

A REAPPRAISAL OF THE FUNCTIONAL ENTERPRISE, WITH PARTICULAR REFERENCE TO FUNCTIONAL DISCOURSE GRAMMAR*

Christopher S. Butler

Swansea University, University of Huddersfield and University of Leeds

ABSTRACT

This paper suggests what the goals of functional linguistics should be, and argues that although at present Functional Discourse Grammar (FDG) does not achieve some of these goals (and is indeed not intended to do so), this situation could be remedied by the expansion and modification of proposals already available within the theory. The paper discusses criteria of descriptive and explanatory adequacy in functional linguistics. The architecture of FDG is described briefly, and the various criteria of adequacy are discussed in relation to the theory, with suggestions for how the existing architecture could be developed, in particular expanding the role and scope of the Conceptual and Contextual Components, in order to answer the fundamental question of how the natural language user works.

KEY WORDS: Functional Discourse Grammar, communication, criteria of descriptive and explanatory adequacy, Conceptual Component, Contextual Component.

RESUMEN

Este artículo sugiere cuáles deberían ser las metas de la lingüística funcional, y argumenta que, aunque actualmente la Gramática Discursivo-Funcional (GDF) no cumple estos objetivos —y de hecho no pretende hacerlo—, esta situación se podría remediar con la ampliación y modificación de algunas propuestas ya disponibles dentro de esta teoría. Se describen los criterios de adecuación descriptiva y explicativa necesarios para la lingüística funcional. Se describe brevemente la arquitectura de la GDF, se analizan los criterios de adecuación en relación con dicha teoría, y se hacen sugerencias para el desarrollo de la arquitectura actual, prestando especial atención a la ampliación del papel y del campo de aplicación de los Componentes Conceptual y Contextual a fin de responder a la pregunta fundamental de cómo opera el usuario de una lengua natural.

PALABRAS CLAVE: Gramática Discursivo-Funcional, comunicación, criterios de adecuación descriptivos y explicativos, Componente Conceptual, Componente Contextual.



1. THE GOALS OF FUNCTIONAL LINGUISTICS

In this paper I revisit the important question of what the goals of the functional linguistics enterprise should be, and argue that current Functional Discourse Grammar (henceforth FDG) does not meet (and indeed is not intended to meet) some of the requirements for the fulfilment of these goals, but that elements already available could be expanded and modified in order to achieve a better match.

In recent publications (see especially Butler, “Cognitive,” “Criteria”) I have defended a radical, ‘back-to-basics’ view of what a truly functional linguistic theory should cover. The starting point can be expressed in terms of a statement made by Simon Dik, the founder of FDG’s predecessor Functional Grammar (henceforth FG):

When one takes a functional approach to the study of natural languages, the ultimate questions one is interested in can be formulated as: *How does the natural language user (NLU) work?*” (Dik 1, emphasis added)

Dik’s own work did not, in my view, address this question with the seriousness it deserves, and we shall see that although FDG improves on that situation in some ways, it (deliberately) does not go nearly far enough to answer the question in detail.

The most important tenet of functionalism (see Butler, *Approaches*, “Functional,” “Functionalist”) is that language is first and foremost a tool for communication between human beings and that this fact has profound influences on the ways in which language, and individual languages, have developed. Given this orientation, the emphasis of a functional theory should be on linguistic communication, and the central goal should correspondingly be to model not only linguistic elements at various levels of description and their interrelationships, but also the cognitive and social mechanisms which act on these elements during linguistic communication. What I am suggesting here is that we should take Dik’s question ‘How does the natural language user work?’ literally and very seriously. By doing this we can provide the ‘model of verbal interaction’ in which Dik saw his Functional Grammar as being embedded. What this entails will be discussed in §2 of this paper.

2. CRITERIA OF ADEQUACY IN FUNCTIONAL LINGUISTICS

Dik himself (12-15) briefly outlined a set of criteria of adequacy to which a functional theory should aspire. He appears to accept Chomsky’s standard of descrip-

* I am grateful to Francis Cornish and John Connolly for their very valuable comments on earlier drafts of this paper. I also wish to acknowledge support from project INCITE09 204 155PR financed by the Xunta de Galicia and project FFI2010-19380 financed by the Spanish Ministerio de Ciencia e Innovación.



tive adequacy, and goes on to propose three criteria of explanatory adequacy which, again in accordance with Chomsky's position, "would allow us to determine which one of two or more descriptively adequate grammars would have to be preferred" (Dik 13), although he warns that they differ somewhat from Chomsky's proposals, given the very different nature of FG and transformational generative grammars:

... a functional grammar must be conceptualized as being embedded within a wider pragmatic theory of verbal interaction. We shall say that the degree of *pragmatic adequacy* of a functional grammar is higher to the extent that it fits in more easily with such a wider, pragmatic theory. (Dik 13)

... such a grammar must also aim at *psychological adequacy*, in the sense that it must relate as closely as possible to psychological models of linguistic competence and linguistic behaviour. (Dik 13)

A third requirement to be imposed on the theory of FG (in fact, on any theory of language) is that it should be *typologically adequate*, i.e. that it should be capable of providing grammars for languages of any type, while at the same time accounting in a systematic way for the similarities and differences between these languages. (Dik 14)

It should be noted that Dik sees his functional theory as being *embedded within* a wider pragmatic theory of verbal interaction rather than constituting such a theory, and we shall find that this position has been largely retained in FDG.

In Butler (*Clause* 477-489) I put forward a rather different approach to descriptive adequacy and also proposed a more extensive list of criteria of explanatory adequacy than originally envisaged by Dik. This list was slightly modified and extended once again in Butler ("Criteria"). The following summary is based on these publications.

Understandably, Chomsky's criteria of observational, descriptive and explanatory adequacy, first put forward in Chomsky's *Current Issues in Linguistic Theory*, are inextricably linked to the central assumptions of his own theoretical framework. They assume that what is to be described is the 'competence' of the native speaker, i.e. his or her tacit 'knowledge' of the language spoken, and that the main kind of evidence for the explanatory adequacy of a theory is the intuitions of native speakers. However, as Dik pointed out, the underlying aims and assumptions of functional theories are in many ways different from those of Chomskyan linguistics, and it is therefore to be expected that a rather different set of criteria of adequacy will be appropriate for them. Most functionalists would not want to restrict the data for description to the intuitions of a theoretical, ideal native speaker-listener in a homogeneous speech community, but would prefer to use a much broader database, including, at least as one component, samples of natural language usage under particular social conditions. Furthermore, while Chomskyan linguistics is centred on the study of sentence structure and of some inter-sentential phenomena such as anaphora, the functional linguist, if genuinely interested in explicating the ways in which we communicate, will want to go beyond the confines of the sentence, to



study connected discourse. I have therefore proposed that for functional linguistics descriptive adequacy should be concerned with the nature of the data on which we need to base our descriptions and our theorising.

The reasoning above suggests that we should include, as a major component of our data, samples of attested language use in natural communicative situations, and that these should not be confined to the sentence level, but should allow the analysis of larger stretches of text.¹ In order to conform to standards of typological adequacy, as proposed by Dik, we should also include data from as wide a range of language types as possible. There is clearly a source of tension here, in that for the majority of the world's languages no corpora of attested language are yet available; the situation is, however, improving rapidly, and the best we can do for now is to gather as much textual data from as broad a range of languages as we can. We also need to include data from different stages in the evolution of languages, in order to study phenomena such as grammaticalisation and subjectification, which have loomed large in much recent functional work. In order to see what other kinds of data we need, we must turn to criteria of explanatory adequacy.

In functional linguistics, explanatory adequacy can be recast in terms of the factors which can be shown to shape languages. In what follows, I shall briefly examine cognitive, discoursal, sociocultural and acquisitional types of explanatory adequacy, also commenting briefly on other types of adequacy which have been proposed in the literature.

Cognitive adequacy (the term is taken from Bakker 5, and replaces Dik's 'psychological adequacy') is particularly important in an approach which seeks to model 'how the natural language user works', since everything we do linguistically must be cognitively mediated.² Such an approach must take fully into account those aspects of the cognitive structures and mechanisms concerned with the processing and storage of language on which there is a substantial degree of consensus. This is the 'cognitive commitment' proposed by the cognitive linguist George Lakoff, which is "to make one's account of human language accord with what is generally known about the mind and the brain, from other disciplines as well as our own" (Lakoff 40). Lakoff also observes that undertaking this commitment entails taking into account the empirical findings of disciplines such as cognitive psychology, developmental psychology, anthropology and cognitive neuroscience.³

I do not share Anstey's view, endorsed by Mackenzie ("Cognitive" 423), that

... the very concept of psychological adequacy itself, as applied to linguistics, involves a confusion of categories. It is like saying that a theory of psychology should attain linguistic adequacy— one is simply talking about two non-contiguous academic

¹ For discussion of the advantages and limitations of corpus data, see Fillmore, Chafe, Butler (*Clause* 477-484), and for an analysis of the role of corpora in functional linguistics, Butler ("Corpus").

² For a more extended discussion of cognitive adequacy see Butler ("Cognitive" 2-12).

³ For the view that cognitive linguists themselves have not fully lived up to the expectations created by this commitment, see Peeters ("Musings," "Linguistics"), Dąbrowska, Butler ("Systemic").



disciplines, which nevertheless, like physics and biology, are in many ways deeply intertwined. The mistake is to make one academic discipline have evaluative authority over another. (Anstey, "Inception" 52-53)

In my own view it is neither realistic nor profitable for the functional linguist to regard linguistics as a discipline with well-defined boundaries, and so 'non-contiguous' with psychology. All we are saying when we speak of psychological (or cognitive) adequacy for functional linguistics is that our models should take full account of those findings in cognitive science on which there is some measure of agreement. And it would indeed be just as appropriate to insist that psychologists take the findings of linguistics into account when constructing their own models of language-related phenomena. The fact that linguists and psychologists of language are basically engaged in very much the same kind of exercise is highlighted by Nuyts (13-21), who observes that the two ways of looking at language are not logically different, that they involve the use of indirect data, that they construct their theories in similar ways, and that the experimental data collected by the psychologist must be interpreted in terms of hypotheses about linguistic structures. I fully agree with Nuyts that integrating linguistic and psychological models would be of advantage to both sides, and to scientific studies of language in general.

In attempting to increase the cognitive adequacy of a linguistic model, we are faced with the problem, formulated recently by Mackenzie ("Cognitive" 423), that "it soon becomes overwhelmingly obvious that there are very many psychological models and theories around and that these are only partially overlapping and most often mutually incompatible or only partially compatible." While this is certainly true, there does appear to be a fair degree of consensus on certain aspects of language processing. For instance, two highly influential models, Levelt's (*Speaking*, "Producing"; Bock and Levelt) account of production and Kintsch's ("Role," *Comprehension*) of comprehension, agree on three properties: processing is incremental, proceeds by means of spreading activation from one node in a network to another and constraint satisfaction to arrive at a final result on the basis of an array of alternatives, and is lexically driven.⁴

Of crucial importance to our discussion of cognitive adequacy are two types of distinction between approaches to the study of language. Firstly, we have the split between *pattern models* and *process models*. Traditionally, linguistic theories have confined themselves to a study of the patterns found, at different levels of description, within language itself. However, with the ever growing interest in cognitive aspects of language has come the recognition, among some linguists at least, that we also need to examine the processes through which those patterns are put to use in linguistic communication, including conceptualisation, i.e. the categorisation of phenomena in the world we are communicating about, and the use of different 'construals' or perspectives on situations, as well as the mechanisms involved in

⁴ See, however, the Chang model of language production, described briefly in §4.2.1.1.



converting those conceptualisations into utterances during language production, and the eventual retrieval of conceptualisations from surface utterances in language comprehension. Hudson (91) even goes so far as to claim that “by the end of the [twentieth] century the focus had shifted from the language system to the individual speaker’s cognitive system.” Clearly, information from cognitive psychology and psycholinguistics is important here, so we should add this type of data to our requirements for descriptive adequacy. Recognition of the fact that in order to answer Dik’s question ‘How does the natural language user work?’ we need to engage with cognitive processes does not mean that we can neglect linguistic patterns, for these are what limit the possibilities of verbal communication in a given language and, if we are justified in postulating some universal features, in language as a whole. The intimate relationship between pattern and process is well documented in the work of usage-based linguists (see e.g. Bybee; Bybee and Hopper), who have repeatedly shown the relationships between processing and linguistic structure:

The goal of this book is to explore the possibility that the structural phenomena we observe in the grammar of natural languages can be derived from domain-general cognitive processes as they operate in multiple instances of language use. The processes to be considered are called into play in every instance of language use; it is the repetitive use of these processes that has an impact on the cognitive representation of language and thus on language as it is manifested overtly. (Bybee 1)

The second important distinction is between *theories of grammar* and *theories of language*. Some theories which brand themselves as functionalist concentrate on just the grammar (in a wide sense which includes not only syntax, morphology and phonology, but also semantics, pragmatics and even, in certain cases, certain aspects of discourse structure). However, as pointed out by Bakker (5), “grammar models, which were not constructed directly on the basis of insights from the psychology of language cannot by implication serve to test the theory on its cognitive adequacy.” Although Bakker focuses here on the need for information from psychology and psycholinguistics, referred to above, we may also observe that in order to understand how human beings communicate through language we must extend our investigations beyond the grammar itself, to include not only the conceptualisations which that grammar gives physical shape to, but also the contexts in which the grammar is deployed. I shall say more about context in relation to discursal adequacy, to which we now turn.

If language is to be studied as a key form of communication, functional linguists need to take on board the fact that linguistic interactions are most often characterised by multi-propositional discourse rather than by isolated utterances. Linguists vary in the extent to which they emphasise the impact of the requirements of naturally occurring discourse on linguistic patterning: the most extreme view, taken by ‘emergentists’ such as Paul Hopper, “sees all structure as in a continual process of becoming, as epiphenomenal, and secondary to the central fact of discourse” (Hopper 366). Though many functionalists would not want to go this far, it is clear that discourse phenomena do impact on organisation at other levels. One area which has been the subject of much research, even in formal generativist theories, is



anaphora and related phenomena. Another is the ways in which types of discourse act, such as questioning and responding acts, are reflected in the grammar and lexis of the language used to convey them. A further area on which much effort has been expended is coherence and cohesion, in which both grammatical and lexical patterning play a part. One of the most important features of discourse is that we often say less than we mean, leaving our hearers to construct implicit meanings through inferential mechanisms. Jaszczolt, for instance, says the following:

... there is substantial experimental evidence in support of the claim that the main, most salient meaning is frequently an implicature: according to Sysoeva's experiments, for example, between 60 and 80 per cent of informants (depending on the language and culture) select implicatures as the main communicated meaning. (Jaszczolt 32)

But in addition to all these areas, and many others, we need to recognise that the organisation of natural discourse into larger, hierarchically-arranged units is also one of the ways in which speakers convey their intentions and negotiate meaning with their hearers. A functional theory will be discursively adequate to the extent that it gives revealing accounts of all these various phenomena.

An adequate account of discourse must be based on the study of authentic, naturally-occurring data, and must recognise the inherently dynamic nature of discourse: although it must describe the formal units into which particular types of discourse can be divided, and specify the functional, semantic relationships between these units, it must also account for discourse as an activity which is governed by sets of principles, albeit these can sometimes be overridden for particular reasons. The conduct of discourse involves cognitive structures and operations, and this must also be reflected in an adequate model. In particular, discourse participants need to keep a mental record of the discourse up to the point they have reached in their interaction (i.e. what has been called the 'discourse context').

Our model must also reflect the fact that discourse participants are not acting only as individuals, but also as representatives of particular sociocultural groupings, and this is where the concept of sociocultural adequacy comes in. The rules and principles governing discourse are socially constructed and so vary according to the social context, which needs to cover not only relevant aspects of the setting for communication, but also the social characteristics of the participants. Relating discourse to context allows us to recognise particular groupings which have a social basis, such as text types, registers and genres. All of these need to be investigated within a programme which sets out to discover how the natural language user works.

Finally, any valid linguistic theory must be able to show that the constructs, rules and principles it puts forward are learnable by the child who is acquiring his or her language(s); in other words, the theory must also be acquisitionally adequate.

Before leaving this general discussion of criteria of adequacy, we should look briefly at certain other criteria which have been proposed in the literature. It will be remembered that Dik's original set of criteria included what he called pragmatic adequacy, concerned with the extent to which a functional grammar fits into a wider theory of verbal interaction. Since the whole of what I have proposed so far is geared



to the achievement of this overall goal, we no longer need Dik's overall category, since it can be broken down into the other kinds of adequacy I have put forward. A theory of verbal interaction must include an account of discourse, including its relationship with sociocultural context, and all of this must necessarily find cognitive representation in the human mind.

A further type of adequacy which has been proposed is computational adequacy. Fawcett (5), for instance, states that "[t]he implementation of a theory of language in a computer model is the most demanding of all possible formal tests of a theory of language." Although I would agree that computational implementation is crucial for testing the internal consistency of the workings of a grammar, I believe we need to exercise some caution in relation to Fawcett's claim, since a grammar which passes the computational implementation test with flying colours may still not be defensible on other grounds, and there is certainly no guarantee that what happens in the computer accurately mimics language production and comprehension in human beings.

Finally, we should note the criterion of applicability which has been put forward primarily by Halliday and other proponents of Systemic Functional Linguistics, but is also subscribed to by linguists such as Hudson, in relation to his Word Grammar. Halliday (xxx) states "The test of a theory of language, in relation to any particular purpose, is: does it go? Does it facilitate the task in hand?" As is well known, Systemic Functional Linguistics has proved extremely useful in a number of applied areas, including educational linguistics, stylistics, translation and computational linguistics. But it is doubtful that we should elevate applicability to the status of a criterion for the adequacy of a linguistic theory. Many useful ideas in linguistics have proved to be scientifically untenable, and Widdowson (145) is correct in his view that usefulness cannot validly be an intrinsic feature of the design of a linguistic theory, or adduced as a measure of validity. Furthermore, as I have pointed out elsewhere (Butler, *Clause* 473-477), a theory which is adequate in all the respects I have outlined here should prove to be applicable anyway, if it accurately represents how the natural language user works.

3. THE ARCHITECTURE OF FDG

The fundamental architecture of FDG is shown in Figure 1, as given in Hengeveld and Mackenzie (*Functional* 13) and repeated in Hengeveld and Mackenzie ("Functional Handbook" 369). The direction of the arrows shows that the model is presented in productive mode, though Hengeveld and Mackenzie (*Functional* 2) claim that "the model could in principle be turned on its head to account for the parsing of utterances."⁵

⁵ Whether this is a reasonable claim can only be determined by future research. For an initial attempt to model the hearer-based comprehension perspective, see Giomi.



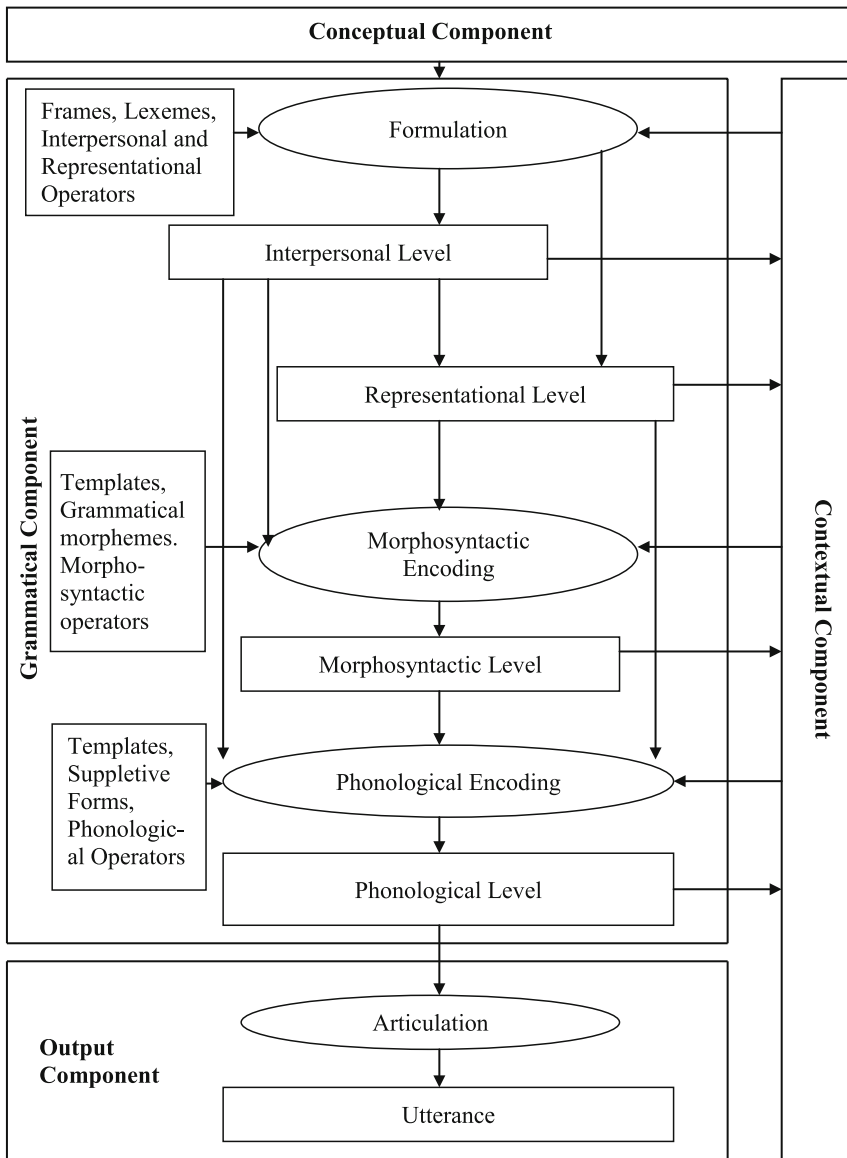


Figure 1. Components, operations and levels of representation in FDG.

The central component of the model is the Grammatical Component, and this is fed by the construction of conceptualisations in the Conceptual Component, and in turn feeds the Output Component which deals with the translation of phonological structure into an articulated utterance. Interacting with the Grammatical



cal Component is the Contextual Component. The status of the Conceptual and Contextual Components will be discussed in later sections.

Figure 1 shows that, as briefly described by Hengeveld and Mackenzie (*Functional 2*) and richly illustrated throughout their book, the Grammatical Component initiates the language-specific process of Formulation, in which conceptual material is converted first into a pragmatic representation of discourse Moves, Acts and Subacts at the Interpersonal Level, then into a semantic representation of Propositional Contents, Episodes, States-of-Affairs, Properties and Individuals at the Representational Level. There then follows a phase of Morphosyntactic Encoding, in which material from the Interpersonal and Representational Components is converted into a morphosyntactic representation. This then feeds into the process of Phonological Encoding, which produces a phonological representation of the utterance. Both Formulation and Encoding involve three processes: for Formulation, the selection of frames for the Interpersonal and Representational Levels, the insertion of lexemes into these frames, and the introduction of operators at these levels, representing grammatically-realised distinctions; for Encoding, the selection of templates at the Morphosyntactic and Phonological Levels, the insertion of grammatical morphemes, both free and bound, and the introduction of operators involved in articulation. The relationships between levels are seen in terms of different types of alignment: in interpersonal alignment, the morphosyntax is governed largely by interpersonal properties such as Topic assignment; in representational alignment the morphosyntax responds to the semantic function or designation of a representational category; while in morphosyntactic alignment the morphosyntax has its own principles of structuring, being dependent on the syntactic functions and/or complexity of constituents (see Hengeveld and Mackenzie *Functional 316-333*). I shall say more about alignment in §4.2.1.3.

4. CRITERIA OF ADEQUACY IN FUNCTIONAL DISCOURSE GRAMMAR

4.1. DESCRIPTIVE ADEQUACY

There is evidence of increasingly frequent use of samples of attested natural language in FDG, in addition to the textual material used as the basis for the language descriptions in works from which FDG analyses have taken their data. The languages involved include English, Brazilian Portuguese, French and Spanish. Examples can be seen in some of the papers in the journal *Alfa: Revista de Lingüística*, issue 51(2), also the Web Papers in Functional Discourse Grammar.⁶ Being a strongly typologically-oriented theory, FDG uses data from a very wide range of languages. The data used for analysis are largely restricted in size to samples repre-

⁶ Available from <<http://www.functionaldiscoursegrammar.info>>.

senting discourse Moves or their component Acts, for reasons which will become apparent later. Studies of language varieties are limited to a small amount of work on dialectal varieties of Portuguese and on the historical development of languages. We shall see that data from psycholinguistic work are taken account of to some extent, but not always entirely systematically.

4.2. EXPLANATORY ADEQUACY

4.2.1. *Cognitive adequacy*

The issue of cognitive adequacy in FDG is discussed in some detail in Butler (“Cognitive”), on which the following discussion is largely based, though with updating to include more recent material. FDG was developed in order to answer some of the criticisms of its predecessor, FG, one of which was that it was not strong on psychological adequacy. Hengeveld and Mackenzie (“Functional Encyclopedia” 668-669) state that FDG “expands the scope of FG by taking the pragmatic and psychological adequacy of the theory very seriously.” The fact that FDG includes a Conceptual Component attests to recognition that language is cognitively mediated. In what follows, I shall first deal with the pattern/process issue, then move on to consider issues of conceptualisation, categorisation and construal, and finally consider the conversion of semantic and pragmatic structures into morphosyntactic structures.

4.2.1.1. Pattern and process in FDG

The various levels of the Grammatical Component house specifications of the patterns displayed by units at those levels. At the Interpersonal Level, these patterns describe the types of discourse Moves, Acts and Subacts and how these can combine in a hierarchical fashion; at the Representational Level, the patterns account for types of hierarchically arranged semantic unit and their combinations (e.g. the ways in which predicates can combine with different types of argument, and the restrictions on these patterns in different types of language); at the Morphosyntactic Level we again have a hierarchy, this time consisting of Linguistic Expressions, Clauses, Phrases and Words, again classified and entering into particular types of combination in specific types of language; and at the Phonological Level there are Utterances, Intonational Phrases, Phonological Phrases and Phonological Words. Although the literature is silent on this point, we may, I think, assume that all these categories are intended to be psychologically real, in that they have some representation in the cognitive apparatus responsible for the storage and use of language.

Of particular interest in relation to the distinction between pattern and process models is the question of what the arrows which link the various components and processes in Figure 1 are intended to represent. Are they merely stages in the grammar itself, and therefore stages which the analyst should respect in describing the generation of an utterance? Or are they meant as something more than this, a claim that they represent the ordering of processes that the speaker, usually



subconsciously, carries out during language production? Mackenzie (“Functional”) proposes that what we now call the Interpersonal and Morphosyntactic Levels should be regarded as procedural, operating in real time, while the Representational Level is declarative, being called upon to constrain the other processes. This sounds very like a production model, and indeed the article has the title ‘Functional Discourse Grammar and language production’. This mixture of the procedural and the declarative is nevertheless a compromise solution which would need to be backed up by psycholinguistic evidence.⁷

However, Hengeveld has taken a very firm line on this issue since the inception of FDG. Noting that several papers in the collection edited by Mackenzie and Gómez-González assume that FDG is intended as a process model, Hengeveld (“Epilogue” 366) clearly states that this is a misinterpretation, and that FDG is intended as “a pattern model, i.e. as a model that represents linguistic facts.” However, he also proposes that pattern models can be presented as dynamic:

For a model of grammar a dynamic interpretation entails an implementation that mirrors the language production process in individual speakers. Again, this does not mean that the grammatical model is a model of the speaker. Rather, the model is assumed to be more effective, the more closely it resembles this language production process. (Hengeveld, “Epilogue” 367)

There are two main ways in which the design of FDG is intended to mimic the process of language production. Firstly, the model is top-down, thus contrasting strongly with FG, which worked largely from the bottom up, combining predicates with their arguments, and then building the resulting predication into a proposition and then a fully-fledged clause representing a speech act. The top-down orientation of the model is motivated by the psycholinguistic work of Levelt (*Speaking*, “Producing”), in which production is shown to proceed from the speaker’s intention, through the formulation of linguistic structures, to articulation.

The second way in which FDG reflects the findings of psycholinguistic work on production is that it builds in to some extent the widely-accepted principle of incrementality, according to which structures at a particular level need not be complete before information is passed to lower levels. The initial conception of how this might work in FDG involves an arrangement whereby the different levels of the Grammatical Component work simultaneously, but with a slight lag between a particular level and the next lower level (Hengeveld, “Epilogue” 367). Slightly later, Hengeveld (“Dynamic” 72-73) recasts the idea as the ‘depth-first principle’, according to which information from a particular level in the hierarchy may be passed to a lower level as soon as the input conditions for the lower level are satis-

⁷ See also Cornish (“Dual”), in which he points to an underlying ambiguity about the manner in which Hengeveld and Mackenzie present the standard FDG model. Cornish (pers. comm.) is of the opinion that the mixing of procedural and declarative orientations only serves to reinforce this basic ambiguity.



fied. Furthermore, levels can be bypassed if not needed for a maximally economical analysis (e.g. for expressives such as *Ugh!* or *Damn!* we can proceed straight from the Interpersonal Level to the Phonological Level, bypassing the Representational and Morphosyntactic Levels). However, Mackenzie (“Cognitive” 423) points out that “in FDG morphosyntactic encoding is not determined, neither partially nor wholly, by the time course of production (as it would be in an incremental model) but by the semantico-pragmatic scope relations determined at the formulation levels in interaction with language-specific encoding preferences.”

Hengeveld and Mackenzie (*Functional 2*) maintain the ‘pattern model, dynamically implemented’ idea, in saying that the top-down organisation of the model “does not mean that FDG is a model of the speaker: FDG is a theory about grammar, but one that tries to reflect psycholinguistic evidence in its basic architecture.” They make it very clear that we should not be seduced, by the parallels between the architecture of FDG and the sequence of events in production, into seeing FDG as a model of language production by the speaker, and that the dynamic implementation discussed above represents “the sequence of steps that the analyst must take in understanding and laying bare the nature of a particular phenomenon” (Hengeveld and Mackenzie, *Functional 2*). This view is reinforced in Mackenzie (“Cognitive” 422) and also in Mackenzie (“Contextual”), where it is stated that “[t]he aim is thus to clarify the logic of the relations among the layers, levels and components and not to mimic sequence in the real time of language production. At best, the arrows indicate sequence in the real time of the analyst.”

Interestingly, Hengeveld and Mackenzie (*Functional 2*) cite work by Bakker and Siewierska as illustrating the kind of dynamic approach they describe. Bakker and Siewierska’s paper reconsiders their earlier work on a dynamic expression component for FG in the light of Hengeveld’s early proposals for FDG. However, the very title of their article, ‘Towards a speaker model of Functional Grammar’, clearly demonstrates that their dynamic rules are not intended merely as indicating the stages the analyst should follow, but rather are meant to model what the speaker does in giving expression to an utterance.⁸ Indeed, their paper is among the group of articles which assume that FDG is ultimately intended as a process model, an assumption which, as we have seen, Hengeveld roundly rejects. Significantly, Bakker and Siewierska’s proposals have not been integrated within the mainstream of FDG.

Before we leave the area of pattern and process, a further observation needs to be made, in relation to the use made of Levelt’s work. We have seen that the architecture of FDG reflects both the top-down nature of Levelt’s model and, limitedly, the principle of incrementality. However, there is one important aspect of Levelt’s proposals which is not reflected in the design of FDG. A cardinal principle of the model (Levelt, *Speaking* 181, “Producing” 94) is that the first step in the conversion of what Levelt calls a preverbal message into an utterance is the activation of lexical

⁸ Note, however, that even these authors do not commit themselves to ‘a full psychological model of the speaker’ (Bakker and Siewierska 339).



material, and that grammatical encoding then proceeds on the basis of the properties of that material. That is, the selection of a concept which is lexically expressible in the language under generation causes the activation of the corresponding lemma (i.e. the non-phonological [semantic and syntactic] part of the information for a lexeme). This is a very different scenario from that envisaged in FDG where “[i]n the implementation of the grammar the frames are selected first, and only after that are lexemes inserted” (Hengeveld and Mackenzie *Functional* 19). The frames referred to here are pragmatic (at the Interpersonal Level) and semantic (at the Representational Level). In Levelt’s model, however, the semantics involved in the generation of utterances is the sense information associated with particular lemmas which allows them to be matched with lexical concepts at the conceptual stratum. In processing terms, the activation of lemmas corresponding to lexical concepts is primary, the generation of structure following from this process. The ordering proposed in FDG not only contradicts Levelt’s model, and so runs contrary to FDG’s professed concern with reflecting findings from psycholinguistics, but is also counter-intuitive, in that it is surely very unlikely that an abstract frame is selected before the lexical material which carries the communicative content is chosen. For more detailed discussion of these points and a rebuttal of Hengeveld and Mackenzie’s arguments for their position, see Butler (“Ontological” 621-622).

A further, related difference between the two approaches is that while Levelt clearly specifies a constraint satisfaction mechanism which finally arrives at a solution which fits all the lexical material, FDG is not concerned with the mechanics of combination, and does not see this as a function of the properties of the lexemes chosen, but simply assumes that lexemes are slotted into the pre-generated frames. Mackenzie (“Cognitive” 423) candidly admits that “since FDG is not a speaker model, many of Levelt’s observations and modelling proposals can find no reflection in the grammar or are inevitably watered down.” However, this seems very like a case of selecting your data to fit your theory, a practice which functionalists have roundly condemned when discussing formally-oriented linguistic theories (see e.g. Laury and Ono on Newmeyer’s criticisms of functionalism).

I have concentrated in the above paragraph on what I see as an inconsistency in FDG’s adoption of the ideas of Levelt, which have exerted a substantial influence on the model. However, more recent psycholinguistic work has put forward an alternative account of production which in some ways might be more congenial to proponents of FDG. Chang and colleagues (Chang; Chang, Dell and Bock) have described a ‘dual path model’ in which there are two separate levels: a level at which lexically-expressible concepts are bound to elements in an ‘event structure’ involving relationships showing who does what to whom, etc, and an independent level of syntactic sequencing which is guided by the event structure but has no contact with lexical concepts as such. This uncoupling of lexical items from structure formation is more in line with FDG than Levelt’s lexically-driven model. However, there is no implication in the Chang model that semantic frames are selected before any choice of lexical material is made: rather, the conceptual correlates of both are present in the message structure, and these, together with syntactic sequencing principles, affect the final utterance structure. Furthermore, the dual path model is set within



a connectionist framework, its sequencing component making use of a Simple Recurrent Network in which the properties of each word are used to predict the next, leading to the generalisation of syntactic categories and relationships. It is hard to see how this type of model could be reconciled with the account of morphosyntactic structure given in current FDG.

Wheeldon, in her comparison of the Levelt and Chang types of model, concludes that although each is able to account for some of the results of priming experiments, neither is capable of explaining all the data: the jury is still out. We can, however, say that neither provides support for the FDG claim that abstract semantic frames are selected before lexical material.

As documented in Butler (“Lexical”), lexis is the Cinderella of FDG, and the reason, as García Velasco (165-166) reminds us, is that FDG has been constructed from a grammar-designing perspective, so that the priority is the establishment of systematic relationships between lexical items and syntax. From such a perspective, the meaningful differences between lexical items with similar syntactic relationships, such as CAT and DOG, are irrelevant. However, as García Velasco comments, although a grammar-designing approach may be appropriate for a formalist grammar, it is much less so for any functionalist theory which attempts to explain how we produce and understand utterances in relation to the principles of verbal interaction. The substantive differences between lexical items take us into the area of conceptualisation, categorisation and construal, to which we now turn.

4.2.1.2. Conceptualisation, categorisation and construal

As we have seen, the Grammatical Component is the central core of the FDG model, so much so that Hengeveld and Mackenzie (“Functional Encyclopedia” 669) state that “FDG is the grammatical component of a wider theory of verbal interaction,” so leaving little doubt that FDG proper is confined to this component: in other words, FDG is primarily conceived as a model of the grammar, not of language more generally. Nevertheless, the designers of FDG do accept that the Conceptual Component and also the Contextual Component, to be discussed later, play a crucial role in the wider theory of verbal interaction to which they refer. The Conceptual Component “is the driving force behind the Grammatical Component as a whole” (Hengeveld and Mackenzie, *Functional* 7) and contains a representation of the material, both interactive and ideational, which will be processed through the Interpersonal and Representational Components of the grammar. The authors go on to impose restrictions on the role of the Conceptual Component, which “does not include every aspect of cognition that is potentially relevant for linguistic analysis, but only those that affect the immediate communicative intention” (7). However, this entails that the Conceptual Component, if seen as a part of the cognitive capability of the speakers of a language, must in fact contain representations of any and every aspect of cognition which could be required in the production (and indeed comprehension) of any utterance the speaker might validly make. Indeed, if the Conceptual Component does not contain this information, FDG cannot



adequately achieve the goal of accounting for the possible realisations of discourse acts and moves. Additionally, we should not forget that FDG would wish to restrict the content of the Conceptual Component to just those distinctions which affect the grammar itself, whereas I have argued for a wider view under which inferences, which certainly involve the operation of both the Conceptual Component and the Contextual Component, are also included.

The reluctance of mainstream FDG to engage with the specifics of the Conceptual Component can be understood from a number of points of view. Firstly, as noted earlier in connection with the lexicon, the grammar-designing perspective adopted by the designers of the model inhibits giving attention to any aspect of language which is not seen as impacting directly on the grammar. Secondly, there is still considerable debate about the nature and processing of concepts (for some discussion of theoretical positions on this see Butler “Cognitive” 6-10). Thirdly, any consideration of conceptual material soon leads to the blurring of the distinction between the linguistic and the non-linguistic, an uncomfortable position for a theory which strives to stay as close to language itself as possible. And yet, if we are to attempt the admittedly ambitious task of accounting for how the natural language user works, ignoring the very material on which the linguistic apparatus operates cannot be a valid option. Indeed, there are other approaches which have recognised that without attention to the conceptual material which underlies language (and also other modalities such as vision), our theories will lack the content necessary for them to get to grips with what ‘linguaging’ is all about. I am thinking, for example, of Jackendoff’s Parallel Architecture model (Jackendoff *Foundations, Language, Meaning*; Culicover and Jackendoff), Wierzbicka’s Natural Semantic Metalanguage (see e.g. Goddard and Wierzbicka) and Mairal Usón and Ruiz de Mendoza’s Lexical Constructional Model (Ruiz de Mendoza Ibáñez and Mairal Usón; Mairal Usón and Ruiz de Mendoza’s Ibáñez; Butler, “Constructional”), all of which, in rather different ways, do plunge in at the deep and somewhat murky end.⁹ In recent work (Butler, “Ontological”) I have shown how an ontology such as that proposed in FunGramKB, a knowledge base incorporated into the Lexical Constructional Model, could be integrated into FDG, thus giving substance to the Conceptual Component.

Connolly (“Conceptual”) also argues for the development of the Conceptual Component, arguing that in a dynamic implementation of FDG the communicative decisions made by the speaker in the conception of a Discourse Act need to be taken into account. He goes on to present, within the framework of the Model of Verbal Interaction, a preliminary account of the Conceptual Component oriented towards computational implementation. Connolly’s model consists of (i) a Conceptualiser

⁹ Within FG/FDG, Anstey (“Layers,” “Functional”) has made proposals for a ‘conceptually-related semantics’ rather than a ‘grammatically-related’ semantics. However, in the early proposals the conceptual representation stays very close to the linguistic representation, being intended largely to account for phenomena such as anaphor resolution, and in the later paper Anstey programatically proposes a Constructional FDG in which ideas from Construction Grammar are imported, so taking the model in a very different direction. For a brief summary see Butler (“Cognitive” 20).



which, in the productive mode, generates the prelinguistic intentions which underlie a Discourse Act, (ii) a Settings Register, which stores values taken from a Situational Context Component and a Discourse Context Component, concerned with stylistic features such as formality, communicative purpose and discourse type, and (iii) a Monitor which collects feedback as the discourse proceeds and initiates corrections and adjustments. The Conceptual Component interfaces with the Grammatical Component and with the Situational and Discourse Context Components, and is driven by a Control Mechanism whose function is to set the Conceptualiser in motion and then to regulate the flow of information around the model. Connolly also makes provision for access to a Long-term Knowledge Store. He also takes on board, though with some reservation about the wisdom of opting for a particular model, the proposal in Butler (“Ontological”) mentioned above, namely that the content of the FDG Conceptual Component could be modelled using ideas from the FunGramKB knowledge base. He goes on to discuss a possible representation system which is geared towards computational implementation and is based on the conventions of formal logic. It uses conceptual representations of the type ENTITY:MAN₋₁₂₃, EVENT:PHONE₋₁₂₄, where the subscripts designate the individuals concerned, this information being taken from the Situational Context Component. Connolly notes that the use of labels which resemble English words is purely a matter of convenience and readability. He also provides ways of adding attitudinal information to the Conceptual Level Representation (CLR). He goes on to discuss the content of the CLR underlying particular Discourse Acts, and how this information can be used in the process of Formulation. His model is then illustrated with reference to possessive constructions and passives in English and Welsh.

We see, then, that Connolly’s proposal does link up with the ontological stance taken in Butler (“Ontological”). However, it simply assumes, without further discussion, that designations of the type ENTITY:MAN₋₁₂₃ or EVENT:PHONE₋₁₂₄ correspond to entries in the ontology. Since the FunGramKB proposals are also firmly anchored in computational implementation, one might have expected some discussion of the need to introduce an additional layer of conceptual structure, rather than making direct use of the conceptual categories offered by FunGramKB.

Given that FDG currently does not deal with conceptualisation, involving the categorisation of entities and situations in the world, it is not surprising that it also has little to say about construal. There are points in Hengeveld and Mackenzie (*Functional*) at which constructions which present a situation from alternative viewpoints are discussed, as is the case with voice phenomena, but the analysis remains strictly grammatical in nature, rather than attempting to account for the communicative motivations for such choices or the types of cognitive operation involved.

4.2.1.3. The conversion of pragmatic and semantic structures into morphosyntactic structures

During the process of encoding, pragmatic material from the Interpersonal Level and semantic material from the Representational Level is converted into a



morphosyntactic structure. We saw in §3 that the relationship between the levels is handled in FDG by means of the concept of alignment, according to which languages may be classified according to the extent to which each of the upper levels influences the lower Morphosyntactic Level (Hengeveld and Mackenzie, *Functional* 316-332). Languages such as Tagalog, in which topicality and specificity of reference largely determine morphosyntactic organisation in the clause, are said to have interpersonal alignment, while languages such as Acehnese where the semantic function of constituents determines morphosyntax, or those such as Plains Cree where organisation at the Morphosyntactic Level depends on hierarchies of animacy or person, have representational alignment. Where, as in English, morphosyntactic organisation in the clause does not directly reflect the organisation of the upper levels, but has its own patterning in terms of syntactic functions and/or constituent complexity, we have morphosyntactic alignment. Individual languages often display a mixture of types. Principles of alignment are also postulated for the Phrase and Word.

This way of regarding the relationship between levels clearly reflects the fact that FDG has a strong typological organisation. However, it does not give any clues as to how morphosyntactic structures can actually be generated from those at higher levels, and in this respect it differs from, for example, Role and Reference Grammar, in which powerful predictions are made about the relationship between the predicate-argument structure of a sentence and its syntactic structure (for detailed discussion see Butler, “Syntactic”). Clearly, if we are to model the way in which speakers produce utterances, explicit mechanisms linking pragmatic and semantic structure with morphosyntactic structure are needed.

4.2.2. *Discoursal adequacy*

We have seen that FDG deals with certain aspects of discourse phenomena at the Interpersonal Level of the Grammatical Component. In particular, it specifies, albeit only very schematically, the properties and constituency of discourse Acts and of the Moves they enter into. An example of a simple Move is shown in (1), analysed as in (2):

(1) Sorry, you're going. (BNC AOL 2944)¹⁰

(2) (M_I: [
 (A_I: [(F_I: Sorry_{Intrj} (F_I)) (P_I)_S (P_J)_A] (A_I))
 (A_J: [(F_J: DECL (F_J)) (P_I)_S (P_J)_A] (C_I: [(+id R_I: [-S, +A] (R_I)) (T_I)_{FOC}]
 (C_J)) (A_J))
] (M_I)

¹⁰ Examples marked BNC are from the British National Corpus (World Edition), and give the file name and the sequence number.



Here, M represents a Move, A an Act, R a referential Subact, T an ascriptive Subact, F an illocution, P a discourse participant (Speaker S, Addressee A), C the Communicated Content within a Subact, +id the operator 'identifiable', FOC focus.

In the corpus material from which this example was extracted, this Move formed part of a larger conversation. However, although FDG recognises that Moves have functions within longer stretches of discourse, it does not recognise any higher discourse unit, the reason being that no larger unit has yet been shown to be relevant to grammatical analysis as such. This limitation is thus a good example of the effects of the fact that FDG is currently a model of grammar, not of language more widely. Hengeveld and Mackenzie (*Functional 3-4*) point out that there are many discourse phenomena that do have repercussions on the grammar, citing as examples narrative constructions, discourse particles, anaphorical chains and tail-head linkage. These are indeed regarded as part of what FDG is intended to account for. But the authors also make it clear that FDG

is not a 'discourse grammar' in the sense of a grammar of discourse (if such an entity is attainable at all) deriving from text-linguistic analysis. Rather, FDG wishes to understand those systematic properties of the Discourse Act (the minimal unit of communication) that require reference to its being situated within an interactive Move by the language user. (Hengeveld and Mackenzie, *Functional 29*)

Restricting the scope of study to only those phenomena which have a clear reflex in the grammar is, however, a very serious limitation for any approach which attempts to account for how language users communicate. It not only precludes the study, within FDG, of the functions performed by the higher-level structuring of discourse, and prevents the model from accounting for all the possible realisations of discourse acts, but also entails that inferential links, not signalled explicitly in the grammar, are regarded as beyond the scope of the theory. Consider examples (3) and (4):

- (3) I must be careful to lock the car [Act 1: independent], as youths often steal cars to get home at Fair time [Act 2: dependent, Motivation]. (BNC ADM 222)
- (4) I must be careful to lock the car. Youths often steal cars to get home at Fair time.

The explicit motivation connection in example (3) would be captured within FDG, as a relationship between two Acts in a Move; the implicit connection in (4) would, on the other hand, not fall within the scope of the theory. The need to take account of inferential processes is also emphasised by Cornish ("Dual"), who points out that such mechanisms are indispensable for an explanation of how various types of anaphora work in discourse.

Connolly ("Question") has proposed a framework for the study of discourse within FDG which does take account of units of higher rank than the Move. His scheme is based on the proposals made by Sinclair and Coulthard for classroom



discourse, which have been used elsewhere in the F(D)G literature. The highest unit proposed is the Discourse Interaction, which consists of one or more Transactions, these in turn containing one or more Exchanges, themselves consisting of Moves, described in terms of their constituent Acts. Connolly's model is explicitly intended to include discourse phenomena which lie outside the range of mainstream FDG:

... we shall recognise discourse phenomena such as adjacency pairs and rhetorical relations, even though in current FDG adjacency pairs (within Exchanges) lie outside the scope of the grammar, given that they operate higher up the discourse hierarchy than the Move, whereas rhetorical relations (within Moves) do lie within its orbit. (Connolly, "Accommodating" 4)

4.2.3. *The contextual component in relation to criteria of adequacy*

In §2 I stressed the importance, for the study of discourse, of both the record of previous discourse, on the one hand, and the social context on the other. In this section I shall briefly review work on the Contextual Component of FDG, which, of course, is relevant not only to discourse-level phenomena but also throughout the rest of the Grammatical Component.

In Hengeveld's original presentation of an outline of FDG, what we now know as the Contextual Component was labelled the 'communicative component' or, in a diagrammatic representation, 'communicative context', and "represents the (short-term) linguistic information derivable from the preceding discourse and the non-linguistic, perceptual information derivable from the speech situation" (Hengeveld, "Architecture" 3). Note that the information is specified as short-term (i.e. pertaining only to part of a particular discourse) and that that part of it deriving from the speech situation is only what can be perceived. In Hengeveld ("Epilogue" 369) the term 'contextual component' is introduced, and this component is said to contain "a description of the knowledge shared by the interlocutors."

Hengeveld also sees as "detailed and convincing" a proposal for the description of context by Connolly ("Question") in the same volume of papers, this being the same article in which he puts forward the model of discourse structure referred to in §4.2.2. The contextual information includes a specification of the discourse participants and any bystanders, their social status, geographical provenance, associated social attitudes and communicational conventions, indicators of specific attitudes during the interaction (e.g. smiles), type of phonation used, the time, place and setting, the referents of various entity specifications, and the pre- and postconditions for the felicity of each move.

Hengeveld and Mackenzie (*Functional* 9-10) refer to Connolly's 2004 model, but immediately warn that their view of the Contextual Component "makes no effort to offer anything like a complete description of the overall discourse context", but includes only two kinds of information: continually updated short-term information from the grammatical description of a particular utterance which is relevant to the choice of forms for subsequent utterances; and longer-term informa-



tion, again related specifically to the interaction under scrutiny, which influences aspects of formulation and encoding in the particular language being used. We shall consider in §4.2.4 the consequences of this severe restriction on the contents of the Contextual Component.

In later work, Connolly (“Context,” “Mental,” “Accommodating,” “Dynamic”) has developed a more highly structured and elaborated model of the Contextual Component. His latest model, which is intended to be adequate for multimodal discourse, distinguishes between *discourse context* and *situational context*, the former being divided into *linguistic* and *non-verbal* types, and the latter into *physical* and *socio-cultural*. All of these types of context can be seen as *mental* or *extra-mental*,¹¹ and in *broader* or *narrower* terms.

Also highly relevant to the issue of context in FDG is the work of Cornish (see especially “Focus,” “Null,” “Text,” “Dual”) on anaphora and related phenomena, in which he demonstrates that the account of these phenomena in mainstream FDG is far too simplistic to be capable of explaining what happens in actual samples of discourse, and that an expanded Contextual Component is needed.

Connolly’s work, in particular, raises the important issue of the relationship between the Conceptual and Contextual Components. In an early draft of his (“Context”) article, Connolly first puts forward the view, echoed in the final version of that article, that the Conceptual Component is unnecessary since, in his view, it is better accounted for as part of the mental context, within the Contextual Component. In Butler (“Interpersonal” 240), I took issue with this approach, in the following terms:

Context, as I see it, is a complex of factors which, in the production of utterances, condition both the choice of concepts and the selection of ways of representing those concepts linguistically; it need not, however, be part of what the speaker wishes to express.

Connolly (“Context” 20), reacting to a pre-publication version of my (“Interpersonal”) paper, gives three reasons why he still maintains his original position as against my own. Firstly, the content of discourse (in other words ‘what the speaker wishes to express’) is what Connolly calls the *described context*, as opposed to the *interactive context* in which the discourse participants find themselves. Since it constitutes a very relevant state of affairs it is therefore treated as part of an enhanced Contextual Component. Secondly, the content is generated by the discourse participants, and these form part of the situational context in Connolly’s model. Thirdly, the pre-linguistic intentions of the speaker, housed in the Conceptual Component, are seen as forming part of the mental context.

I think the difference in viewpoint here has to do with one’s overall conception of what a component is and does. The standard view of the Conceptual

¹¹ The mental context also includes the Conceptual Component: see later for discussion of the relationships between components.



and Contextual Components, as expounded in Hengeveld's writing, is that they contain only that information which is relevant to the generation (and, ultimately, understanding) of a particular utterance. However, we saw in §4.2.1.2 that if we consider the Conceptual Component as part of the cognitive capability of speakers, it must contain all the conceptual information which might be needed to generate any utterance the speaker might wish to produce. The same goes for contextual information. My own conception of these components is therefore that they are resources, bodies of information, dynamically revisable, on which discourse participants draw when processing utterances. The Conceptual Component would therefore house content information (also information concerned with affective states, for which I have proposed a separate though related affective/interactional subcomponent: Butler "Interpersonal" 241),¹² whereas the Contextual Component would contain information relevant to how the conceptual and affective information should best be expressed—in other words, what choices should be made within the levels of the Grammatical Component, when such choices are available.

There is certainly some overlap in the operation of the Conceptual and Contextual Components, since that part of what Connolly calls the mental context that deals with situational context needs to make reference to concepts such as social position, gender, age, and many others. In this sense, we can say that part of the Contextual Component is conceptual in nature, rather than the other way around. It may also be the case that the discourse context part of the Contextual Component not only needs to keep track of the morphosyntactic and phonological trace of the recent discourse, but also stores information on the conceptual material that has been activated, since it is well known that people tend to remember the gist of a piece of language they have heard or read better than they recall the actual words and constructions used. Furthermore, speakers and their addressees are creating interpretations of their communicative intentions as the text unfolds in real time.

Recently, partly in response to Connolly's proposals, Hengeveld and Mackenzie ("Grammar") have set out their own current ideas on the Contextual Component, which they see as being closely related to the grammar model in that it consists of four strata, each corresponding to one level in the Grammatical Component. As in Connolly's model of context, both situational and discoursal context are recognised, the former being relevant at the two formulation levels, Interpersonal and Representational, while the latter applies to all levels. The situational context contains a dynamic language-specific set of factors relevant to the formulation of the discourse being described, including the participants and those of their properties (e.g. sex, social status) which are relevant for the language concerned, and also the place and time of the speech event. The discoursal context is organised in the form of a set of pushdown stacks containing information, for each unit being created, which has been processed during formulation and encoding. At each stratum there

¹² The affective/interactional subcomponent would also need to include information on the different viewpoints, or 'construals', from which a conceptual complex could be presented.



are pushdown stacks corresponding to each unit at the corresponding level of the Grammatical Component. Once again, Hengeveld and Mackenzie warn us that “much of what is commonly considered to be the effect of context on grammar cannot be handled within the approach defended here.” In particular, the model excludes any phenomena which rely on long-term encyclopaedic knowledge or on inferences drawn from what has been expressed.

Finally, it should be noted that Mackenzie (“Contextual”) has presented a proposal for the Contextual Component which is intended to be adequate for a dialogic model of FDG. According to this model, the Contextual Component is seen as shared among all discourse participants and as providing a basis for interpersonal alignment phenomena such as the often observed resemblance between an utterance in a dialogue and the utterances that have preceded it. In this paper, Mackenzie makes interesting links with the psycholinguistic literature.

4.2.4. *Sociocultural adequacy*

In accordance with the position explained earlier, FDG currently deals only with those sociocultural factors which are necessary in order to account for obligatory choices in the grammar. So, for instance, biological gender is relevant to the selection of forms of pronouns, adjectives and/or verbs across a wide range of languages; information about relative status (which in turn may involve factors such as age) is required for the appropriate selection of forms of address in so-called T/V languages such as French, Spanish, Italian, Portuguese, German or Dutch, and is also central to the complex grammatical systems of honorifics in languages such as Japanese or Javanese.

FDG does not, however, at present include within its scope any effects of social context on non-obligatory, probabilistic phenomena which have sometimes been put under the general heading of ‘style’. For instance, Hengeveld and Mackenzie explicitly oppose the proposal made in Butler (“Interpersonal”), that FDG should incorporate into the Contextual Component information relevant to lexical choices in different registers:

Many of the matters that [Butler] himself includes in such a component, like the factors that would induce selection of the informal lexeme *kid* rather than *child* in English to designate a child, would not find their way into an FDG Contextual Component. There are so many aspects of the context of interaction that could be argued to have an incidental impact upon a speaker’s linguistic choices that modelling them within our theory would deprive it of much of its power. In an informal context, after all, a child may indeed be evoked by means of *kid*, but nothing prevents the choice of *child*. For this reason, factors relating to matters of genre, register, style, etc. will be included only where these can be shown to have a systematic effect upon grammatical choices in formulation ... (Hengeveld and Mackenzie, *Functional* 10)



Butler (“Ontological”) offers a rejoinder to these remarks, which is briefly summarised in what follows. Firstly, it is unfair to label such effects ‘incidental’, opposing this implicitly to the ‘systematic’ effects which are already included in the theory. Such a view ignores the kind of systematicity which is reflected in demonstrable skewing of probabilities in choosing particular options in particular types of social context. Secondly, although it is indeed perfectly acceptable to refer to a child by means of the lexeme *child* in an informal context, there would be strong pressure not to use *kid* in a very formal context, unless the speaker intends some special effect by virtue of using a stylistically inappropriate item. Thirdly, the notion of power with which Hengeveld and Mackenzie are working is not entirely clear. If they are alluding to the power to predict, then it can be argued that probabilistic phenomena are also predictive. Their criterion appears to be related to matters of elegance and simplicity which I would argue are more relevant to a formalist than to a functionalist approach. What they are missing out on is the power to explain how human beings communicate using language, or in Dik’s terms, how the natural language user works. As Connolly (“Dynamic”) points out, incorporation of systematic quantitative information into FDG would help to make the theory more attractive to other scholars such as sociolinguists and psycholinguists (and, we might add, to many other functionalists too).

Hengeveld and Mackenzie nevertheless maintain their position in their latest work:

The close relation with the Grammatical Component entails, in our view, that it does not cover everything that is dealt with under ‘context’ in the vast pragmatics literature but must be constrained to interact with the Grammatical Component in a restricted and principled manner. [...]

A further corollary of our position is that we exclude general social circumstances such as *genre*, overall communicative project, institutional setting, etc. from the Contextual Component because they cannot be shown to have systematic influence upon the workings of the grammar. The use of an academic *genre*, for example, may predispose language users to employ more impersonal constructions than otherwise, but there is no requirement for them to do so in any individual clause. Similarly, the Contextual Component will abstract from gendered and ethnic identities (Gay Dutch, Black English, etc.), unless, of course, these can be shown to have regular structural impact; at best, the varieties in question may be regarded as having distinct grammars. (Hengeveld and Mackenzie, “Grammar”)

In a footnote, the authors specifically exclude probabilistically conditioned variation:

By systematic we do not mean statistically significant trends, but rule-governed influence of context on grammar. For instance, FDG in our view should not pretend to cover the impact of non-categorical sociolinguistic variables on grammatical choices.

Nevertheless, they do stress that they do not deny the relevance of such considerations for grammatical phenomena:



These should, however, be dealt with in a wider model of the human mind that includes, at least, an encyclopaedia from which information can be drawn and on which inferences can be based, interfacing with the model of verbal interaction.

This is, of course, precisely the kind of amplification of the FDG model that I am advocating in this article.

4.2.5. *Acquisitional adequacy*

Although there was some work on the acquisition of language within a FG framework (see e.g. Boland), FDG has not yet been subjected to scrutiny in terms of the learnability of the categories and mechanisms it proposes. It is to be hoped that this challenge will be taken up in the near future.

5. CONCLUSION

In the course of this article I have made a considerable number of suggestions for changes in FDG which I see as being desirable, indeed necessary, if the theory is to try to answer the question which Dik proposed as the one that functionalists should ultimately be asking: ‘how does the natural language user work?’. These suggestions do not involve starting from scratch, abandoning all the many insights which have accumulated since FDG was first proposed as a development of earlier FG: rather, they build on the existing architecture of the overall model within which FDG is situated, in particular expanding the role and scope of the Conceptual and Contextual Components, in an effort to work towards a model which gives us a much better chance of being able to offer an answer to Dik’s question.

Some of the concerns I have voiced in this article are being addressed in recent work on the development of the Contextual and Conceptual Components within the framework of a Model of Verbal Interaction. However, it is of crucial importance that those who work on the grammar itself should not regard these developments as a research programme which is merely supplementary to the ‘main’ task of characterising the Grammatical Component, and which can be pursued independently of the ‘central’ concerns of the theory. What is needed is a collaborative effort towards an integrated model that genuinely attempts to answer the question ‘How does the natural language user work?’. In such an approach, the Grammatical Component would not be privileged with respect to the other components; rather, the aim would be to develop all the components in such a manner that the complex linguistic behaviour of real speakers in real communicative situations could be modelled. Since changes in one part of a model often necessitate changes in other parts, it might well prove to be the case that some areas of the Grammatical Component would need to be quite radically revised, in order to ensure their compatibility with the criteria of adequacy discussed earlier in the present article. As just one example, since the overall model would no longer be seen from a grammar-designing perspec-



tive, but rather from the perspective of accounting for how the natural language user works, lexical phenomena would need to be given much greater priority than is currently the case. The Conceptual Component would need to be populated with representations of actual concepts and their relationships, the form and content of the lexicons of particular languages would need to be worked out, and the relationships between conceptual and lexical material charted. This is a major task, but as we have seen, it is one that has indeed been taken up in at least one other functional model, with results that could feed into an expanded FDG. This and the other suggestions I have made in this paper represent an ambitious research programme requiring extensive cooperation, but this would be a price worth paying for the chance to elaborate a theory which would truly respond to the ultimate functionalist challenge of explaining how we communicate using language.

WORKS CITED

- ANSTEY, Matthew. "Functional Discourse Grammar: Multifunctional Problems and Constructional Solutions." Ed. Christopher S. Butler and Miriam Taverniers. Spec. issue of *Linguistics* 46.4 (2008): 831-859.
- . "Functional Grammar from Its Inception." *A New Architecture for Functional Grammar*. Functional Grammar Series 24. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Berlin: Mouton de Gruyter, 2004. 23-71.
- . "Layers and Operators Revisited." *Working Papers in Functional Grammar* 77 (2002). Amsterdam: University of Amsterdam.
- BAKKER, Dik. "Agreement: More Arguments for the Dynamic Expression Model." *Morphosyntactic Expression in Functional Grammar*. Functional Grammar Series 27. Ed. Casper de Groot and Kees Hengeveld. Berlin: Mouton de Gruyter, 2005. 1-40.
- BAKKER, Dik, and Anna SIEWIERSKA. "Towards a Speaker Model of Functional Grammar." *A New Architecture for Functional Grammar*. Functional Grammar Series 24. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Berlin: Mouton de Gruyter, 2004. 325-364.
- BOCK, J. Kathryn, and Willem J.M. LEVELT. "Language Production; Grammatical Encoding." *Handbook of Psycholinguistics*. Ed. Morton A. Gernsbacher. New York: Academic, 1994. 945-984.
- BOLAND, Annerieke. *Aspect, Tense and Modality: Theory, Typology, Acquisition*. Utrecht: LOT, 2006.
- BRITISH NATIONAL CORPUS. World Edition. <<http://www.natcorp.ox.ac.uk>>.
- BUTLER, Christopher S. "Cognitive Adequacy in Structural-Functional Theories of Language." *Language Sciences* 30 (2008): 1-30.
- . "Corpus Studies and Functional Linguistic Theories." *Functions of Language* 11.2 (2004): 147-186.
- . "Criteria of Adequacy in Functional Linguistics." *Folia Linguistica* 43.1 (2009): 1-66.
- . "Functional Approaches to Language." *The Dynamics of Language Use: Functional and Contrastive Perspectives*. Ed. Christopher S. Butler, María L.A. Gómez-González, and Susana Doval-Suárez. Amsterdam: John Benjamins, 2005. 3-17.
- . "Functionalist Theories of Language." *The Encyclopedia of Language and Linguistics*. 2nd ed. Vol. 4. Ed. Keith Brown. Oxford: Elsevier, 2006. 696-704.



- “Interpersonal Meaning in the Noun Phrase.” *The Noun Phrase in Functional Discourse Grammar*. Trends in Linguistics, Studies and Monographs 195. Ed. Daniel García Velasco and Jan Rijkhoff. Berlin: Mouton de Gruyter, 2008. 221-261.
- “The Lexical Constructional Model: Genesis, Strengths and Challenges.” *Deconstructing Constructions*. Studies in Language Companion Series 107. Ed. Christopher S. Butler and Javier Martín Arista. Amsterdam: John Benjamins, 2009. 117-151.
- “Lexical Phenomena in Functional Discourse Grammar and Systemic Functional Linguistics.” *From will to well: Studies in Linguistics Offered to Anne-Marie Simon-Vandenberg*. Ed. Stef Slembrouck, Miriam Taverniers, and Mieke van Herreweghe. Gent: Academia, 2009. 55-67.
- “An Ontological Approach to the Representational Lexicon in Functional Discourse Grammar.” *Language Sciences* 34.5 (2012): 619-634.
- *Structure and Function: A Guide to Three Major Structural-Functional Theories. Part 1: Approaches to the Simplex Clause*. Studies in Language Companion Series 63. Amsterdam: John Benjamins, 2003.
- *Structure and Function: A Guide to Three Major Structural-Functional Theories. Part 2: From Clause to Discourse and Beyond*. Studies in Language Companion Series 64. Amsterdam: John Benjamins, 2003.
- “Syntactic Functions in Functional Discourse Grammar and Role and Reference Grammar: An Evaluative Comparison.” *Language Sciences* 34.4 (2012): 480-490.
- “Systemic Functional Linguistics, Cognitive Linguistics and Psycholinguistics: Opportunities for Dialogue.” *Functions of Language* 20.2 (2013): 185-218.
- BYBEE, Joan. *Language, Usage and Cognition*. Cambridge: Cambridge UP, 2010.
- BYBEE, Joan, and Paul HOPPER. *Frequency and the Emergence of Linguistic Structure*. Amsterdam: John Benjamins 2001.
- CHAFE, Wallace L. “The Importance of Corpus Linguistics to Understanding the Nature of Language.” *Directions in Corpus Linguistics: Proceedings of Nobel Symposium 82, Stockholm, 4-8 August 1991*. Studies and Monographs 65. Ed. Jan Svartvik. Berlin: Mouton de Gruyter, 1992. 79-97.
- CHANG, Franklin. “Symbolically Speaking: A Connectionist Model of Sentence Production.” *Cognitive Science* 26 (2002): 609-651.
- CHANG, Franklin, Gary S. DELL and Kathryn BOCK. “Becoming Syntactic.” *Psychological Review* 113 (2006): 234-72.
- CHOMSKY, Noam. *Current Issues in Linguistic Theory*. The Hague: Mouton, 1964.
- CONNOLLY, John H. “Accommodating Multimodality in Functional Discourse Grammar.” Ed. Gerry Wanders and Evelien Keizer. Spec. issue of *Web Papers in Functional Discourse Grammar (WP-FDG 83): The London Papers II* (2010): 1-18.
- “Conceptual Representation and Formulation: A Computationally Oriented Approach.” Submitted for publication in *Casebook in Functional Discourse Grammar*. Ed. J. Lachlan Mackenzie and Hella Olbertz. Amsterdam: John Benjamins.
- “Context in Functional Discourse Grammar.” *Alfa: Revista de Lingüística* 51.2 (2007): 11-33.
- “Context within a Dynamic Interpretation of the FDG Model: Structure and Interaction.” Submitted for publication in *The Contextual Component of Functional Discourse Grammar*. Ed. Evelien Keizer, Nuria Alturo, and Lluís Payrató. Spec. issue of *Pragmatics*.



- “Mental Context and the Expression of Terms within the English Clause: An Approach Based on Functional Discourse Grammar.” *Structural-Functional Studies in English Grammar: In Honour of Lachlan Mackenzie*. Ed. Mike Hannay and Gerard J. Steen. Amsterdam: John Benjamins, 2007. 193-208.
- “The Question of Discourse Representation in Functional Discourse Grammar.” *A New Architecture for Functional Grammar*. Functional Grammar Series 24. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Berlin: Mouton de Gruyter, 2004. 89-116.
- CORNISH, Francis. “On the Dual Nature of the Functional Discourse Grammar Model: Context, the Language System/Language Use Distinction, and Indexical Reference in Discourse.” *Language Sciences* 38 (2013): 83-98.
- “‘Focus of Attention’ in Discourse.” *A New Architecture for Functional Grammar*. Functional Grammar Series 24. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Berlin: Mouton de Gruyter, 2004. 117-150.
- “Null Complements, Event Structure, Predication and Anaphora: A Functional Discourse Grammar Account.” *Studies in Functional Discourse Grammar*. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Bern: Peter Lang, 2005. 21-47.
- “Text and Discourse as Context: Discourse Anaphora and the FDG Contextual Component.” Ed. Evelien Keizer and Gerry Wanders. Spec. issue of *Web Papers in Functional Discourse Grammar (WP-FDG 82): The London Papers I* (2009): 97-115.
- CULICOVER, Peter W. and Ray JACKENDOFF. *Simpler Syntax*. Oxford: Oxford UP, 2005.
- DĄBROWSKA, Ewa. *Language, Mind and Brain: Some Psychological and Neurological Constraints on Theories of Grammar*. Edinburgh: Edinburgh UP, 2004.
- DIK, Simon C. *The Theory of Functional Grammar. Part 1: The Structure of the Clause*. 2nd ed. Ed. Kees Hengeveld. Berlin: Mouton de Gruyter, 1997.
- FAWCETT, Robin P. *A Theory of Syntax for Systemic Functional Linguistics*. Current Issues in Linguistic Theory 206. Amsterdam: John Benjamins, 2000.
- FILLMORE, Charles J. “‘Corpus Linguistics’ or ‘Computer-Aided Armchair Linguistics.’” *Directions in Corpus Linguistics: Proceedings of Nobel Symposium 82, Stockholm, 4-8 August 1991*. Studies and Monographs 65. Ed. Jan Svartvik. Berlin: Mouton de Gruyter, 1992. 35-60.
- GARCÍA VELASCO, Daniel. “Lexical Competence and Functional Discourse Grammar.” *Alfa: Revista de Lingüística* 51.2 (2007): 165-187.
- GIOMI, Riccardo. “Grammar, Context and the Hearer: A Proposal for an Addressee-Oriented Model of Functional Discourse Grammar.” Submitted for publication in *The Contextual Component of Functional Discourse Grammar*. Ed. Evelien Keizer, Nuria Alturo, and Lluís Payrató. Spec. issue of *Pragmatics*.
- GODDARD, Cliff, and Anna WIERZBICKA. *Meaning and Universal Grammar*. 2 vols. Studies in Language Companion Series 60, 61. Amsterdam: John Benjamins, 2002.
- HALLIDAY, M.A.K. *An Introduction to Functional Grammar*. London: Arnold, 1985.
- HENGEVELD, Kees. “The Architecture of a Functional Discourse Grammar.” *A New Architecture for Functional Grammar*. Functional Grammar Series 24. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Berlin: Mouton de Gruyter, 2004. 1-21.
- “Dynamic Expression in Functional Discourse Grammar.” *Morphosyntactic Expression in Functional Grammar*. Functional Grammar Series 27. Ed. Casper de Groot and Kees Hengeveld. Berlin: Mouton de Gruyter, 2005. 53-86.



- “Epilogue.” *A New Architecture for Functional Grammar*. Functional Grammar Series 24. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Berlin: Mouton de Gruyter, 2004. 365-378.
- HENGEVELD, Kees, and J. Lachlan MACKENZIE. “Functional Discourse Grammar.” *Encyclopedia of Language and Linguistics*. Vol. 4. Ed. Keith Brown. Amsterdam: Elsevier, 2006. 668-676.
- “Functional Discourse Grammar.” *The Oxford Handbook of Linguistic Analysis*. Ed. Bernd Heine and Heiko Narrog. Oxford: Oxford UP, 2010. 367-400.
- *Functional Discourse Grammar: A Typologically-Based Theory of Language Structure*. Oxford: Oxford UP, 2008.
- “Grammar and Context in Functional Discourse Grammar.” Submitted for publication in *The Contextual Component of Functional Discourse Grammar*. Ed. Evelien Keizer, Nuria Alturo, and Lluís Payrató. Spec. issue of *Pragmatics*.
- HOPPER, Paul J. “Emergence of Grammar.” *International Encyclopedia of Linguistics*. Ed. William Bright. New York: Oxford UP, 1992. 364-367.
- HUDSON, Richard. “Word Grammar, Cognitive Linguistics, and Second Language Teaching and Learning.” *Handbook of Cognitive Linguistics and Second Language Acquisition*. Ed. Peter Robinson and Nick C. Ellis. New York: Routledge, 2008. 89-113.
- JACKENDOFF, Ray. *Foundations of Language: Brain, Meaning, Grammar, Evolution*. Oxford: Oxford UP, 2002.
- *Language, Consciousness, Culture: Essays on Mental Structure*. Cambridge: MIT P, 2007.
- *Meaning and the Lexicon: The Parallel Architecture 1975-2010*. Oxford: Oxford UP, 2010.
- JASZCZOLT, Katarzyna M. “Psychological Explanations in Gricean Pragmatics and Frege’s Legacy.” *Intentions, Common Ground, and Egocentric Speaker-Hearer*. Ed. Istvan Kecskes and Jacob Mey. Berlin: Mouton de Gruyter, 2008. 9-44.
- KINTSCH, Walter. *Comprehension: A Paradigm for Cognition*. New York: Cambridge UP, 1998.
- “The Role of Knowledge in Discourse Comprehension: A Construction-Integration Model.” *Psychological Review* 95 (1988): 163-182.
- LAKOFF, George. “The Invariance Hypothesis: Is Abstract Reason Based on Image-Schemas?” *Cognitive Linguistics* 1.1 (1990): 39-74.
- LAURY, Ritva, and Tsuyoshi ONO. “Data Is Data and Model Is Model: You Don’t Discard the Data That Doesn’t Fit Your Model!” *Language* 81.1 (2005): 218-225.
- LEVELT, Willem J.M. “Producing Spoken Language: A Blueprint of the Speaker.” *The Neurocognition of Language*. Ed. Colin M. Brown and Peter Hagoort. Oxford: Oxford UP, 1999. 83-122.
- *Speaking: From Intention to Articulation*. Cambridge: MIT P, 1989.
- MACKENZIE, J. Lachlan. “Cognitive Adequacy in a Dialogic Functional Discourse Grammar.” *Language Sciences* 34 (2012): 421-432.
- “The Contextual Component in a Dialogic FDG.” Submitted for publication in *The Contextual Component of Functional Discourse Grammar*. Ed. Evelien Keizer, Nuria Alturo, and Lluís Payrató. Spec. issue of *Pragmatics*.
- “Functional Discourse Grammar and Language Production.” *A New Architecture for Functional Grammar*. Functional Grammar Series 24. Ed. J. Lachlan Mackenzie and María L.A. Gómez-González. Berlin: Mouton de Gruyter, 2004. 179-195.



- MAIRAL USÓN, Ricardo, and Francisco J. RUIZ DE MENDOZA IBÁÑEZ. "Levels of Description and Explanation in Meaning Construction." *Deconstructing Constructions*. Studies in Language Companion Series 107. Ed. Christopher S. Butler and Javier Martín Arista. Amsterdam: John Benjamins. 153-198.
- NUYTS, Jan. *Aspects of a Cognitive-Pragmatic Theory of Language*. Amsterdam: John Benjamins, 1992.
- PEETERS, Bert. "Does Cognitive Linguistics Live Up to Its Name?" *Language and Ideology. Vol. I: Cognitive Theoretical Approaches*. Ed. René Dirven. Amsterdam: John Benjamins, 2001. 83-106.
- "Cognitive Musings." Review of *Conceptualizations and Mental Processing in Language*, edited by Richard A. Geiger and Brygida Rudzka-Ostyn, 1993. *WORD* 49.2 (1998): 225-237.
- RUIZ DE MENDOZA IBÁÑEZ, Francisco J., and Ricardo MAIRAL USÓN. "Levels of Description and Constraining Factors in Meaning Construction: An Introduction to the Lexical Constructional Model." *Folia Linguistica* 42.2 (2008): 355-400.
- SINCLAIR, John McH. and R. Malcolm COULTHARD. *Towards an Analysis of Discourse: The English Used by Teachers and Pupils*. Oxford: Oxford UP, 1975.
- WHEELDON, Linda R. "Generating Spoken Sentences: The Relationship between Words and Syntax." *Language and Linguistics Compass* 5-6 (2011): 310-321.
- WIDDOWSON, Henry G. "The Use of Grammar: The Grammar of Use." *Functions of Language* 4.2 (1997): 145-168.

