

## REVIEW ARTICLE

### On constructing a theory of grammatical change<sup>1</sup>

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#### 1. Introduction

The last few decades have seen the growth of a community of linguists who, though diverse in their beliefs and assumptions about other aspects of linguistics, nevertheless share a commitment to the construction as the basic unit of linguistic analysis. In construction grammar (henceforth CxG), as this family of approaches is known, ‘construction’ is understood – beyond its pretheoretical sense – as a conventionalized pairing of form and meaning (Booij 2010: 11; Sag 2012: 97; cf. also Goldberg 2006: 5). Varieties of CxG have been deployed in domains as diverse as sentence production (Bencini 2013), child language acquisition (Cameron-Faulkner, Lieven & Tomasello 2003; Diessel 2013), computational linguistics (papers in Steels 2012), and the theory of long-distance dependencies (Sag 2010). Unsurprisingly, perhaps, another of these domains is diachronic linguistics. CxG has been used in modelling grammaticalization (Noël 2007, Trousdale 2008, and much subsequent research); in addition, proponents of CxG have argued that it lends itself well to the modelling of actualization due to its conception of linguistic structure as a network of related constructions (de Smet 2012), and that it is well suited to the task of syntactic reconstruction (Barðdal & Eypórrsson 2012).

Despite this flurry of interest in historical CxG, there was until recently no book-length treatment of the implications of this grammatical architecture in diachrony, comparable in scope for instance to Lightfoot (1979) for the generative Extended Standard Theory of the time. The volume under review (henceforth T&T) is an attempt to fill this gap: the authors focus on ‘developing ways to think about the creation of and the nature of changes in constructions’ (p. 2),<sup>2</sup> where a construction is understood as a pairing of form and meaning, essentially a Saussurean sign (p. 4). The work is therefore pioneering in terms of its scope and angle, a welcome attempt to provide an overarching framework for diachronic work in CxG. The authors have clearly set themselves an ambitious task.

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<sup>1</sup> We are grateful to an anonymous referee for his/her comments and suggestions on an earlier draft of this article.

<sup>2</sup> Here and throughout, unless otherwise indicated, page references after quoted passages are to the relevant page of the book under review.

The first chapter of the book sets the stage by introducing the basic notions of CxG and its most influential variants, including the key elements that T&T themselves adopt: here the crucial concept is the distinction between constructionalization (Cxzn) and constructional change (CC), to be discussed in more detail in section 3 below. Assuming that form and function may change independently of one another, so that either side of the form-meaning pairing may be altered, T&T suggest that this kind of independent change leads to a mismatch, and that such mismatch is likely over time to be ‘resolved’ (p. 27). The second chapter is the theoretical heart of the volume, in which they present their framework for understanding change. Chapters 3 and 4 tackle grammaticalization and lexicalization respectively, arguing that both can be subsumed under the notion of constructionalization. The fifth chapter discusses contexts for constructionalization, and the sixth and final chapter provides a brief review and conclusion. The authors illustrate throughout with case studies from the history of English.

Regardless of whether or not one accepts the fundamental assumptions of CxG, such a book has the potential to be an immensely valuable contribution to the literature by serving as a reference point for future linguists interested in what the constructional perspective has to offer, including linguists of other persuasions looking for a point of comparison with their own framework. As will become clear, our view is that the volume fails to realize much of this potential, since unfortunately it does not always present an approach that is clear or consistent. In what follows we will focus on what we think are the main shortcomings in this regard.

### **1.1 Defining ‘change’**

The book’s ambitious aim is to lay the groundwork for a theory of change within a constructional approach to language structure and variation. As such, it is essential for the authors to engage with the question of what linguistic ‘change’ actually is: as they recognize, this is not a trivial issue, since different points of departure may lead to radically different conclusions (see, for instance, Coseriu 1985, Hale 1998, and Croft 2000: 4–5 for three divergent perspectives). However, T&T’s pronouncements on this issue do not always square with one another. In the introduction they distinguish between innovation, which occurs in the mind of an individual speaker, and change, assuming that ‘[f]or an innovation to count as change, it must have been replicated across populations of speakers’ (p. 2). This is consistent with earlier statements by one of the authors ‘that “one swallow doth not a summer make”, and one change in the grammar of an individual does not constitute what we think of as a change in “a language”’ (Hopper & Traugott 2003: 47).

On the face of it, this stance seems intuitive. The problem with it is that it is toothless without a definition of ‘population’, which T&T do not provide. Are a hundred speakers enough? What about two? A sorites paradox arises. Perhaps the notion of population should be defined with reference to external criteria rather than numerically. But then are the speakers of British English a population? What about the English of a small village? It is tempting to equate populations with speech communities or social networks (as the discussion on p. 46 implies), but these too are not unproblematic notions in themselves (see Hudson 1996 and Patrick 2002). This is, of course, a thorny issue for anyone choosing to view ‘change’ as something which requires spread through a population – and in that sense all historical linguists face the same problem – but given the importance T&T assign to this notion, the reader might reasonably expect some discussion.

The real problem, however, is that T&T disregard their own distinction at various points throughout the book. For instance, in their case study of *ish* (p. 236), they present an example from the web illustrating the use of *ish* as an adjective meaning ‘unsure’, and claim on this basis that ‘a further change has taken place’. But this is an existence proof, and can surely be taken to demonstrate nothing more than that a construction is used by a single individual (or has been used so, once). Properly speaking, according to their own definition, this is innovation, not change – unless some population is involved, but if so we are not told. T&T are also happy to acknowledge that cognitive mechanisms play a role in ‘change’ (p. 35). Since these are necessarily active in the individual speaker-hearer rather than at population level, it seems that they really mean ‘innovation’ here.

Similar problems arise when we combine T&T’s definition of change with the assumption ‘that change is change in usage, and that the locus of change is the construct, an instance of use’ (p. 2). A construct, as they define it, is an empirically attested utterance or utterance-part – a token, rather than a type (p. 16).<sup>3</sup> But tokens are by definition unique, restricted to a single point in time, and not replicable, especially not across populations of speakers. What is replicable is the abstract type that the token instantiates: in other words, the construction, in T&T’s approach, and the frequency associated with it. This is indeed what they seem to have in mind when they state that changes may conventionalize in an ‘individual mental network’ (p. 46), and that ‘change in use’ may occur for individual speakers.

In the case of “change”, a fuzzy everyday term is given more precise content within T&T’s theory. That they do not use the term consistently is disappointing, since in the first two chapters they go to great lengths to lay out their terminology and contrast it with that of other scholars. No one would deny that both the innovation of a variant by an individual speaker and the spread of that variant to other speakers are necessary for a full explanation of the phenomenon that we pretheoretically call language change. In this case, however, their terminological — and associated conceptual — distinction generates more heat than light.

A further aspect of the pretheoretical conception of ‘change’ is not treated at all in this book. It is well established that neither innovation nor change, in T&T’s sense, is instantaneous; rather, when a new form is innovated, it may gradually replace the old form through a period of competition, including within the usage of individual speaker-hearers. This is a robust finding of variationist sociolinguistics as well as corpus-based historical syntax in the tradition of Kroch (1989). Moreover, the dynamics of such changes are reasonably well understood, in that they tend to follow an S-curve pattern (Denison 2003; Pintzuk 2003; Blythe & Croft 2012). The phenomenon is also well known from the literature on grammaticalization, under the guise of ‘layering’ (Hopper 1991: 22): ‘Within a broad functional domain, new layers are continually emerging. As this happens, the older layers are not necessarily discarded, but may remain to coexist with and interact with the newer layers.’ It is clear that T&T are aware of this literature, as shown by their discussion of synchronic variation and its relation to grammaticalization in section 3.4.3, for instance, as well

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<sup>3</sup> It is worth noting that, while the distinction between ‘construct’ and ‘construction’ is common to most if not all variants of CxG, this distinction is not always defined in the same way. Thus the discussion in Sag (2012: 105-7) suggests a distinction in terms of a hierarchy of structural complexity rather than in terms of types and tokens. This issue of terminological consistency is a recurrent – and problematic – one, as the present review will show.

as by earlier work by the same authors on gradience and gradualness (Traugott & Trousdale 2010; this is ‘social-contextual’ gradualness, in their sense). Yet the discussion of individual changes in the book does not include this kind of gradualness. For instance, in their discussion of *a lot of*, a source construction involving lexical *lot* is said to be neoanalyzed (their term for the more traditional ‘reanalyzed’) as a new, more grammatical, micro-construction, implying that the former simply becomes the latter – but the source construction is evidently not lost. Similarly, the *going to* future, discussed in section 5.3.4, has not immediately ousted the *will* future in English, but rather the two are in competition, at least in certain contexts. While it also seems to be true that *going to* has spread from a more restricted set of contexts to become more generally used as a future marker (this is ‘structural’ gradualness, in Traugott & Trousdale’s 2010 terms), there is also competition between *going to* and *will* for the same contexts. This kind of competition and co-existence seems to us to be vital for understanding the dynamics of change in a network model of grammatical knowledge.

## 1.2 Networks

One of the most appealing features of the constructional approach laid out by T&T is the conception of constructions as situated in a network. As they note (p. 150), this represents a clear departure from the Bloomfieldian notion of the lexicon as simply a list of irregularities. Rather, all units ranging from affixes to clauses are organized hierarchically within what is called the ‘constructicon’. The network model is attractive from a diachronic perspective because, by considering the structure of the constructicon, predictions can in principle be derived about where analogization (a term they prefer to the traditional label ‘analogy’) as a mechanism is most likely to set in: specifically, where constructions are closest and network ties are strongest.<sup>4</sup> Furthermore, ‘persistence’ effects (Hopper 1991), in which traces of an earlier use can be detected in a grammaticalized unit, can be insightfully captured using inheritance in a network.

They set out a hierarchy of constructions which involves three levels: schema, subschema and micro-construction, though these terms are ‘a heuristic for description and analysis of constructional change’ (p. 16) rather than absolute distinctions.<sup>5</sup> ‘Schematicity’ is a way of measuring the degree of abstraction represented by a construction, with a highly schematic construction being of a high degree of abstraction. A schema is then a highly schematic construction, though it is not necessarily fully schematic: ‘A fully schematic construction is an abstraction such as N or SAI (subject-auxiliary inversion). Many schemas are, however, partial, by which is meant that that they have both substantive and schematic parts ...’ (p. 12). Sub-schemas are less schematic constructions and hence the distinction between schemas and sub-schemas can only be made comparatively. The only constructions that are not (sub-)schemas are those which consist entirely of substantive elements, that is, those which are completely phonologically specified. Constructions are said to be ‘instantiations’ of the construction above them in the network. They are also described as ‘(sub-)types’, or as a ‘subclass’ (p.77), of the higher construction, but, most frequently, a less schematic construction is said to be a ‘member’ of the more

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<sup>4</sup> The same kind of predictions can be made about actualization, as argued persuasively by de Smet (2012).

<sup>5</sup> They also point out (fn13, p. 16) that this distinction is similar to the one previously made by the same authors between ‘macro-’, ‘meso-’ and ‘micro-constructions’.

schematic construction immediately above it in the network. Two types of relationships between the nodes in the network are identified: relational links and inheritance links. Examples of relational links are metaphorical extension (such as that between motion and change) and polysemy. Relational links are said to be crucial to certain types of priming and ‘typically exist between reasonably closely related concepts’ (p. 60). Inheritance links exist between a node and all its dominating nodes, such that the former inherits all non-conflicting properties from the latter. Typically, a construction will inherit properties from a number of dominating constructions.

After going to some lengths to set out the basics of the network view in chapter 2, T&T present a case study of the *way*-construction (as in *she made her way down the stairs*) to illustrate this view. They argue that this construction emerges as a distinct node in the network in the seventeenth century, splitting off from the transitive construction, then later expanding to apply to intransitive verbs as well through analogization to the intransitive construction. Other constructions, such as the resultative construction, are also said to have played a role in its development. What is disappointing, though, is that T&T hardly discuss the structure of the relevant portion of the network explicitly for any of their other case studies. When discussing ALL- and WHAT-pseudo-clefts, for instance, it is only briefly mentioned that they are part of a larger family of cleft constructions (p. 136), and that they inherit properties from the relevant specificational schema. It would have been nice to see more use of network-based reasoning, and more use being made of the two types of links and their role in explaining linguistic change, as this is an area where constructional approaches have the potential to enjoy an advantage in predictive power over other frameworks.

## 2. A matter of terminology

The match or mismatch between form and function is central to this approach, and something to which we will return below. In order to establish matches and mismatches, there need to be well-defined criteria for determining what the form is and what the function is and an articulated system of representation of the two aspects of a construction. The criteria for form and function need to be distinct, or else there would be no mismatches. In this, T&T fall somewhat short.

The basic representation is as in (1), with F short for Form and M for Meaning.

(1) [[F] ↔ [M]]

Let’s consider form and its representation. For T&T there are three aspects of form, SYN(tax), MORPH(ology) and PHON(ology), with the focus of the examples studied in the book on the first two. The authors also make explicit that in any representation they only include those properties that are salient in the particular change discussed.

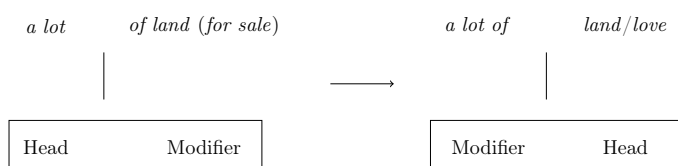
T&T do not outline their approach to representing morpho-syntactic form. There is also no commonly agreed approach to the representation of structure in CxG. The authors provide a concise and helpful account of a number of different approaches which share a commitment to the idea that the basic unit of analysis is a construction. Sign-Based Construction Grammar (SBCG), which is a synthesis of Berkeley Construction Grammar and Head-driven Phrase Structure Grammar, has a clearly articulated and explicit representation of both form and function (Boas & Sag 2012). T&T make explicit that this is a system of representation they will not adopt, beyond recognizing that form involves the features SYN, MORPH and PHON, which are the

same three aspects of form recognized in T&T's account (p. 4).<sup>6</sup> Langacker's Cognitive Grammar does not include a syntactic component, and Cognitive Construction Grammar as represented by Goldberg (1995, 2006) does not articulate assumptions about structure (because it is not relevant to the types of constructions studied). Croft's Radical Construction Grammar has, as may be expected, a radical approach to syntactic structure. Croft takes constructions to be the basic unit, with categories or roles defined by the construction in which they occur, '[h]ence there do not exist global syntactic categories in the grammar of a single language, nor universal categories in a Universal Grammar' (Croft 2001:175). Croft also 'dispenses with syntactic relations, that is, relations between the syntactic elements of a construction' (2001: 175). There is then no source within the CxG literature referred to which provides us with details of the approach to morpho-syntactic structure and its representation taken by T&T. Instead we have to rely on notions being introduced as we go along, with some reference to the literature, which, as we shall see, does not always clarify matters.

The notion of HEAD and the discussion of the development of constructions involving *lot* will serve to illustrate the lack of clarity around assumptions about structure (pp. 23–9). Though they say that they 'do not seek to be exhaustive' (p. 23), the initial account of the changes that *lot* has undergone will be 'quite detailed' since the example will be referred to at several points throughout the book. In terms of data, the account is indeed detailed, but in terms of clarifying the terms used, it is disappointing.

T&T state that, in its lexical and referential use in Old English, *lot* is a head and the following *of*-phrase is a modifier, and that over time a new construction develops in which the noun in the *of*-phrase takes over the role of head. They provide two representations of the constructionalization involved in the development of *lot*; (2), which represents only the structural change, and (3), which is T&T's preferred representation (their examples (21) and (22) on p. 25):

(2)



(3) [[N<sub>i</sub> [of N<sub>j</sub>]] ↔ [part<sub>i</sub> – whole<sub>j</sub>]] > [[[N of] N<sub>j</sub>] ↔ [large quant – entity<sub>j</sub>]]

There is assumed to be an initial stage, in which pragmatic inferencing from the partitive to a quantitative meaning was semanticized. This led to a mismatch because the second N was now the semantic head, but the first N remained the syntactic head.<sup>7</sup> There is no general discussion of the semantic representation assumed and what the

<sup>6</sup> However, in their suggestions for further research in the final chapter, they propose that it may be fruitful to explore what advantages may result from using the precise formalization offered by SBCG.

<sup>7</sup> T&T refer to this as NP<sub>1</sub> and NP<sub>2</sub> on page 27, even though in the illustration on page 25, it is referred to as N<sub>i</sub> and N<sub>j</sub>, with no indication of NPs. On p. 53, the second noun is referred to as N<sub>2</sub>.

criteria are for semantic head status, but in later sections they state with respect to this specific development: ‘When this quantifier meaning became conventionalized a further micro-step neoanalysis led to a semantic head shift’ (p. 37) and ‘what seems to be a semantic quantifier reading is occasionally attested, in which case the semantic head is N<sub>2</sub>’ (p. 53). The evidence for the change of structural head status comes from agreement with the plural noun rather than with the singular *lot*.<sup>8</sup>

As evidence of a change in structural head status, T&T cite the examples in (4).

- (4) a. I have **a lot of** goods to sell, and you wish to purchase **them**. (1852 Arthur, True Riches [COHA])  
b. pretty soon she brought down **a lot of** white rags. I thought **they** seemed quite heavy for their bulk (1865 Alger, *Paul Prescott’s Charge* [COHA])

They do not distinguish between subject-verb agreement, or concord, exemplified in (5) (their (19), p. 25), and agreement between a noun phrase and a coreferential pronoun, which is what we have in (4).

- (5) the worthy Mr Skeggs is busy and bright, for **a lot of** goods **is** to be fitted out for auction. (1852 Stowe, *Uncle Tom’s Cabin* [COHA])

There is, however, a difference between the two as illustrated in (6). The use of *lot* in (6) is the original part-whole meaning so it is clear that *lot* is the head in T&T’s account. Singular verb agreement would also evidence the structural head status of *lot*.<sup>9</sup> However, the coreferential pronoun is plural.

- (6) Presently he came to a wilderness of the French Dog Roses. “There,” says he, “**is a lot of** the choicest Roses that could be obtained in France.”  
“Indeed,” says I, “**they** certainly look very vigorous.”  
(1851 Joseph Breck, *The flower garden* [COHA])

A similar point can be made on the basis of (7), where it seems unambiguous that we have the count noun *lot*, not the non-count *lot* which forms part of a quantificational expression, yet we have a plural co-referential pronoun.<sup>10</sup>

- (7) he knew all about the fault and stated that it was just **one lot of** cars and **they** had all been sorted out (<http://www.smartz.co.uk/archive/index.php/t-16048.html>, accessed 5 Nov 2014)

In fact, the truth of the matter is that agreement patterns vary; plural concord is found even with *lot* in its part-whole meaning in T&T’s terms, as in (8a), and with the singular count *lot* as in (8b).

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<sup>8</sup> T&T correctly state that ‘with the quantifier agreement **typically** is with N<sub>2</sub>’ [our emphasis], and hence do not exclude agreement with the first noun, but they do assume that when there is agreement with the second noun, then this is the head.

<sup>9</sup> It seems clear here that *there* is the deictic rather than the dummy pronoun, so that we don’t have an instance of singular agreement with dummy *there* as attested in *There’s three men here to see you*.

<sup>10</sup> Compare the terminology used in Payne and Huddleston (2002: 349–50).

- (8) a. *A lot of* pigs 3 months old that weighed about 50 pounds each *were* fed for a period of 6 months on corn only. At the end of this period, it was found that each pig had gained only 20 pounds in weight, and that 21 pounds of corn was required to make 1 pound of gain. At the same time, *a similar lot of* pigs *were* fed on a properly balanced ration that included corn as the grain part. (*Swinehouse and equipment*, available at [archive.org/stream/swinehousesequip00scra/](http://archive.org/stream/swinehousesequip00scra/))<sup>11</sup>
- b. *One lot of* horses *were* fine, no one bothered anyone else. (<http://www.newrider.com/community/threads/turning-out-geldings-with-mares.77761/>, accessed 11 Nov 2014)

More generally, T&T appear to take too simplistic a view of the role of agreement patterns in determining the structural head and of the difference between concord and the agreement between a noun phrase and a coreferential pronoun. It is interesting to note here that Croft, to whom T&T frequently refer, in his critique of the use of the notion of a structural head and the criteria used to establish head status argues that ‘agreement is sensitive to a semantic property that is independent of headhood’ (2001:247). We speculate that both forms of agreement can be driven either by morpho-syntactic properties or by semantic facts, with coreferential pronouns being more likely than concord to involve semantics since they by necessity involve reference. Since there is a semantic implication of plurality in all examples, it follows that whereas we find examples like (6), where concord is singular, but the coreferential pronoun is plural, we would not expect the opposite, and we have not been able to find an example like *?\*a lot of horses have arrived at the auction, it will be paraded in front of potential buyers soon*.

Our conclusion is that the application of headedness criteria by T&T does not help clarify the notion ‘head’. Nor do the contrasts they establish with other terms help us. In the initial discussion of the development of *a lot of* they contrast ‘head’ with ‘modifier’, but the latter term is not given explicit content either. If the terms are intended to be interpreted in terms of ‘traditional’ X-bar theory, with the contrasts HEAD, SPECIFIER, MODIFIER and COMPLEMENT, this is not made clear. In their subsequent discussion of the Latin analytic future (p. 122), that which would be a ‘head’ and its ‘complement’ in X-bar terms is referred to as ‘head’ and its ‘dependent’, using terms associated with dependency grammar, such as Word Grammar (Hudson 1984, 2007), to which reference is made in the discussion of networks.

In an attempt to clarify, T&T (p. 25) make specific reference to the literature. They state that the neoanalysis which the head relationship has undergone ‘conforms to the essentially synchronic head distinctions proposed in Aarts (1998) and Brems (2003)’. These two approaches to identifying head status are sufficiently different that it is odd to refer to them as both supporting the distinctions made by T&T, and to our minds, not even in combination are they helpful in better understanding T&T’s use of ‘head’.

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<sup>11</sup> The full reference is: *Swine houses and equipment: types and breeds of swine, swine feeding and judging, swine breeding, types and breeds of sheep, sheep judging and breeding, sheep management, horse barns and paddocks, types, breeds and market classes of horses, horse judging, horse management, ponies, asses and mules*. Scranton, PA: International Textbook Co. Publication date: 1911.



Brems (2003) is a study of noun phrases similar to the *a lot of* construction, what she refers to as Measure Nouns in an extended sense, such as *bunch of* and *heaps of*. The contrast of interest to Brems is that between ‘head’ — which applies to both form and function in T&T — and ‘quantifier’ — a functional notion in T&T. More generally, in her study, the distinction between form and function is not essential, or possibly eliminated. She states: ‘In assessing the **structural** status of the MNs two main types of tests were used, viz. **semantic** and **syntactic** ones’ (2003: 293, our emphasis). The semantic criterion identified relates to lexicality and collocational range: ‘[t]he main guideline here was that the more literal and lexically specific in meaning the MN is, the more likely it will constitute the head of the enclosing NP’ and ‘as the collocational range of the MN increases, the probability of quantifier status of the MN likewise increases’ (2003: 293). The syntactic criterion recognized by Brems is agreement, but she identifies a number of difficulties with applying this criterion and concludes ‘if syntactic criteria converge with semantic indications of head status, they can be taken into account’ (2003: 293). The reference to Brems is then not helpful in giving us an understanding the notion of headedness, the distinction between semantic and syntactic head and the shift in structural head.

Aarts (1998), on the other hand, is careful to make the distinction between ‘structural’ and ‘semantic’ properties and uses ‘syntactic’ criteria to establish head status. He uses the six criteria which Hudson (1987) derives from Zwicky (1985), though finds that some of them are not applicable and some inconclusive. Though Aarts uses well-defined criteria, it is not clear how helpful his account is for understanding T&T’s representation in (3). Aarts employs the full range of notions of X-bar structure, including not only head and modifier, but also specifier, a term not used by T&T. Aarts looks at what we may term evaluative noun phrases such as *an oaf of a man*, which though similar in superficial structure *a lot of*, have different properties. In particular, Aarts provides support for assuming that the first determiner is the specifier of the whole phrase, with *oaf of a* being a modifier. In T&T’s preferred representation reproduced in (3) above, the determiner is not referred to at all, and in (2) it appears to be included in the head in the early construction and in the modifier in the modern use. The analysis proposed by Aarts for the phrases he analyzes would not be appropriate for the modern *a lot of goods*, since *a* is singular and *goods* is plural; however, in the original the determiner would have been the specifier of *lot* and hence this means another structural change is involved, as illustrated in (9).

(9) [[ D [N<sub>i</sub> [of N<sub>j</sub>]]] ↔ [part<sub>i</sub> – whole<sub>j</sub>] ] > [[[D N of] N<sub>j</sub>] ↔ [large quant – entity<sub>j</sub>]]

Given that there is explicit comment on *of* (‘There has also been neoanalysis of the preposition *of* as a phonological part of the quantifier’, p. 25), it is odd not to have any mention of the structural change involving the determiner.

T&T argue that *a lot of* in (3) ‘has to be learned as a non-compositional unit’, while at the same time having ‘a degree of analyzability’ (notions to which we return in §4 below), and as evidence they provide the example in (10a), where an adjective occurs inside what is in their terms a quantifier. However, the matter is more complicated, since a modifier in this position can also modify the second noun as in (10b) and (10c). Facts such as these form a serious challenge to anyone’s account of the structure of the modern use of *a lot of*, but it seems this interesting complexity is brushed off a little too easily here.

- (10) a. There is going to be a *whole* lot of trouble. (cited by T&T on p. 27)  
 b. Nothing against them personally, in fact they're a *decent* lot of fellows (BNC B20 563)  
 c. they are quite a *bright* lot of students (BNC JT8 259)

In the end, what we have is an intuitive use of the notion HEAD, with some underdeveloped argumentation around criteria and references to the literature that do not help to clarify. In an account that aims to develop a model in which form and function are distinct and well enough defined to allow for matches and mismatches to be established and accurately captured, the reader might expect a more precise and well-defined use of the relevant terminology. Though we have focused on the notion of head here, the concerns we have extend to their use of other terms.

### 3. Constructionalization and constructional change

As the book's title suggests, the distinction between constructional change (CC) and constructionalization (Cxzn) is crucial to their approach, with Cxzn being in a sense the more significant.<sup>12</sup> Cxzn results when both form and function change, according to T&T thereby yielding a new construction and a new node in the network. When the result is a micro-construction, the change can be either abrupt or gradual, in the sense of consisting of micro-steps. Words such as *Romnesia* and *ebrrary* are provided as examples of an abrupt Cxzn resulting in a new micro-construction. When the Cxzn results in a new schematic construction, the change is always gradual. CC, on the other hand, involves a change affecting only 'one internal dimension of a construction' (p. 26), form or function, but not both. In T&T's view, this does not give rise to a new construction.

The reason why the distinction between Cxzn and CC is so important and why change to both form and function has privileged status is not quite clear. By way of explanation for the greater significance of Cxzn for an account of linguistic change, T&T state 'The new pairing of both meaning and form is a new unit or sign. It is therefore a change to the system, i.e. a type/node change. We can see its results in data when constructs begin to be attested which could not have been sanctioned by pre-existing constructional types' (p. 22). It may be that we are confused by the terminology here, with the distinction between 'unit', 'sign' and 'constructional type' not being clearly defined. However, would it not be the case also for CC that the new construct would not be sanctioned by the existing construction? Even a change to either form or function would surely mean that the construction involving the older form or function no longer sanctions the new construct.

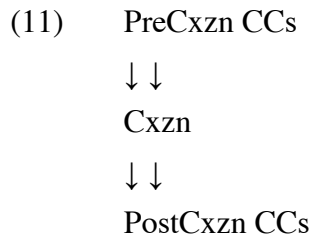
T&T's general account of change, as outlined above in §1, implies that a change in one dimension tends to be followed by a change in the other, to restore the match between the two dimensions, hence Cxzn could be considered a more complete change than CC. However, constructions resulting from CC only can be quite stable. Börjars & Burridge (2011), for instance, argue that the Pennsylvania German *fer* underwent a change in function several hundred years ago, but that there has been no change to its structural position. As Dahl (2001: 102) puts it: '...the

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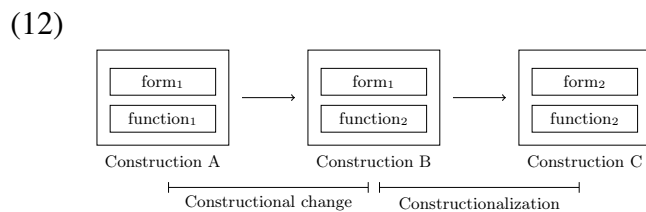
<sup>12</sup> To make clear that the terms are used in the technical sense intended by T&T, we will use the abbreviations throughout this discussion, except where the full terms are used in quotes.

grammaticalization process may halt for a long time, maybe several centuries. In fact, many complexities of grammar are due to such halted processes of grammaticalization.’

A further issue that arises in an approach that makes the distinction between Cxzn and CC so important is the fact that the distinction does not appear to be that easy to draw. Let’s consider the distinction between Cxzn and CC in a little more detail. T&T recognize that CC may precede or follow Cxzn, as illustrated in (11) (their (24), p 28). They point out that the existence of ‘pre-constructionalization constructional change’ can only be posited once the Cxzn has occurred.

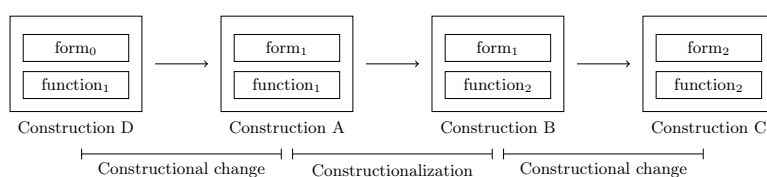


In this representation, Cxzn appears to be an alternative to CC, and this seems to be confirmed by their subsequent discussion. T&T acknowledge that ‘observed constructionalization can be seen to have arisen from a number of small local changes in the context ... and we can with hindsight call these changes pre-constructionalizations’ (p. 29). As an example they give the ‘development of uses of *lot* that mean “unit” or “group”, and of ambiguous constructs’ (p. 29). Presumably the ‘small local changes’ are instances of CC: the change to *lot* meaning ‘unit’ or ‘group’ is presumably a change to the function of the construction and hence an instance of CC, even though that term is not used by T&T in this particular discussion. These small steps are clearly assumed to precede or follow Cxzn, not form part of it. This means that we can represent this in a little more detail as in (12), ignoring any possible change that may occur to form and function in complete synchrony.



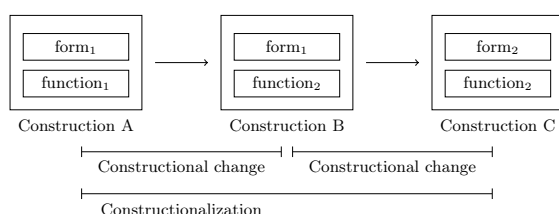
In this approach, A and B would be the same construction since only Cxzn gives rise to a new construction. The step B > C in (12) would involve Cxzn, because at this point both form and function have changed and we have a new construction. However, the assumption that B > C constitutes the point of Cxzn relies on the starting point for the development being drawn immediately before Construction A. Given the nature of language change, it can be difficult to draw that precise a starting point for a change. There may well be an earlier stage to the change in (12), so that (13) is a more appropriate representation.

(13)



By including an earlier stage of the construction, we now have a change to both dimensions having taken place earlier, by the time Construction B results. This would appear to leave C as an example of post-constructionalization CC, with B and C now being the same construction. However, if we take A into account, then we could still argue that  $B > C$  is a second instance of Cxzn. Taking more seriously the claim that Cxzn consists of — rather than is preceded and/or followed by — a series of small steps we get the representation in (14) instead of (12).

(14)



However, this is still on the assumption that we can draw a precise starting point for the Cxzn. Assuming a change as represented in (13), we would still be left with an issue of whether this is an instance of two overlapping Cxzn or one more complex one. The concerns we raise here may seem to be based on too rigid a view of the progress of linguistic change. We do recognize that the modelling of linguistic change will always involve a level of abstraction, but if a distinction between Cxzn and CC is made in this way and given the importance that T&T assign to it, then it would seem appropriate for them to have offered some discussion of these issues.

It should also be noted that if we assume a situation in which the process of Cxzn can be clearly distinguished from pre-Cxzn and post-Cxzn CCs, then these could only involve changes to the same dimension, so that in (14), any instances of pre-Cxzn could only have involved changes to function and any post-Cxzn could only have consisted of structural changes. After all, if there were consecutive changes in different dimensions, this would presumably be a new constructionalization; this is where the logic of the distinction would seem to lead us. However, in a discussion of post-Cxzn CCs, T&T remark that ‘once the micro-construction [[a lot of] ↔ [large quant]] had come into existence its collocates expanded exponentially and it has recently been subject to various phonological reductions’ (p. 27). On the assumption that an exponential increase in collocation is a form of functional change, and phonological reductions are formal, why does this not mean that constructionalization has taken place?

One crucial difference between the outcomes of CC and Cxzn is that the latter gives rise to a new construction, but the former does not. As mentioned above, a situation in which a construct is not sanctioned by any construction would seem to arise with any change, be it Cxzn or CC. There is no further discussion of what it means to be a new construction as opposed to being the same construction, but

changed. The only obvious explanation is the circular definition of a new construction resulting when both form and function have changed. As explained in §1, constructions are connected by two types of links: relational links and inheritance links. When change has applied to a construction, even if it is just to one dimension, we must assume that some of its links change: in particular, a new property forming part of the construction would change the inheritance links, though some inheritance links would remain the same. It is then assumed that a construction's links to other constructions in network can change, but it remains the same construction. The outcome of Cxzn has similar consequences, except that, as there are changes both to form and function, there will generally be more changes to the construction's inheritance links. However, we can assume that some inheritance links remain, unless all aspects of form and function have changed. It is then not entirely clear to us how two discrete types of change can be identified on the basis of whether a new construction has arisen or just a changed construction.

Our point here is not to criticize the distinction between CC—as a change in one dimension—and Cxzn—as a change in both form and function. We are, however, concerned about the weight accorded to the distinction here and the simplifications involved in both how the data are viewed (see comments above on the analysis of the changes to *a lot of*) and the way they are modelled. Nor do we wish to criticize the use of a network. To the contrary, as we pointed out in §1, this is an attractive aspect of this view of linguistic organization. However, given the importance assigned to the distinction between a change resulting in a new node in the network and a change which simply leads to a changed node, the reader might feel entitled to a more extensive discussion of the nature of the network assumed.

#### **4. Compositionality and analysability and the notion of mismatch**

As we have seen in the discussion of 'head' in the preceding section, at key points in their account T&T hand over responsibility for further discussion of their core concepts to others. In one respect this is very much as it should be: research is a cumulative activity in which one scholar or team builds on the results of predecessors or explores avenues opened up by others. Things can go awry, however, if those referred to do not in fact support the positions they are claimed to support. This problem is particularly evident when it comes to T&T's treatment of the concept of compositionality.

A constant refrain throughout this volume is the relation between linguistic form and meaning and the discrepancies that can arise between them as a consequence of the ever-present circumstances of linguistic change. It has long been thought that a key principle in modelling this relation is compositionality, which in its simplest form states: 'The meaning of a complex expression is a function of the meanings of its constituents and the way they are combined' (Szabó 2012: 64). In this sense, the term compositionality refers to the ways the parts of the (morpho)syntax and semantics combine to yield the meaning of the whole. This may be transparent on the surface as when *walk* and *-ed* reflect the two components [WALK, PAST], or obscured as in the case of *went*, which similarly expresses two components — [GO, PAST] — but where the form in question is not susceptible of a matching analysis. A useful complementary concept in this connection is what Langacker (1967: 448) calls 'analyzability' and which in his words 'pertains to the ability of speakers to recognize the contribution that each component structure makes to the composite whole'. Putting the two concepts together allows for three possible types of structure:

- a) compositional and analysable, as with regular verb forms like *walked*, or verb-argument combinations like *open the door*;
- b) compositional and non-analysable, which is the situation we generally find in suppletive formations such as *went* or *was*;<sup>13</sup>
- c) non-compositional and analysable, as when German *ich habe gestern das Buch gelesen* is used to refer to the simple past ‘I read the book yesterday’ (so-called ‘aoristic drift’), a pattern where the usual meanings associated with the forms *habe* ‘have.PRS’ and *gelesen* ‘read.PST-PTCP’ do not compose to yield the value [READ, PAST]. The form is however analysable in that it consists of the present tense of the lexeme HABEN and the past participle of LESEN, forms which are the same as those which occur when the same items are used in different grammatical environments. Other contexts where the same effect is to be seen are with idioms such as *jump the shark* or non-transparent compounds like *undergo*.

The fourth logical possibility, non-compositional and non-analysable, amounts to an arbitrary linguistic sign. For simple lexical items such as *book* or *five* it can be difficult if not impossible to demonstrate that they were ever anything other than arbitrary but in other instances we can see how items can over time lose both compositionality and analyzability. Thus, items like English *though* or its German cognate *doch* can be shown to be the outcome of convergent diachronic trajectories on both the form and content side < PIE \*to- + k<sup>w</sup>e ‘and in that case’.

T&T recognize the distinction between compositional and analysable and reference both Langacker (1967) and Bybee (2010), who also adopts it. They then unhelpfully muddy the waters by saying that they will treat analysability as a subtype of compositionality (p. 20), a move which amounts to saying that form is a subtype of content. This is a very odd step to take and one which verges on the incoherent, especially in the context of an approach that deploys constructions as an extended type of Saussurean sign. It is clearly not what either Langacker or Bybee had in mind, and indeed, taken literally, it is hard to believe that this is what T&T had in mind. At the same time, in their support they cite the assertion by Arbib (2012: 475) that ‘language meaning is not entirely compositional but language *has* compositionality’ (his italics). Put like that it would be hard for anyone to disagree, but crucially Arbib, although he does indeed express a preference for a CxG-style approach to the syntax of natural languages, neither conflates form and meaning nor eschews the use of precise formalisms, which talk of compositionality usually implies and which T&T studiously avoid. Even more confusingly, having made the move to subsume analysability within compositionality and having used the latter term in both senses throughout the book, on p. 233 when they are reviewing progress and assessing future prospects they write that compositionality ‘is best thought of in terms of a distinction between compositionality on the meaning side and analyzability on the form side’. That we need to make this distinction is, or should be, self-evident. That the same

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<sup>13</sup> A referee objects that *went* is in fact analysable as consisting of the stem /wend/ plus the level-1 suffix /t/ which then undergo the same phonological derivation as applies to *bent* and *sent*. However, while it is undoubtedly true that the lexeme WEND is the diachronic source of this suppletion, it is by no means clear that there is a synchronic link to be established. More generally, abstract phonological derivations of this kind would not appear to be consistent with the usage-based approach that T&T and others in the domain of CxG adopt. See in this connection, the useful overview and discussion in Välimaa-Blum (2005).

term is used for both parts of the dichotomy taken together and for one half of the dichotomy considered by itself is confusing to say the least.

It is important at this point to be clear that we do not wish to suggest, as sometimes has been done, that CxG is inherently opposed to or inconsistent with compositional approaches to semantics. As in different ways both Vålímáa-Blum (2005: 18-13) and Michaelis (2012: 58-9) argue, there is no conflict between the goals of compositionality as traditionally defined and the mechanisms and principles of CxG. That said, a number of issues arise in the present account. We will consider three in particular: models and mismatch, altered composition and degrees of compositionality.

#### **4.1 Models and mismatch**

Once we make a clear distinction between form and content we are in a better position to compare how different approaches tackle the task of lack of correspondence between the two or what T&T, following Francis & Michaelis (2003), call ‘mismatch’. We should however be clear that what Francis & Michaelis and their contributors are interested in is not so much mismatch between content and form, where the latter is understood in traditional terms as phonological realization, but rather the link between the units on the (morpho-)syntactic plane and their semantic interpretation. In their introduction to that volume the editors distinguish three classes of grammatical theory, which they label derivational (e.g. Minimalism), level-mapping (e.g. LFG) and licensing. CxG exemplifies the last of these together with HPSG, and the model in which these two converge, namely SBCG. In models of this kind, form and meaning are strictly linked so that when discrepancies arise they have to be stated explicitly as such by special non-default constructions which license their exceptionality. The expectation is thus that there should be a one-to-one mapping, and hence that it is hard to see how change would ever happen except maybe when driven by pragmatics and the external context of language in use. This seems to conflict with the claim mentioned above that: ‘We emphasize that ‘pre-constructuralization’ can only be assessed with hindsight — nothing of which we are aware predicts that certain CCs will necessary lead to a constructuralization’ (p. 29). Rather, it would seem that if you expect a one-to-one match between form-function, you would always expect that a change to one or the other would be followed by a change to the other in order to restore the one-to-one relation. Indeed, *a priori*, it would seem that if form and function can shift out of alignment so readily, which the inevitability of language change suggests they can, then the best models would be of the level-mapping kind since such models allow different dimensions of language structure to operate independently and in their own terms, with the links being established by general principles such as, for instance, iconicity or form-meaning harmony (Vincent 2000). In particular, the fact that sound change plays out independently of content — as the Neogrammarians put it *mit blinder Notwendigkeit* — seems to argue for precisely this kind of approach, yet the mechanisms of sound change and the way they interact with grammatical change are nowhere discussed in the book.

#### **4.2 Altered composition**

A further difficulty is that, in discussing compositionality, the only change that T&T seem to envisage is loss of compositionality, whereas in many instances the process of

grammaticalization simply changes the compositional ingredients. Thus, consider the three examples in (15).

- (15) a. De **vill** att vi hjälper dem att måla huset. [Swedish]  
 they WILL INF we help.FIN them INF paint.INF house.DEF  
 ‘They want us to help them paint the house’  
 b. Peter **vil** hjælpe dig. [Danish]  
 Peter WILL help.INF you  
 ‘Peter will help you’ or ‘Peter is willing to help you’  
 c. The train **will** arrive at 6 tomorrow morning

It has often been observed (see for example Bybee *et al* 1994: 254-7, Hilpert 2010) that there is a cline going from the use of Swedish *vilja* ‘want’ through Danish *ville* to English *will*. The mechanism and the sequence of the changes is not in doubt here, with Swedish representing the older stage and English the most evolved one, but there is no loss of compositionality. It is simply that the meaning components associated with the element *vilja/ville/will* have altered and hence the overall value of the expression changes when this item is put together with another verb or clause. The same is true of many of the classic instances of grammaticalization discussed in the literature. Thus, to take another example, the Latin combination of *facere* ‘do’ plus an infinitive exemplified in (16) is biclausal with an embedded complement taking an accusative marked subject (*albam pampinum*, *Polyphemum*) and a verb in the infinitive (*habere*, *laudare*).

- (16) a. *purpureamque uvam facit*  
 purple.ACC-and grape.ACC make.PRS.3SG  
*albam pampinum habere*  
 white.ACC vine-shoot.ACC have.INF  
 ‘and it (the sun) causes the pale vine-shoot to have purple grapes’  
 (Lucilius 1224, trans Warmington)  
 b. *Polyphemum Homerus cum ariete conloquentem*  
 Polyphemus.ACC Homer.NOM with ram.ABL speak.PRS-PTCP.ACC  
*facit eiusque laudare fortunas*  
 make.PRS.3SG he.GEN-and praise.INF fate.ACC  
 ‘Homer has (= portrays) P. speaking with a ram and praising his fate’  
 (Cic. Tusc 5.115)

The pattern which descends from this, the Romance causative seen in the Italian sentence (17), is by contrast generally taken to be monoclausal (see for example Alsina (1997), and Sheehan (in press) for a survey and further references):

- (17) *Giorgio fece leggere il libro agli studenti*  
 G. make.PST.3SG read.INF the book to-the.PL student.PL  
 ‘Giorgio made the students read the book.’

While the verb in the Latin construction has a wider semantic range, covering both the causative sense in (16a) and the sense of ‘portray’ in (16b), and the grammatical mechanisms are different (standard complementation in Latin vs. clause union/complex predicate formation in Romance), it remains the case that the contributions of the *facere* and *faire* and their dependent complements have to be



integrated according to a compositional schema if the productivity of the constructions in question is to be faithfully represented.

More generally, there is a variety of ways in which the semantic components of constructions can change, sometimes with concomitant changes in form and sometimes without, as discussed in Vincent (2014). Moreover, there are formal devices such as co-composition (Pustejovsky 2012: 381) which have been developed to handle this kind of phenomenon. Given that the technical tools are available in the literature, it seems a step backwards not to seek to deploy them.

### **4.3 Degrees of compositionality**

It is well recognized that there are circumstances in which composition may fail or where complementary mechanisms such as co-composition are required. In this respect the structure and organization of natural languages is different from those of the languages of formal logic which are home to the original Fregean concept of compositionality. Idioms are instructive in this regard since they raise the issue of degrees of compositionality. At one extreme lie expressions like *jump the shark*, where neither of the lexical items *jump* and *shark* make any discernible contribution to the overall meaning, but between this and the straightforward compositionality of *read the book* or *open the door* are intermediate expressions of various kinds in which the verb and object combine in different ways, as with *cut the grass*, *cut the price*, *cut the meeting*, *cut a dash*. One may compare here the study by Ziem & Staffeldt (2011) of what they call ‘somatism’, that is to say expressions which involve metaphorical extensions of terms referring to body parts such as *put one’s foot in it*, *put one’s finger on something* and the like. Interestingly, while their conclusion moves in very much the same direction as T&T, particularly the discussion in chapter 3.3 of what T&T call ‘decrease in compositionality’, these authors find themselves forced to make a clear distinction between analyzability and the semantic dimension which they call ‘decomposability’. This leads them to adopt a two-stage procedure in which they first factor out what they call the ‘prototypical’ component of shared meaning before integrating the semantic ingredients that are special to one idiom rather than another. Once again, then, there are techniques that have been developed in the literature in order to address some of the phenomena that T&T discuss, and it is disappointing not to see this acknowledged and built on.

### **5. Grammaticalization and constructionalization**

One of the key terms in this work, constructionalization, clearly belongs in the family of terms in *-ization* that have sprung up in the wake of the modern interest in grammaticalization. Others that figure in this volume are lexicalization, dealt with in chapter 4, and pragmaticalization, mentioned briefly on p. 103 but not otherwise discussed in its own right, as well as more general terms like conventionalization, and colloquialization. What such labels standardly denote, as is consistent with their own morphological structure, are various kinds of diachronic process or mechanism whereby items that were not previously lexical, grammatical, constructional or pragmatic change their status over time. Among these, pre-eminent is grammaticalization and, if grammars are viewed as consisting of constructions, it is natural to ask how grammaticalization and constructionalization are connected. In an earlier work, the authors characterized the relation in the following terms: ‘in many respects there is a complementarity of perspective between traditional

grammaticalization and constructionalization ... Because the perspective of grammaticalization has been largely syntagmatic, it has been closely allied with reanalysis, while constructionalization shifts the perspective to incorporate more substantially analogy and pattern alignment' (Trousdale & Traugott 2010: 14). In similar vein, at the beginning of chapter 5 of the present work a footnote informs us that some of the material had appeared in an earlier article by Traugott 'but in a grammaticalization, not a constructional framework' (p. 195, note 1).

Once again we need to begin with a word of terminological caution. The most natural, and we would suggest, the only appropriate use of the term 'grammaticalization' is to refer to an empirical phenomenon, a class of diachronic changes whereby independent lexical items with the passage of time come to take on a grammatical role as exponents of meanings such as tense, mood and definiteness. This is for the most part how it is used here, though at one point T&T imply a preference for the idea of grammaticalization as a result rather than a process (see point (d) on p. 147). Some other uses however figure at different places in the book and need to be discounted. Thus, earlier on p. 147, reference is made to 'the research paradigm known as grammaticalization' and on p. 195, note 1, an explicit contrast is drawn between the grammaticalization and the constructional frameworks. Such uses are reminiscent of the unhelpful expression 'grammaticalization theory' which is sometimes encountered in the literature. If grammaticalization is the name for a mechanism or even a result, that is to say a phenomenon in need of analysis, modelling and explanation, it is at best confusing and at worst incoherent to use the same term for the theoretical framework within which such modelling is couched. It is instructive in this connection to consult Narrog & Heine's (2011) handbook which, after the editors' introduction, begins with a chapter by Traugott (2011) herself on grammaticalization in the broader context of mechanisms of change. This is followed by separate chapters in which a variety of authors discuss how to deal with the data of grammaticalization from perspectives as diverse as Minimalism and Langackerian Cognitive Grammar, and along the complementary dimensions of social variation and individual acquisition. The issue then is: how does CxG fare when compared with other approaches to modelling grammaticalization? The issue flickers into view at odd moments in the book — for example the comparison with Roberts & Roussou (2003) on p. 10 and again on p. 238 and with the parametric approach on pp. 75-6 — but otherwise is left to one side.

One big question within the study of grammaticalization is how to characterize the link between changes on the content side and the changes on the form side that often, but not always, accompany them. To take a well known example, the Romance development of future tenses from the sequence INFINITIVE + *habere* 'have' is accompanied by univerbation to yield forms such as French *chanterai* and Spanish *cantería*, whereas the perfect sequence *habere* + PAST PARTICIPLE briefly discussed above does not, nor does the Sardinian future based on reflexes of the sequence *debere* 'must' + INFINITIVE. This in turn connects to a topic that T&T place on their list for future research (p. 237), namely the whole dimension of sound change. Classic regular, sound change appears to operate independently of morphosyntactic structure and thus to argue for the separability of form and content rather than the strict binding together of the two dimensions that is integral to construction-based approaches. The absence of any proper discussion of this aspect of language change is a serious gap in T&T's story.

## 6. Conclusion

If the tone of this review has been prevalently negative, it is not, or not primarily, because of our doubts about CxG as a model of change. Rather, it is because it is hard not to feel that this book represents an opportunity missed. CxG is by now a well-established family of approaches within the field of descriptive and theoretical linguistics, and an integrated account by two of the leading protagonists of the application of this approach in the diachronic domain would therefore in principle be very much to be welcomed. We regret that in the event the conceptual and terminological problems we have identified have prevented us from responding more positively to the ideas and examples advanced in the book.

It may seem that we have been unduly picky in this review, alighting in many places on the way terms are used either inconsistently with the external literature or, and perhaps worse, inconsistently within the confines of the present volume. There is a reason for this, namely that the reader has nothing else to hang on to. If we were dealing with say SBCG and were puzzled by something in the exegesis of a specific phenomenon or concept, we could go to the technical notation and work out what was intended. It is important to stress in this context that we are not saying that the only acceptable theories are formal ones, but simply that formalism aids precision just as argued more than half a century ago by Chomsky in the preface to *Syntactic Structures*. We agree with Pollard & Sag (1994: 7) when they write: ‘this does not mean that the empirical hypotheses must be rendered in a formal logic as long as their content can be made clear and unambiguous in natural language’. However, what we miss in this book are those ‘clear and unambiguous’ definitions of terms used. We can draw an analogy here with the language of legal contracts, which for obvious reasons are not written in formal logic, but where key terms are often defined at the beginning of a contract so that all parties can be clear about what they are and are not committed to.

What about the future? T&T end with a chapter entitled ‘Review and future prospects’, a chapter which in turn concludes with a section headed ‘Some areas for future research’. Some of the issues treated in this section are ones that have already figured in this review and to which, in our view, more attention could helpfully have been given in the main narrative: for example, the place of sound change within the overall picture, and the comparison with other approaches. This in turn leads on to the more general question of how different ways of modelling natural languages and different sets of theoretical constructs can alter our perspectives and advance our understanding of the universal phenomenon which is language change. If constructions replace rules or networks oust derivations, has real progress been made and if so, how would we know?

A further issue is not of T&T’s own making, namely the fact that such a wide variety of approaches fly under the flag of ‘construction grammar’. As we have noted, they seek in their opening chapter to characterize the similarities and differences between the various approaches but as they freely admit at the end ‘we have been eclectic in our use of related versions of construction grammar’ (p. 237). They identify four features that all variants share: a) that the basic unit of grammar is the construction; b) that they are non-derivational; c) that they involve networks defined by inheritance hierarchies; d) that they seek to account for cross-linguistic variation; plus a fifth feature shared by most namely e) that ‘language structure is shaped by language use’ (p. 2-3). The problem is that, with the exception of the first, which is true by definition, these other features are so general as to encompass many other approaches that do not rely on constructions as primitives. Lexical-Functional

Grammar and HPSG are non-derivational, as is Brody's (1995) version of Minimalism; Word Grammar is network-based; Dynamic Syntax and probabilistic models of learning are usage-based; and pretty well everyone, whatever their theoretical tenets, seeks to account for cross-linguistic variation. The trouble with eclecticism is that it can easily lead to inconsistency, and indeed there is much that seems inconsistent across different variants of CxG. It is hard for example to reconcile the commitment to a formal model inherent in SBCG with the avowedly non-formalist spirit of Croft's Radical Construction Grammar, or to square T&T's 'anything goes' approach to what can constitute a construction with the efforts to define constraints on a possible language evinced in Culicover (2013). Once these issues have been sorted out we will be in a better position to judge whether the evidence for construction-like patterns in linguistic change requires the postulation of constructions and constructionalization within our general theory of natural language. For the moment, the jury must remain out on that question.

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