250 ka, in a process that continues today. (McBrearty & Brooks 2000: 532)

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16 Dahl (2004: 119) says that a lexical item comes to serve a grammatical function without “by virtue of becoming a fixed part of a larger pattern – a grammatical construction”. Since in Radical Construction Grammar, at least. a single word may be a construction, I assume that Dahl intends the term “construction” to be used in a less theoretical sense than is proposed in Construction Grammar.
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