UDC 81-113=811
Original scientific paper
Received on 10.12. 2007.
Accepted for publication 25.06. 2008.

Jan Nuyts
University of Antwerp

Pattern versus process concepts of grammar and mind: A cognitive-functional perspective[1]

This paper focuses on one element dividing Cognitive Linguistics and more traditional functional linguistic approaches to grammar, viz. the contrast between the construction oriented approach predominating in the former and the rule or process oriented approach prevailing in the latter. It offers a 'conceptual analysis' of the issue, arguing (i) that a process concept of grammar is not misguided (pace suggestions to the contrary by some cognitive linguists) but needs to integrate certain insights from the constructional approach, and (ii) that in some version the two model types are largely compatible, reflecting different perspectives on the same phenomena.

Keywords: Cognitive Linguistics; Functional Linguistics; grammar; constructions; language processing.

1. Introduction

This paper reflects on the somewhat tenuous relationship between Cognitive Linguistics (henceforth CL) and more traditional functional linguistics. Both strands share very many principles and practices (Nuyts 2007), but there are also a few dividing issues between them. This paper predominantly focuses on one of

[1] This paper is a preprint of a contribution to the volume Converging and Diverging Trends in Cognitive Linguistics, edited by Mario Brdar, Milena Žic Fuchs and Stefan Th. Gries, submitted to John Benjamins Publishing Company. This research has been made possible by Research Fund Flanders project G.0443.7, by a GOA project (2003-2006) funded by the Research Council of the University of Antwerp; and by Interuniversity Attraction Poles (IAP) project P6/44 funded by the Science Policy Department of the Belgian Federal Government.

these, viz. the contrast between the pattern or construction oriented approach to grammar predominating in CL and the rule or process oriented approach to grammar prevailing in traditional functionalism. Some cognitive linguists (among them Langacker and Croft) have raised the suggestion that this contrast is fundamental, and that a process concept is misguided. Taking the cognitive-functional process model perspective sketched in Nuyts (2001) as its vantage point, the present paper offers a 'conceptual analysis' of the issue. It argues that a process approach is not misguided at all, and is, on the contrary, indispensable in a cognitively and functionally plausible model – although it definitely needs to integrate certain insights from the constructional approach. It moreover argues that – depending on how the constructional approach is defined precisely, and provided the process approach adopts certain constructional principles – the two model types are actually to a large extent compatible, reflecting different perspectives on the same phenomena.

This paper is organized as follows. Section 2 offers a historical sketch of the relations between CL and classical functionalism. Section 3 briefly addresses one matter which – at least until recently – separates (or has separated) the two strands, viz. the explicit concern with language as a cognitive system. This discussion – which mainly affects traditional functionalist approaches – offers the context to introduce a few very basic principles concerning the conception of a grammar emerging from the combination of a cognitive and a communicative perspective on language (the cognitive-functional perspective). These principles – and especially the principle of 'dynamism' – is/are essential also for the pattern vs. process issue featuring centrally in the remainder of the paper (sections 4 through 9). Section 10 offers some conclusions.

2. Linguistics in change: A brief recent history

Linguistics is currently undergoing a substantial change, and the outcome is undecided yet. The trigger for this change was the appearance of a powerful new player in the field: the approach (or set of approaches) which has come to be called 'Cognitive Linguistics' (CL).

Before the change, linguistic life was fairly 'simple'. From the sixties to the mid eighties (more or less), the field was basically divided in two major paradigms (cf. Nuyts 1994). On the one hand there was the formalist paradigm, until today dominated by Chomskyan Generative Grammar,[2] with its roots in (equally

[2] This is not to deny the importance of other (more or less) formalist approaches such as HPSG, Relational Grammar, or Lexical Functional Grammar.

formalist) Bloomfieldian structuralism in North America. On the other hand there was the fairly heterogeneous functionalist paradigm, represented by numerous small-to-mid-sized models and traditions, most of which originated in (predominantly functionalist) European structuralism, and none of which could/can be considered dominant (e.g. Systemic Grammar, Dikkian Functional Grammar, Role and Reference Grammar, the Givón approach, the Greenbergian typological school, among many others). By the late seventies, the formalist generative school was dominating the agenda in linguistics, and had driven the functionalist paradigm 'in the defense', even in Europe.

The appearance on the linguistic scene of CL, in the eighties, has shaken the dice and has complicated the field considerably. The new strand, (predominantly) emerging from the Generative Semantics movement, is essentially a reaction to formalist tendencies in language research (the generative tradition, but also formal semantics), and it has by now become a major competitor of the latter (thus accomplishing what functionalist schools in the years before had not managed to do). But it has apparently also become a challenge to 'traditional' functionalist linguistics. In fact, quite a few scholars originally working in one of the functionalist approaches have 'converted' to the new CL approach (often retaining some of their original 'habits', though, e.g. in terms of methodology – this is for instance how corpus research has gradually acquired a place in cognitive linguistics), and CL appears much more successful in the new generations of linguists than the traditional functionalist approaches, even in Europe actually. And otherwise there remains a cool distance between many traditional functionalists and much of the new CL movement – although the feelings appear different on both sides: the coolness mainly comes from the side of the traditional functionalists, whereas many cognitive linguists rather show an interested (or polite?) non-concern [sic] towards traditional functionalism.

That CL should be a competitor to traditional functionalism might come as a surprise. For, to the extent that CL constitutes a radical move towards a 'meaning first' approach, it is also essentially functionalist in orientation (see Nuyts 2007; cf. also the notion of a 'usage based' approach which is rapidly gaining prominence in CL – although the CL use of this notion may be slightly misleading to traditional functionalists, see section 5). So at first sight, rather than being a competitor, it would appear to join and strengthen the functionalist camp. The explanation for the distance and competition between CL and traditional functional linguistics, then, possibly resides in a combination of factors, both circumstantial and substantive ones.

One possible circumstantial element is historical and 'social' in nature. CL has evolved independently of the existing functionalist approaches, certainly the

European ones, but also the American ones, and especially in its earlier years it failed to refer to, let alone to try to relate to those much older functionalist traditions. Probably not for any principled reasons though: CL was just doing its own thing, mainly focusing on what it was reacting to, viz. formalist linguistics in America. By now this situation has changed somewhat, but not drastically. To many traditional functionalists it may have appeared that CL was reinventing the wheel on which they had been moving for decades already, without paying tribute to the original inventors. Not a good situation to make friends.

But there are also a few more substantive – and rational – causes for the distance, and these will concern us in the remainder of this paper. One is – or was, originally – the strong cognitive claim in CL. Although CL has emerged as a reaction to generative and other formalist approaches, it has maintained the strong mentalistic or cognitive claims of Chomskyan generativism. In fact, to a large extent it appears to involve an attempt to live up to the consequences of calling linguistics a cognitive science, including a radical break with the isolation of linguistics from related disciplines, and an opening up towards other cognitive and neurosciences. This cognitive stance is quite remote from the basic agnosticism in matters cognition which, at least until recently, characterized many or most classical functionalist approaches (some important exceptions, especially but not exclusively in American functionalism, notwithstanding – cf. Givón 1979, 2005, Chafe 1994, Wierzbicka 1980, 1996). Admittedly, the wake of CL has triggered a change in the rhetoric in many functionalist approaches – cognition is now more and more acknowledged as an important goal of linguistic research, there too. To what extent their actual practice really lives up to this claim is a matter of dispute. I return to this in section 3.

Another element, certainly not less important, and the one which will be at the center of this paper's focus (from section 4 onwards), concerns the question what a (cognitive) model of language is supposed to look like, in its basic outline. Theories in CL – especially (though not exclusively) the 'grammatical' ones, i.e. the domain in which most functionalist theories are active as well – show a definite tendency towards a 'pattern oriented' approach to grammatical description, whereas most functionalist theories strongly tend towards a 'process oriented' approach. The result is the contrast between the 'construction' type of grammars predominating in CL, and the 'rule' or 'processing' type of grammars typical of traditional functionalism, models which, at least on paper, look quite different. The functionalist 'coolness' towards CL is no doubt, at least quietly (i.e., proclaimed in the lobbies), to a considerable extent inspired by a reluctance to accept the constructionist way of thinking about grammar. And the explicit thematization of this issue and the explicit rejection of the process concept of a

grammar by some CL scholars (see section 6) demonstrates that this difference is also in part responsible for the CL non-concern with functionalist theories.

It looks, then, as if linguistics is threatening to get divided in three paradigms instead of two. This raises the question whether this evolution is necessary or warranted. Specifically, one may wonder what the looming divide between CL and traditional functionalism is really about, and whether it is irresolvable. To answer these questions, let's take a closer look at the two (substantial) issues of dispute mentioned above – issues which are not unrelated though, in the sense that one's position in the 'pattern vs. process' issue is (obviously) co-determined by one's view of cognition.

3. Functional linguistics and cognition

Let's first have a brief look at our first 'obstacle' between CL and traditional functionalism, one which at first sight might seem not to require too much attention anymore since, as mentioned, also traditional functionalists are more and more accepting the CL perspective in this regards: the status of language as a cognitive object. It looks like functionalists have long considered there to be a conflict between dealing with language as a device for human communication and language as a cognitive system – no doubt as a consequence of a thoroughly mistaken view of cognition as only dealing with things to do with the 'individual' (Chomskyan cognitivism is probably a major cause for this erroneous concept of cognition). But, as is widely recognized by now, there obviously is no such conflict. On the contrary, communication and cognition are two sides of the same linguistic coin, and one is indispensable for understanding the other in a scientific account of language.

The fact that also traditional functionalists are more and more acknowledging the cognitive status of language does not mean this issue does not deserve any attention anymore, though. For, acknowledging it and drawing the consequences from it are two different things. As argued in Nuyts (2001, 2004, 2005), a consistent combination of a communicative and a cognitive perspective leads to two guiding principles for developing a theory of language, which are, however, not always clearly satisfied in the common practice of traditional functionalism. These two basic principles – both seemingly fairly trivial and common sense – are (a) 'depth', and (b) 'dynamism' (cf. also Nuyts 2001: 5-21). In essence, both have to do with the status of meaning in relation to linguistic form in a theory.

> (a) 'Depth' refers to the fact that if language is a means to communicate, and if communication is (at least) a matter of transferring 'meanings' (in a

very broad sense) between minds, then the cognitive systems and processes involved in language use are unavoidably closely interrelated with the cognitive systems and processes concerned with 'meaning', or with 'making sense of the world', i.e. (at least) the systems of conceptualization and thought. As a consequence, language research cannot afford to concentrate on linguistic form only – i.e. the linguistic systems and processes in cognition – but is forced to also actively deal (at least, among others) with the way the mind handles 'meaning', i.e. with the conceptual systems and processes, and with how the linguistic systems and processes relate with these. In view of the 'black box' nature of the mind and its methodological consequences, this is the only way to assure that one ends up with a balanced theory of all 'components' involved in communicative behavior. The classical tendency in many traditional functionalist approaches to grammar to focus on the organization of language at the levels of lexical and syntactic structure alone is obviously at odds with this requirement. As argued in Nuyts (2001, 2005), the consequence is that these theories end up featuring constructs and notions in linguistic structure which do not actually belong there, but which clearly belong within the range of the conceptual systems.

(b) 'Dynamism' refers to the fact that communicative activity, hence language use, is a dynamic phenomenon, in many respects. Communication is a complex problem solving activity involving several different (and often conflicting) concerns (Nuyts 1993). Moreover, each communicative situation is different (some differ only minimally, others quite substantially), and the communicator has to adapt each time again to the new and changing circumstances. Hence, the linguistic system, as a device used to perform the communicative acts, is unavoidably a highly context-sensitive, flexible and adaptive usage system. But using the system as such is not self-obvious either: communicating is often 'hard labor', not only in terms of interpreting the situation correctly and deciding how to act adequately, but also in terms of getting the 'shape' of the linguistic acts right in view of what/how one wants to communicate (and this can go wrong, in fact it often does go wrong, to varying degrees, in the sense that in spite of an adequate assessment of the situation and of what to do, we do not manage to 'translate' the communication plan adequately into linguistic acts).[3] In other words, coding conceptual meanings into linguistic forms (and vice versa) is not a self-obvious process, but is something that must be worked out dynamically, time and again. Basically, functionalist theories do render this by conceiving of language as a system of levels of organization, such as the lexical and the syntactic, which are related by means of rule systems

[3] Fortunately, the hearer is a highly adaptive and context-sensitive system, too, and therefore often manages to interpret even non-adequate linguistic acts, even if only probabilistically.

or 'linking procedures' or interfaces which map these levels onto each other in a 'non-automatic' way, the actual mapping depending on contextual and discursive principles, among others (i.e., a 'process model'). Still, traditional functionalist grammar models often do not fully live up to the principle of dynamism in the sense that they still render the linguistic system as a fairly rigid mechanical device (i.e., no flexibility in the processing), and (strongly related to the flexibility issue) the construction of a linguistic expression by the grammar as a rather encapsulated process (i.e., no interaction with other cognitive systems handling general world knowledge and contextual information; this is obviously related to the lack of a 'depth' perspective, cf. (a)).

4. Cognitive linguistics and the issue of dynamism

The view of cognition sketched in the previous section also potentially raises questions with regards to CL, however. The criterion of 'depth' is of course fully realized in CL: the concern with conceptualization and its relation to linguistic form is absolutely and unconditionally at the core of its concerns. But does CL also meet the criterion of 'dynamism'? Here the answer is not self-evident. And here the other obstacle between CL and traditional functionalism mentioned in section 2 enters the picture: the 'pattern vs. process' approach to grammar. In fact, it is not immediately obvious whether the constructionist concept of grammar predominating in CL meets the demands of dynamism as formulated in section 3 above. At face value (and formulating things in terms of a simplistic strawman position), the view of grammar as a network of stored 'symbolic units' containing fixed form-meaning pairings, in which speaking is (in strong versions) no more than a matter of selecting a complete ready-made construction from the store, or of a simple unificational integration (of some type)[4] of a number of stored 'partial' constructions, is not obviously in tune with the concept of speaking as a laborious (and often failing) process of mapping (often complex) meanings onto forms in a strongly context dependent and flexible way. A crucial question is, of course, what unification in a constructional model will involve – the fact that the bulk of attention in these theories is devoted to describing the constructional form-meaning pairs as such, and hardly to

[4] Although unification in the 'formal' Unification Grammar sense might be used to accomplish the combination of constructions, and is explicitly used e.g. in Fillmorian Construction Grammar (cf. e.g. Fillmore 1988), it is more or less rejected by Goldberg (2006: 215ff) as a plausible model for 'processing' in construction grammars. For the sake of simplicity, I will use the notion of 'unification' here as a pre-theoretical term to refer to the process of integrating constructions in a constructionist approach to grammar, whatever the actual format of the mechanisms involved.

how the unification processes work and what the mechanisms involved in them look like, does not make an assessment of the issue easier.

So let's analyze this worry in some more detail. First of all, one may object that the CL literature does feature notions of (or implying) 'dynamicity' – and sometimes these are even combined with an explicit rejection of a process concept of a grammar. Let's have a closer look at some of these notions and arguments.

5. 'Non-relevant' notions of 'dynamicity' in CL

First of all, CL uses notions which do suggest or demonstrate a commitment to elements of 'dynamicity' in language – but not of the type implied in section 3 above.

Thus, cognitive linguists fairly systematically commit themselves to developing a 'usage based' model of language (cf., e.g., Langacker 1988, 2000; Croft 2001; Goldberg 1995, 2006). This not only signals their basic functionalist attitude – on a common sense interpretation it would also seem to suggest a full concern with the dynamics of actual communicative behavior ('what happens in language use, cognitively'). But the notion is not used in a common sense way here: grammars are considered usage-based "if they record facts about the actual use of linguistic expressions such as frequencies and individual patterns that are fully compositional alongside more traditional linguistic generalizations" (Goldberg 2006: 64). In other words, a usage-based grammar is based on the assumption that not only non-compositional patterns (e.g. single morphemes) or irregularly composed patterns (e.g. idioms), but also frequently occurring fully regular and compositional patterns, which can in principle be derived from general rules, are stored as such by the language user. (Cf. also Langacker's 1987: 28ff discussion of what he calls the 'rule/list fallacy.') This is a perfectly plausible view (see section 7). But nevertheless, so formulated, the issue of a 'usage based' approach obviously does not tap the issue of dynamism as formulated in the previous section, it is entirely 'neutral' in these terms (and the term is actually quite misleading in this respect).

Langacker (e.g. 2000, 2001) in particular has gone a long way to stress the fact that at least Cognitive Grammar, as one strand within CL, actively deals with dynamicity in language and grammar as such. But what does he mean by this? Essentially, he uses this notion to refer to the fact that the conceptualizations inherent in or expressed by linguistic utterances are dynamic: conceptualization "resides in mental processing, so every conception requires some span of

processing time – however brief – for its occurrence" (Langacker 2001: 8; emphases omitted). And this dynamicity of conceptualization manifests itself in linguistic structure. For example, differences in the 'mental scanning' of an object or a scene (even a static one: e.g., does one scan an arm starting at the finger tips or starting from the shoulder) are reflected in differences in linguistic structure (e.g. variation in word order, in the choice of grammatical roles for word groups, etc.). But clearly, although this matter is absolutely relevant for one's understanding of linguistic structure, this is a dimension of dynamicity quite different from the one at stake in section 2 above. Specifically, it is a matter of the semantics of linguistic structures, and of how that semantics influences the actual shape of the structures, but it says nothing about the question of the 'real time' dynamics of producing a linguistic structure itself, for use in an actual communicative situation (e.g. so as to render the dynamicity of conceptual structures in a way appropriate to the local conditions).

6. Arguments against a process concept of grammar

Regarding the nature of grammar itself, then, as already mentioned, a few cognitive linguists have even explicitly argued against a process concept of grammar, thus suggesting that it is incompatible with their constructionist view of grammar. They often do so, however, in correlation with views which appear perfectly in line with a processual, hence a dynamic, concept of grammar – which would seem paradoxical in the light of the reasoning in section 3 above, specifically regarding the existence of a 'natural' link between a dynamic view and a process concept of grammar. Let's have a closer look at the arguments formulated by the two CL scholars who have been most explicit in these terms, viz. Langacker and Croft.

Langacker (1987: 57; cf. also 1997: 237) argues that a grammar is "a constantly evolving set of cognitive routines that are shaped, maintained, and modified by language use. A speaker's 'knowledge' of his/her language is therefore procedural rather than declarative". A position perfectly in tune with the concept of dynamicity sketched in section 3. But he explicitly rejects a process view of grammar on the basis of the argument that "a grammar is not a 'generative' description, providing a formal enumeration of all and only the well-formed sentences of a language. Nor do I employ the process metaphor and speak of the grammar as a device that carries out a series of operations and gives well-formed sentences as its output." (Langacker 1987: 63). "Putting together novel expressions is something that speakers do, not grammars." (ibidem: 65). This can hardly count as an argument against a process concept of grammar as such, however. What Langacker actually argues against is a generative grammar type

rule system – and this is fully justified (cf. Nuyts 1992, 2001: 17). But a process model obviously does not need to be 'generative' (in the technical sense) at all, nor need it have the linguistic properties indicated in the quote (functionalist grammars e.g. don't; or just have a look at what language psychologists' models look like, cf. e.g. Levelt 1989). In fact, a process model compatible with the principles sketched in section 3 will definitely not be anything of that kind.

By the way, note Langacker's use of the notion of a 'process metaphor' – suggesting that there are not actually any processes going on in language use. In the cognitive-functional perspective sketched in section 2, the process notion is not a metaphor at all, of course.

Langacker is actually aware of the conflict between a commitment to a procedural concept of language and the rejection of a process concept of a grammar. But he (1997: 239-240; emphases omitted) reconciles the two at a metatheoretical level:

> [... Cognitive Grammar] posits nothing comparable to a basic component of classic symbolic processing, namely the step-by-step execution of a program by a central processing unit. Moreover, it does not assume that linguistic structures and patterns are stored as such – there is no supposition that by looking at the right part of the brain either a neuroscientist or a homunculus could actually see them. They are rather to be found in processing activity and are thus emergent rather than fundamental. [...] Linguistic rules and structures are thus procedural in nature – they reside in what a speaker does, not in a list of instructions to be consulted and followed, nor in 'representations' (s)he is able to examine. [... The term mental representations ...] merely indicates the occurrence of neurological adjustments [...] that influence subsequent processing and facilitate the emergence of patterns of activity constitutive of particular kinds of mental experience. [...] As linguists, we have neither the ability nor any particular reason to concern ourselves with the specific synaptic adjustments that are ultimately responsible for language processing. The object of investigation must instead be entities that emerge in processing and represent higher (perhaps considerably higher) levels of cognitive organization. We can examine such entities either from the standpoint of the processing activity per se, or else phenomenologically, i.e., in terms of the experience it constitutes (as well as its behavioral correlates and consequences). The former – comprising the study of neural connections, patterns of activation, etc. – is the province of neuroscientists. Linguistic and psychological research deals primarily with the latter.

Yet, as argued in Nuyts (2001: 18), even if one accepts the basic philosophy behind the notions of the 'phenomenological' and the 'biological' in this quote, one may profoundly disagree with the view regarding the position of 'processing' as formulated here. As linguists, we may choose to disregard neurological processes (although some – also within CL – would strongly disagree). But the observations about dynamism in section 3 above are about behavior, and not

about the brain, and so they are squarely within the range of what Langacker calls 'phenomenology', hence of what a linguistic theory must account for. So it is hard to see how one can do without some version of a processing system which 'executes' some kind of program, as specified in the grammar (but, obviously, a version which meets the criteria of flexibility and contextual adaptivity as specified in section 3).

Croft (e.g. 2001: 126ff, 364ff), too, underscores the dynamic character of language. He renders this in terms of the scheme in (1) (Croft 2001: 128), meant to show the variable relations between syntactic, semantic and conceptual structure, which in Croft's view are manifest especially in a diachronic and evolutionary perspective, but also in a 'synchronic' perspective, in terms of the actual linguistic behavior of language users.

(1) syntactic structure
⇓ ⇑
semantic structure
⇓ ⇑
conceptual structure

At the same time, however, he (2001: 14ff) radically rejects what he calls a 'componential' concept of a grammar (our 'process model'), i.e. a model which, in principle, precisely looks like the scheme in (1), with meaning and syntactic structure represented in separate parts of the grammar and related by linking rules (whether semantic and conceptual structure should be distinguished is not relevant for now, but see section 9 below). It is hard to see how these opposing attitudes towards the scheme in (1) – as a general concept of language vs. as a concept of grammar – can be reconciled.

Again, Croft uses Generative Grammar as the prime example of a componential model – but, to repeat, a process model need not be of that kind, and one obeying the principles in section 3 definitely will not be. In Generative Grammar components or 'modules' are highly autonomous and encapsulated, each organized according to its own specific principles and operating independently from other modules. But in a cognitive-functional view, a 'component' is rather an 'expert system' which deals with some aspect of language but which closely interacts with other expert systems, and such systems may share organizational and operational principles and structures. I.e., there is no assumption of modularity of the kind inherent in Generative Grammar at all – and so the label 'componential model' is not really adequate anyway (hence I will only use the term 'process model' below).

Croft's major objection against a process model, however, is based on the existence of idiomatic and fixed structures in languages. Idioms have of course been *the* source of inspiration for construction grammars, and their existence also constitutes the only substantial argument I am aware of in the CL literature against a process model. So let's consider this issue in more detail.

Croft (2001: 14ff) claims that process models are unable to handle the fact that language is full of structures (much) more complex than single words which nevertheless have precisely the same properties, viz. they are structurally fixed (entirely or partially) and semantically 'idiosyncratic' (their meaning cannot be derived in any simple way from the components of the structure). "The constructional tail has come to wag the syntactic dog: everything from words to the most general syntactic and semantic rules can be represented as constructions." (Croft 2001: 17) And that is of course precisely what construction grammars do.

This argument actually contains two related but non-identical elements, which therefore need to be considered separately: (i) the existence in languages of fixed, idiomatic patterns more complex than single words (section 7), and (ii) the possibility to formulate rules as constructions (section 8).

7. Constructions are not incompatible with a process model

It is beyond dispute that classical (functionalist) grammar models have severely underestimated – in fact, have by and large neglected – the existence of sizable numbers of structures more complex than a single morpheme (up till the level of complete sentences) which are not compositional but must be considered basic in the grammar and must be learned as such by anyone acquiring the language. How frequent such items really are remains to be seen: I am not aware of any systematic attempts to count their share in the average linguistic output of speakers of any language. Nevertheless, they are no doubt more than numerous enough to warrant a concept of grammar in which they are not marginal or exceptional things, but an integral and natural part of the system.

But this is not an unsurpassable problem for process models, hence it cannot be used as evidence against the concept of this type of model as such. Surely, this observation does blow up the traditional concept of a lexicon applied in most functionalist models,[5] as an inventory of (only) predicates and terms (i.e., essentially, of verbal, nominal and adjectival and adverbial lexemes). It must be

[5] But it does not figure in Systemic Grammar, for example, which has never made a distinction between lexicon and grammar – cf. Halliday (1994).

replaced by a much larger and much more diverse inventory (or memory system) of stored '(partial) end products' of the language – let's call it the 'freezer', as the container of all 'frozen' forms of the language.[6] This may then actually cover more than just the 'full lexemes' of a language plus any more elaborate but non-decomposable structures (idioms of different types and sizes). Also fully compositional yet highly frequent, hence highly 'entrenched' (in Langacker's 2000: 32 terminology) expressions, such as standard greetings, default expressions used in familiar and recurrent contexts, etc., may be stored in it as complete 'end products'.[7] (In fact, precisely such structures are prime candidates to evolve into idiomatic, 'frozen' forms.) Moreover, the freezer can also harbor grammatical morphemes (affixes, or 'function words' such as auxiliaries, prepositions, etc.), which classical grammars usually do not include in the lexicon, but which must nevertheless also be stored somewhere, so why not along with all other stored structures in the language, and in a similar format?[8]

But no matter how thorough and substantial this change from a lexicon to a freezer is, it does not affect – let alone invalidate – the essential assumption of a process model that one (also) needs a processing system linking semantic and structural representations. In fact, there does remain a very sizable number of linguistic expressions which are not stored but are constructed (or are stored but can nevertheless also be constructed) 'on line' in communication by using simpler stored items and following the organizational principles of the language – and that is precisely what the processing system is intended for.

---

[6] One might also call it a 'constructicon', as is done in some constructionist approaches, but in order to avoid confusion with the latter, I will not use this term.

[7] One cannot but agree with Langacker (1987: 28ff) that one should not be trapped by the 'rule/list-fallacy' – inherent in much of 'traditional' thinking about linguistic productivity, also in functionalist linguistics – involving the assumption that anything that is fully compositional in language must necessarily exclusively be handled in a grammar in terms of storage of the non-compositional component parts plus the rule(s) for combining them.

[8] Doing so offers a natural way to account for grammaticalization phenomena, whereby forms in a language move gradually from full lexemes to grammatical markers. In classical models which structurally separate these two types of forms, it is hard to account for this process. But in a framework integrating all of these in the same store of fixed items in the language, these processes can simply be characterized as gradual changes in the phonological shape and the grammatical properties (the 'lexical frame' specifying the syntactic usage conditions of the item) of the form as coded in the store (see Nuyts 2001: 289-290).

8. Rules as constructions

The second element in Croft's argument – and a crucial step towards a constructional network concept of a grammar – concerns the generalization of the constructional notation for idiomatic 'surface patterns' to abstract generalizations over productive surface patterns, including what are traditionally called 'rules' in process models. The question is, however, whether this issue marks a real and substantial difference between the two approaches.

First of all, it should be noted that the constructionist notation of at least certain types or aspects of 'rules' is nothing particularly new or revolutionary in the framework of traditional functionalist process models. The latter have always made frequent use of 'constructional templates' of different kinds, which, quite like the frozen material of the language, are stored somewhere in the grammar. Think of the argument frames of predicative elements (in most models stored along with the predicate in the lexicon), which specify the latter's usage properties.[9] Or think of the word ordering templates or templates for special syntactic patterns such as clefts (not stored in the lexicon but elsewhere in a storage system in the grammar) which (co)determine the ultimate organization and/or word order of any utterance produced by the system.

But of course, in process models many central principles are formulated in 'procedural' rather than constructional terms (even if in traditional functionalist models these procedures are usually not spelled out in an actual formalism), and they are perfectly amenable to such a formulation. Think of the introduction of optional modifiers in clause structure (adverbials, or grammatical TAM operators), the assignment of functional labels such as information structural ones (e.g. topic, focus) or syntactic ones (e.g. subject, object), or the process of the actual positioning of constituents in slots in word order templates in view of factors such as function labels and discursive conditions. It is far from obvious yet whether all of this could also be formulated in (abstract) constructional terms in such a way that the result remains 'parsimonious' and cognitively plausible (word order, e.g., has definitely not been a major concern in constructionist approaches, yet especially the situation in flexible word order languages would seem an excellent testing ground for the possibilities and limits of the approach). If it can be done in a plausible way, then the constructionist and the process models would be 'notational variants' in this regard. The difference between them would, at least in principle, only be a matter of what they focus upon or

[9] In a recent offspring of Dikkian Functional Grammar, Functional Discourse Grammar (cf. Hengeveld and Mackenzie 2008), argument patterns are even represented independently of individual predicates (as generalizations over comparable patterns in the latter), exactly like this is done in Goldberg's (1995, 2006) version of Construction Grammar.

consider most important, viz. notational form (in the constructionist approach) versus operational function (in the process approach). In fact, Croft's argument for a construction grammatical approach is essentially based on the principle of consistency: if one type of element in language (all frozen forms) must be represented as constructions, why not simply represent all the structures in the language (including the rules) in that same way? But one can also look at the issue from a different angle: if different types of structures in language have different functions, why represent and handle them in the same way? Or, in other words: why care about the (possibilities of a) notational system; what matters is the functionality. Ultimately, constructionist grammars will also have to work out the unification process, and at that point the functional role of different 'types' of constructions will come into play, too. In process models, this functional role is taken as the starting point.

9. Meaning and structure

Summarizing the discussion so far, we have not encountered any real counter arguments to a process approach to grammar yet. Moreover, the differences between this approach and a constructionist one are so far (probably) only 'notational' (which also means that the worry formulated in section 4 may, at least in principle, be inappropriate). There is, however, yet a third crucial element involved in the reasoning – among others by Croft – from the existence of idioms to a construction grammatical approach to grammar and away from a process approach, viz. the assumption that the form and the meaning of stored patterns must be coded together in one and the same representation. This is in fact probably the most fundamental difference between process and constructionist approaches, one which – depending on one's notion of meaning, see below – is possibly not notational anymore.

First of all, it is important to qualify Croft's (2001) occasional suggestion that the notion of a 'symbolic unit' is typical of construction grammar approaches (including Cognitive Grammar). This is only true if referring to the way a grammar notationally represents linguistic elements in the system. But it is obviously not true in a more fundamental sense: utterances and their parts are not getting less symbolic by assuming that they are not coded in grammar as symbolic units, but as functionally motivated, systematic mappings between meanings coded in one area of a model/the mind and forms coded in another area of the model/mind. That linguistic expressions – as output of the linguistic system – are symbolic units with a unique mapping between a meaning and a form is obviously an absolute core concept in any functionalist approach.

The constructionist approach appears to be based on the assumption that idioms have a fixed idiosyncratic meaning, and – applying the principle of consistency again, cf. section 8 – on a generalization from them to any other structures postulated in the grammar. But can this basic assumption be maintained? That idioms typically have an idiosyncratic (i.e., non-compositional) meaning is incontestable, but that does not automatically imply that they also have a 'fixed' meaning. In fact, they probably do not. Idioms are no different in this regards from single lexical morphemes. Since the advent of prototype theory and the burial of semantic feature analyses of lexical meaning (a development which is to a large extent due to CL – cf. e.g. Lakoff 1987), it is quite obvious that the meaning of a word – hence of any structurally frozen content item – cannot be characterized in terms of very precise and fixed or black and white criteria. Its meaning on any usage occasion can vary considerably, conforming to varying degrees to the 'prototype' (which in itself is probably hardly ever very specific and subject to variation), and uses deviating from the prototype (including metaphorical and metonymical ones) are due to contextual factors, i.e. to the speaker's solution to the problems posed by the actual communicative context (e.g. the lack of another good term to name some phenomenon or happening in the world, to give just one very straightforward example).[10] That is, any usage of a 'content item', be it a word or an idiom – just like the construction of a complete novel utterance, for that matter – involves an attempt by a speaker to match a certain conceptual configuration as appropriately or adequately as possible onto a certain linguistic form in view of the specific contextual conditions. The difference between the selection of a frozen form – a single word or a more complex pattern – and the construction of a novel utterance in these terms is only one of degree.

What this means, then, is that, if anything is to be taken as the basic situation to which to apply the principle of consistency, then it is the non-fixed nature of form-meaning pairings. This is, in fact, precisely the core point of the principle of dynamicity as formulated in section 3. 'Non-fixed' obviously does not mean 'non-systematic' (cf. above), but it does mean that linguistic symbolization does not involve two but three critical poles, viz. form, meaning, and context.

[10] One might argue that some frozen forms clearly do have a fixed meaning, with hardly any room for variation in its usage: *let alone* might be a prime example (cf. Fillmore et al. 1988). But *let alone* is obviously not a 'lexical morpheme', but a connector, hence a grammatical morpheme (in fact, also in the range of 'grammatical' morphemes there are frozen forms beyond the level of complexity of the single morpheme, witness the frequent occurrence in languages of multiword connectors, of double or even triple negation markers, etc.). And characterizing the 'meaning' of grammatical morphemes is obviously a completely separate story (pace Langacker's e.g. 1987, 1999: 73ff position in this matter).

A natural solution to account for the – regarding their form-meaning relation – relatively more conventionalized frozen structures (as compared to the situation in 'novel' structures) in terms of a model, then, is to assume that there does exist a default linking between them and the concepts or conceptual domains which constitute their prototypical meaning, a default which, however, can be overridden by factors inherent in the situation 'surrounding' any individual usage event. In case of a novel structure, there is of course not such a default link for the structure as a whole (only for frozen parts of it). ('Stored' high-frequency compositional structures – cf. above – take a middle position between the two.) In a process model this is obviously perfectly feasible.[11] But it is less easy to see how a constructionist concept of grammar can accommodate this.

One might object that this discussion conflates two issues, viz. that of the relation between 'utterer's meaning' and linguistic form, and that of the relation between 'word and sentence meaning' and linguistic form (to use labels dating back to Gricean times – cf. e.g. Grice 1968 – and still in use today in some strands of linguistics – cf. e.g. Carston 2002). The former might then be caught in terms of variable relations, the latter possibly in terms of fixed relations. This, however, presumes – in terms more common in current cognitive and functional linguistics – (at least) a distinction between linguistic and conceptual meaning.[12] Yet, while some cognitive linguists may accept such a distinction (witness Croft's scheme in (1) in section 3; and see also Evans 2006), very many (if not most) others definitely do not: along with Langacker (1987: passim), they will want to equate (any kind of linguistic) meaning with conceptualization.

If one does accept the distinction,[13] and if by 'linguistic' meaning one refers to issues such as, for instance, how a language 'molds' conceptual structure in terms of predicate-argument patterns, then it is of course true that many idiomatic expressions are entirely fixed in these terms, and a process model must and will handle them as such, too. Hence, in that perspective there would, again, be no difference between the two types of models as far as this particular issue is concerned. But for the relations between the conceptual meaning and the lin-

---

[11] This is not to say that current functionalist process models actually do this: this was precisely the point of the criticism formulated in section 3 above regarding how functionalist models handle the facts about dynamism.

[12] It may also require a distinction between literal and non-literal meaning, which need not necessarily coincide with that between linguistic and conceptual meaning. It is beyond the limits of the present paper to go into this scientific quagmire, however.

[13] There are very good reasons to actually do so – cf. e.g. Slobin's (1996) arguments for a notion of 'thinking for speaking' in between language and thought, or see Levinson (1997), or (from a completely different angle) Jackendoff (2002: 281ff). But space prevents me from elaborating on this here.

guistic meaning/form pair even in idiomatic structures, the above argument for a processual link remains fully intact, of course. And in 'fully productive' utterances, this also applies to the relations between the linguistic semantic and surface syntactic patterns, given the fact that, e.g., (at least in certain types of languages) a single predicate-argument pattern can be realized through many different word order patterns or even patterns of grammatical functions, the alternatives being determined by contextual conditions. But after all, matters are probably not really handled differently in at least certain versions of the constructionist approach, such as Goldberg's (1995, 2006): presumably, a novel structure would there, too, be constructed by unifying in some way an argument pattern with a word order pattern (of which there would have to be very many in order to account for all the possible alternatives in 'free word order languages' – see section 8). But in essence, this argument pattern construction is a linguistic semantic representation in itself – and it is hard to see how it should be a 'form/meaning' pair in the same sense in which an idiom can be called a 'form/(linguistic) meaning' pair. And so the question is, again, whether there is really more than a notational difference between (this type of) a constructional and a processual approach.

In any case, in a (functionalist) common sense view, communicating means transmitting information through a contextually adapted linguistic form. It is hard to see what this could involve other than (for the productive mode – something comparable applies for the perceptual mode, of course) converting a conceptual structure, which serves as the input to the process, into a linguistic surface form (possibly via intermediary stages such as a linguistic semantic structure) in a way which is sensitive to the relevant contextual factors. In other words, it seems quite unavoidable to assume that in language processing conceptual meaning and linguistic form are applicable at different moments in time, and that the time lag in between (probably no more than a matter of milliseconds) is taken up by decision processes to determine which 'pairing' of a meaning and a form has to be realized in the light of the communicative circumstances. In yet other words, it is hard to see how a model could not have the overall shape of Croft's scheme given in (1) above (section 6). This is precisely what a cognitive functional process model attempts to grasp. And it is something which a constructionist model will have to accomplish as well, pace Croft's considerations.

10. Conclusion

The issue of the process vs. construction concepts of a grammar is clearly an extremely complex one, involving very many aspects and dimensions which need

to be considered separately, and which make a simplistic black and white evaluation of the matter impossible. The fact that individual process models and individual construction models differ in their treatment of these aspects and dimensions only makes the discussion more complex. In any case, except for the fact that the traditional concept of a lexicon must be revised thoroughly (in fact, must be given up), the discussion has revealed little or nothing in terms of fundamental objections against a process concept of a grammar and/or the idea that such a concept is a natural emanation of a dynamic view of language use. On the other hand, the worry that a construction approach may not fit such a dynamic view is not accurate, at least not in principle, it depending on how the approach is actually implemented. In some version of the two model types, they are probably basically compatible, and the difference between them is entirely a matter of the perspective they adopt, or the dimension of linguistic cognition which they highlight or on which they focus: the construction approach predominantly focuses on what the 'output' of cognitive operations looks like, the process approach focuses more on what a speaker('s mental grammar) does in order to produce this output.

Undoubtedly, the last word on this issue has not been spoken/written yet – but one can only hope that the two approaches manage to find a common ground and will be able to avoid a situation in which linguistics gets divided in three paradigms, rather than two.

References

Carston, Robyn (2002). Linguistic meaning, communicated meaning and cognitive pragmatics. *Mind and Language* 17*:* 127-48.

Chafe, Wallace (1994). *Discourse, Consciousness, and Time*. Chicago: University of Chicago Press.

Croft, William (2001). *Radical Construction Grammar*. Oxford: Oxford University Press.

Evans, Vyvyan (2006). Lexical concepts, cognitive models and meaning-construction. *Cognitive Linguistics* 17: 491-534.

Fillmore, Charles (1988). The mechanisms of 'construction grammar'. *Berkeley Linguistic Society* 14: 35-55.

Fillmore, Charles, Paul Kay, Mary C. O'Connor (1988). Regularity and idiomaticity in grammatical construction: The case of 'let alone'. *Language* 64: 501-538.

Givón, Talmy (1979). *On Understanding Grammar*. New York: Academic Press.

Givón, Talmy (2005). *Context as Other Minds*. Amsterdam - Philadelphia: John Benjamins.

Goldberg, Adele (1995). *Constructions*. Chicago: University of Chicago Press.

Goldberg, Adele (2006). *Constructions at Work*. Oxford: Oxford University Press.

Grice, H.P. (1968). Utterer's meaning, sentence-meaning and word-meaning. *Foundations of Language* 4: 225-242.

Halliday, M.A.K. (1994). *An Introduction to Functional Grammar*. London: Arnold.

Hengeveld, Kees, J. Lachlan Mackenzie (2008). *Functional Discourse Grammar: A Typologically-Based Theory of Language Structure.* Oxford: Oxford University Press.

Jackendoff, Ray (2002). *Foundations of language*. Oxford: Oxford University Press.

Lakoff, George (1987). *Women, Fire, and Dangerous Things*. Chicago: University of Chicago Press.

Langacker, Ronald (1987). *Foundations of Cognitive Grammar. Volume 1*. Stanford: Stanford University Press.

Langacker, Ronald (1988). A usage-based model. Rudzka-Ostyn, Bryfida, ed. *Topics in Cognitive Linguistics*. Amsterdam - Philadelphia: John Benjamins, 127-161.

Langacker, Ronald (1997). The contextual basis of cognitive semantics. Nuyts Jan, Eric Pederson, eds. *Language and Conceptualization*. Cambridge: Cambridge University Press, 229-252.

Langacker, Ronald (1999). *Grammar and Conceptualization*. Berlin: Mouton.

Langacker, Ronald (2000). A dynamic usage-based model. Barlow, Michael, Suzanne Kemmer, eds. *Usage-Based Models of Language*. Stanford: CSLI, 1-63.

Langacker, Ronald (2001). Dynamicity in grammar. *Axiomathes* 12: 7-33.

Levelt, Willem J. M. (1989). *Speaking*. Cambridge, MA: MIT Press.

Levinson, Stephen (1997). From outer to inner space: Linguistic categories and non-linguistic thinking. Nuyts, Jan, Eric Pederson, eds. *Language and Conceptualization*. Cambridge: Cambridge University Press, 13-45.

Nuyts, Jan (1992). *Aspects of a Cognitive-Pragmatic Theory of Language*. Amsterdam - Philadelphia: John Benjamins.

Nuyts, Jan (1993). On determining the functions of language. *Semiotica* 94: 201-232.

Nuyts, Jan (1994). Functionalism versus formalism. Verschueren, Jef, Jan-Ola Östman, Jan Blommaert, eds. *Handbook of Pragmatics*. Amsterdam - Philadelphia: John Benjamins, 293-300.

Nuyts, Jan (2001). *Epistemic Modality, Language and Conceptualization: A Cognitive-Pragmatic Perspective*. Amsterdam - Philadelphia: John Benjamins.

Nuyts, Jan (2004). The cognitive-pragmatic approach. *Intercultural Pragmatics* 1: 135-149.

Nuyts, Jan (2005). Brothers in arms? On the relations between cognitive and functional linguistics. Ruiz de Mendoza, Francisco, Sandra Peña, eds. *Cognitive Linguistics: Internal Dynamics and Interdisciplinary Interaction*. Berlin: Mouton, 69-100.

Nuyts, Jan (2007). Cognitive linguistics and functional linguistics. Geeraerts, Dirk, Hubert Cuyckens, eds. *Handbook of Cognitive Linguistics*. Oxford: Oxford University Press, 543-565.

Slobin, Dan (1996). From 'thought and language' to 'thinking for speaking'. Gumperz, John, Stephen C. Levinson, eds. *Rethinking Linguistic Relativity*. Cambridge: Cambridge University Press, 70-96.

Wierzbicka, Anna (1980). *Lingua mentalis*. Sydney: Academic Press.

Wierzbicka, Anna (1996). *Semantics*. Oxford: Oxford University Press.

Author's address:

University of Antwerp – Dept. of Linguistics
Rodestraat 14 – R204
B-2000 Antwerp, Belgium

POIMANJE GRAMATIKE I UMA KAO SKUPA UZORAKA ODNOSNO PROCESA: KOGNITIVNO-FUNKCIONALNI PRISTUP

Rad se usredotočava na jedan element glede kojeg se kognitivna lingvistika i tradicionalni funkcionalni pristupi gramatici razilaze, tj. na opreku između pristupa koji naglasak stavlja na konstrukciju (što je znakovito za kognitivnu lingvistiku) i pristupa koji naglašava procese (što dominira u funkcionalnoj gramatici). Nudi se "konceptualna analiza" razlike i tvrdi: (i) da poimanje gramatike kao procesa ne vodi na stranputicu (unatoč suprotnim tvrdnjama nekih kognitivinih lingvista) pod uvjetom da se integriraju neka rješenja iz konstrukcijskog pristupa te (ii) da su u nekim svojim verzijama dva tipa modela uglavnom kompatibilna i da iste pojave prikazuju iz različitih perspektiva.

Ključne riječi: kognitivna lingvistika; funkcionalna lingvistika; gramatika; konstrukcije; jezična obrada.