On the dual nature of the Functional Discourse Grammar model: context, the language system/language use distinction, and indexical reference in discourse

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ABSTRACT

The Functional Discourse Grammar model has a twofold objective: on the one hand, to provide a descriptively, psychologically and pragmatically adequate account of the forms made available by a typologically diverse range of languages; and on the other, to provide a model of language which is set up to reflect, at one remove, certain of the stages the analyst assumes the speaker would go through in producing such forms, in terms of the types of discourse acts that may be performed in so doing. The article argues that these goals do not sit easily the one with the other. In practice, the whole emphasis of the levels, components and modules provided by the grammar is designed to achieve only the first of the two objectives. The Contextual component is restricted to representing only those aspects of the context of a given utterance which have a systematic influence on the form of that utterance. So in practice, the analytic approximation to the speaker's performance of discourse act types is far removed from the complexity of the contextual factors which impinge on his or her actual utterance acts in some specific context.

The problem is compounded by the lack of any systematic differentiation between considerations relating to the language system, and those having to do with the use of that system in some context. The need to provide for such a distinction is motivated here by a consideration of various types of indexical reference (specifically, "anadeixis" and anaphora) within a discourse. Here an important distinction is made between the nature of the indexical referring procedure being applied, and the particular expression types being used to carry it out. *In fine*, the article argues that it is only by attempting to subsume the grammatical apparatus of the modular FDG system within a model of the wider utterance context in which it may be used by a speaker, that the problems raised earlier may be satisfactorily resolved.

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1. Introduction

I would like to raise an issue which I see as going to the heart of the research programme pursued by current FDG[1]: the potential incompatibility resulting from its dual objectives. These are, on the one hand, the aim to constitute a typologically comprehensive and revealing model of grammar (morphology, syntax, pragma-semantics, phonology—including prosody); and on the other, to specify the (in principle infinite) set of expressions of a given language in terms of the discourse acts which

they may express—this in relation to the speaker's perspective in forming and formulating a communicative intention and then in fleshing it out pragma-semantically, morpho-syntactically and phonologically.

Below is the summary of the entry for FDG (Hengeveld and Mackenzie, 2006) in the 2nd edition of the Elsevier publication *Encyclopedia of Language and Linguistics* (Ed. K. Brown, p. 668):

> Functional Discourse Grammar (FDG) combines typological neutrality with formal rigor and takes pragmatic and psychological adequacy very seriously. FDG is the grammatical component of a wider theory of verbal interaction, and is concerned with the formulation and encoding of discourse acts. Four formally parallel levels are posited, interpersonal and representational levels for formulation, and morphosyntactic and phonological levels for encoding. FDG offers a coherent theoretical framework for typological work; specifically, the distinction between the different components of FDG forces the typologist to study the pragmatic and semantic typology of languages systematically, and not merely their syntactic and morphological typology.

Briefly, FDG is a functional–typological model of language structure, bearing four main distinctive characteristics: (1) a top-down hierarchical and modular organization; (2) taking *discourse acts* rather than sentences or clauses as basic units of analysis; (3) characterizing discourse acts in terms of four modules, which together constitute the Grammatical Component of the grammar: in order, Interpersonal (pragmatic), Representational (semantic), Morphosyntactic, and Phonological (i.e. the expression aspects of the grammar). Each of these (apart from the first) takes as input the representation yielded by the preceding one, and produces a new representation at its particular level—though skipping of levels is possible in certain cases. These four levels interact, then, to generate the relevant language forms. Finally (4) the model's various subcomponents are linked systematically to *Conceptual* and *Contextual* as well as *Output* components (the grammatical module's interfaces).

The Contextual component is intended to provide a record of the preceding discourse acts represented, as specified at each of the levels recognized in the grammatical module; and the Conceptual component houses representations of the speaker's communicative intentions in realizing his/her discourse act, as well as relevant conceptual and world-knowledge information (but only insofar as this information plays a systematic role in the selection and specification of given language forms to express a particular discourse act). The "operations" involved in utterance generation are *Formulation*, which converts the communicative intention specified by the Conceptual Component into a linguistic representation by processing it first at the Interpersonal Level, and then at the Representational Level; *Encoding* then gives rise to the Morphosyntactic Level, and subsequently to the Phonological one (including representations of prosodic structure); and finally, *Articulation* which produces the "Output" stage in the derivation. See Hengeveld and Mackenzie (2008, pp. 1–45), and in particular their diagram of the overall architecture of the model in Fig. 2 (p. 13), for a more detailed presentation.

I will start by outlining what I see as a contradiction, or at least a systematic equivocation, in terms of the dual objectives of current FDG (Section 2), and will then try to show (Section 3) how the "language system"/"language use" dichotomy, which in fact is implicitly recognized in the distinction between the central grammatical module and the framing Conceptual and Contextual components,[2] is not adequately respected. Section 3.1.1 aims to point out the undesirability of treating the possible uses of tokens of given form types as if they were system-based ones, by first revisiting Gundel et al.'s (1993) "Givenness Hierarchy"; and Section 3.1.2 applies this analysis to the way the so-called "phoric"/"deictic" distinction in the case of indexical reference is handled by standard FDG. Section 4 sketches an outline model of the wider socio-cultural context of use of the forms specified by the core FDG model. In so doing, it is argued that the problems detailed in Sections 2 and 3 may be satisfactorily resolved. Section 5 summarizes and concludes the discussion.

2. Contradictory objectives

Now, the model which emerges from the dual concerns outlined in Section 1 is neither a genuine model of the language user, nor a simple model of the resources made available for use by a given language, but something of a hybrid of the two types. In relation to the first type of model, although the architecture of the grammar is designed to reflect the analyst's abstract reconstruction of certain amongst the sequence of stages a speaker might go through in producing an utterance realizing some discourse act, its two main architects are at pains to point out that it is **not** intended to characterize such a production process in real-time terms (cf. Hengeveld and Mackenzie, 2008, p. 2); so it is not (intended as) a true model of the Speaker.[3] The outputs of the grammar as specified in Hengeveld and Mackenzie (2008), at least, are in fact invented "utterances", not real attested ones (hence tacitly representing expression "types", not "tokens").

Yet the Contextual component, as it is developing in particular in the work of Hengeveld and Mackenzie (submitted for publication), is simply designed to place "in abeyance", while a given utterance is formed, the context created by preceding utterances: a sort of record of their phonetic, morpho-syntactic and pragma-semantic properties. This record is accompanied by representations of certain minimal aspects of the context of utterance of each linguistic realization. The representation of the current utterance will then be updated by the next utterance in terms of its respective properties at each of these levels

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[2] But all these components and levels form part of the same overall system (whose essential, principal, purpose is to characterize revealingly the pragmatic, semantic, morphosyntactic and phonological regularities which may be expressed textually in the world's languages: see the essential purport of the definition of the FDG model reproduced above).

[3] See for example Levelt (1989), whose model of the Speaker was adapted by Hengeveld and Mackenzie (2008) to form the basic architecture of the "pattern" model of language that is FDG.

(cf. Hengeveld and Mackenzie, submitted for publication). But this context is restricted to include only those features which specifically bear upon the **formal** aspects of the utterance to be formulated; and only insofar as they are general, fully regular and not "one-off". It is clear that the intention behind this restriction is to make it possible to implement the first of the two goals of the model (to set up a typologically comprehensive and revealing general model of grammar) rather than the second (to account for the range of expressions available in terms of an analytically-specified characterization of certain amongst the sequence of stages of a potential speaker's realization of discourse acts). That is, the Contextual and Conceptual components are simply there to enable the central grammatical module to operate effectively.

But the problem here is that, in spite of the fact that the Contextual (and Conceptual) Component(s) is/are so limited, the model nevertheless purports to characterize the expressions generated *qua* actual utterances, in (some) context. For as we shall see in Section 3.1.2 in particular, specifications having to do with the context-determined values of the use of given indexical forms (3rd person pronouns and demonstratives) are made available by the grammar. For example, information as to whether the intended referent is "identifiable" or otherwise by the addressee, or whether that referent is a specific, non-specific or variable entity. And yet the Conceptual Component is not set up to do this, since its brief (like that of the Contextual component) is to ensure that the core Grammatical Component functions correctly in systematically specifying the expressions which a given language makes available to its users. No model of language use in context is (yet) provided within which the FDG system as a whole might be fitted (but see Section 4 for one such suggestion, as well as Connolly (2007, submitted for publication)). So there is no way in which such provisions can be fully justified, on the sole basis of the generating capacity of the core model as a whole. This model is clearly set up to characterize expression **types**, and not **tokens**. And yet it seems to seek to specify both varieties in terms of the same core system.

For indeed, we are far from the richness and complexity of the contexts which are in play in the ongoing realization of actual communicative events. As already pointed out, in theory, this rich complexity would be provided via the insertion of the out-puts of an FDG grammar within a broader model of socio-cultural context,[4] a model which John Connolly has adumbrated in his recent work (see Connolly, submitted for publication). But in reality, this is still far from being fully worked out at present, and no proposal has yet been made to subsume the existing, grammatically-based core system within such a model (though see Section 4 for an outline sketch of one possible version). Note that Simon Dik, the initiator of the functionalist model of language structure ("Functional Grammar") of which FDG is the successor, already anticipated such an incorporation: see Dik's (1997, p. 4) point (iii):

> ...although in itself a theory of linguistic expressions is not the same as a theory of verbal interaction, it is natural to require that it be devised in such a way that it can most easily and realistically be incorporated into a wider pragmatic theory of verbal interaction...

3. FDG and the "language-system/language use" dichotomy: lexical narrowing/broadening in context, and indexical reference in discourse

In line with this assessment of the overall conception of the model, it would seem that it conflates within a single system the "language-system"/"language-use" dichotomy, since aspects relating to the use of an utterance in context are handled via the same mechanisms that describe its system-based properties (i.e. they are treated as if they were system-defined properties)[5]; and yet, as we have seen, the aspects of context that are taken into account are a restricted subset of those available to both speaker and addressee in some actual context of utterance (namely, those relevant to the systematic characterization of the formal properties of the utterance in question).

The language system/language use dichotomy is not explicitly recognized by certain other models either—notably Halliday's Systemic Functional Grammar, and Langacker's Cognitive Grammar. These theoretical models thus conflate the two dimensions within a single system of language-structure-cum-("frozen")-language-use (though Halliday's well-known phrase "meaning potential" clearly implies a systemic textual resource for making meaning that needs to be "actualized" in some specific context of language use). But still other functionalist models retain it: for example the Columbia School model,[6] in principle, classical Functional Grammar (see the quotation from Dik (1997, p. 4) given in Section 2) and of course various models of Pragmatics, such as Relevance Theory, or Levinson's as well as Horn's neo-Gricean theories. See also the chapters in Bianchi (2004) for arguments in favour of a principled distinction (but intricate interaction) between the dimensions of semantics (part of the language system) and pragmatics (relating to the use of that system in some particular context of utterance). Several traditional schools of linguistics were also (broadly speaking) framed in terms of such a distinction: for example, Ferdinand de Saussure's structuralist school, with its framing *langue/parole* dichotomy, or the French linguist Gustave Guillaume's *Psychomécanique du langage* model, with its comparable distinction between *langue* and *discours*.

One key instance arguing in favour of such a distinction is the semantic "narrowing" or alternatively "expansion/generalization" of lexemes according to the context in which they are used (their surrounding co-text as well as the broader genre or sub-genre of text involved): see Wilson and Carston (2007) on this aspect. As the authors point out (p. 232), *lexical narrowing* "involves the **use** of a word to convey a more specific sense than the encoded one, with a more restricted denotation..." (emphasis mine). *Lexical broadening*, on the other hand, "involves the **use** of a word to convey a more general sense than

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[4] See the summary of the entry for FDG in Hengeveld and Mackenzie (2006) reproduced in Section 1, lines 2–3, and Hengeveld and Mackenzie (2008, p. 25).
[5] See Kleiber's (1999, p. 75) analogous criticism in relation to certain French linguists' accounts of polysemy within lexical semantics.
[6] See Huffman and Davis (2012) for a very recent introduction to the work of the founding father of this functionalist School of Linguistics, William Diver.

the encoded one, with a consequent expansion of the linguistically-specified denotation" (p. 234—my emphasis again). A French example of the former type (lexical–semantic narrowing) is given in (1):

(1) [Notice on motorway panel above lanes near Aix-en-Provence, France]
Des   hommes   travaillent.   Soyez   vigilants.
INDEF.PL.   man-PL   work-DECL.PRS.3PL   Be-IMP.2PL   vigilant-PL[a]
'Men (are) working. Exercise due care' (example (3) in Cornish (2009a))

[a] Key to the abbreviations used in the glosses: INDEF: "indefinite (article)"; PL: "plural number"; DECL: "declarative mood"; PRS: "present tense"; 3: "third person"; IMP: "imperative mood"; 2: "second person".

Here, the "vigilance/due care" to be exercised is not intended to be directed at potential pickpockets, terrorists, etc. (as would be the case with notices of this type—as in the second utterance in (1)—displayed in railway stations, airports, etc.), but at motorway maintenance workers operating on the hard shoulders of the motorway in question. This aspect of the context here clearly derives from motorists' knowledge of motorways in general. So the kind of "vigilance" to be exercised is not the vigilance aimed at protecting oneself from thieves or potential aggressors, but the one concerned with avoiding accidentally hitting the motorway maintenance workers with one's vehicle. Similarly, the verb 'work' (*travailler*) in this context denotes the more specific type of work done by maintenance workers on motorways. The semantic–pragmatic narrowing (and broadening) illustrated by examples of this kind would not be accounted for directly by the core grammatical model—since it does not fall within its purview, these modifications having no incidence on the form of the lexemes at issue, but rather via the type of model of the wider utterance context to be proposed in Section 4.

Another major area in which it is essential to provide for such a dichotomy is that of indexical reference in discourse (deixis, "anadeixis" and anaphora). "Anadeixis" is a term introduced by Ehlich (1982). I have adapted the notion so as to apply to various indexical discourse-referring procedures (in particular, discourse deixis, recognitional anadeixis and what I call 'strict' anadeixis). See below for a presentation and exemplification.

As far as deixis and anaphora are concerned, I view these as complementary discourse-referring procedures which the users exploit in building, modifying and accessing the contents of mental models of a discourse under construction within the minds of speaker and addressee (or writer and reader in the written form of language). They are discourse-management devices designed to ensure the coordination of speaker's and addressee's attention focus as the discourse unfolds.

Deixis serves prototypically to direct the addressee's attention focus to a new object of discourse (or to a new aspect of an existing one) that is derived by default via the situational context of utterance – whose centre point is the 'here and now' of the speaker's verbal and non-verbal activity.

Anaphora, on the other hand, is a discourse-referring procedure designed to maintain the existing attention focus established hitherto (or assumed by the speaker to be so established): so the referents of (weakly stressed, phonologically non-prominent) anaphors will be presupposed to enjoy a relatively high degree of psychological salience or attention focus level for the addressee at the point in the text where they are used.

Deixis involves by default the use of the speech situation (the (deictic) ground, in Hanks' (1992) terminology) to profile a figure: a new referent or a new conception of an existing referent within the discourse registry; while anaphora consists in the retrieval from within a given ground of an already existing 'figure', together with its 'ground', the anaphoric predication acting to extend that ground (see Kleiber, 1994, Ch. 3).

Yet the relationship between deixis and anaphora is asymmetrical: these are by no means "absolute" or autonomous indexical referring procedures. As Lyons (1975) convincingly argued (cf. also Bühler, 1990/1934; Gerner, 2009 and others), anaphora is derivative upon deixis, on which it depends. Deixis is the more fundamental referring procedure. The majority of indexical expression types capable of realizing anaphora may also have a deictic function—or are morphologically derived from those that are specialized in this use. The real relationship between these two indexical procedures may be characterized in terms of a cline, with a medium term: this intermediate, hybrid level has been termed "**anadeixis**" by Ehlich (1982).

'Anadeixis' is the type of indexical reference which combines the anaphoric and deictic procedures to different degrees. That is, the indexical expressions which realize it are anaphoric to the extent that their referent is already (potentially) present in the discourse representation assumed by the speaker to be shared by speaker and addressee at the point of occurrence, and is retrieved via this reference; however, that referent may be less than highly salient at the point of use, unlike the situation which prevails with canonical anaphora. This is why the deictic procedure is a contributory factor in such references. An anadeictic reference is not canonically deictic, in that there is no totally new referent being introduced into the discourse thereby, and not all the utterance-level parameters are being altered via this reference. There are arguably three subtypes of anadeixis: '*strict*' anadeixis, *recognitional anadeixis*, and *discourse deixis* (to be defined and exemplified in Section 3.1.1). See Cornish (2011, pp. 757–760) for further discussion.

3.1. A case study: capturing the functioning of indexical reference in discourse

In Cornish (2012), I argued that a valid account of these phenomena requires postulating an interaction between the indexicals' intrinsic semantic–pragmatic properties and the application of the particular discourse-referential procedure which they help to realize. The intrinsic semantic–pragmatic properties of each subtype of indexical expression (3rd person or demonstrative pronouns, null pronouns, definite or possessive NPs, demonstrative NPs and so on) do not **in themselves** determine a referent bearing such-and-such a type of cognitive or accessibility status, or a particular anaphoric or deictic referential value—

in focus > activated > familiar > uniquely identifiable > referential > type identifiable

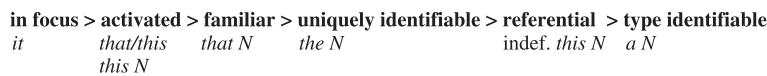| it | that/this this N | that N | the N | | indef. *this N* | *a N* |

Fig. 1. Gundel et al.'s (1993, p. 275) "Givenness Hierarchy".

even taken in conjunction with the predicative content of the indexical clause as a whole. The 'indexical clause' is the clause continuing the indexical expression at issue. Rather, what determines these values is the nature of the discourse-referring procedure which the particular indexical is being used to realize in context (pure anaphora, "anadeixis" or pure deixis).

We start with an examination of Gundel et al.'s (1993) "Givenness Hierarchy", where it is shown that it is the choice by a user of a particular discourse-referring procedure which determines the cognitive value an indexical may assume in context, rather than that value being a system-coded characteristic of the expression type used *per se*, whatever the context of use might be. The essential lesson to be drawn from this discussion is the need to distinguish systematically between language system and language use in characterizing given indexical expression types. A consideration of the FDG account of indexical reference then follows in Section 3.1.2.

3.1.1. The "Givenness Hierarchy" (Gundel et al., 1993) and the "system/use" distinction

Gundel et al.'s (1993) "Givenness Hierarchy" purports to range a number of English referring expressions (both indexical and non-indexical) on a 6-point scale of positions corresponding to the "cognitive statuses" they are claimed to code. As we shall be seeing, it would seem that a kind of "category confusion" has been committed via this approach: that is, as between the internal, system-defined properties of the example expressions placed beneath each position representing the Scale of cognitive statuses according to the breadth or narrowness of their cognitive scope,[7] and their possible uses by a speaker in some context. The Givenness Hierarchy is presented in Fig. 1 above.

Now, on the one hand, it seems clear that at least NPs introduced by the definite article (*the N*) and those introduced by the indefinite article (*a N*) do have the system-determined (i.e. grammaticalized) properties of denoting, respectively, "uniquely-identifiable" and discourse-new entities ("identifiable only in terms of their semantic type"); but on the other, "indefinite-*this N*" at the 5th position on the Scale corresponds to one particular **use** of this type of indexical, namely "referential". If we look back at position 2 on the Scale ("activated"), we find underneath the very same indexical expression type ("*this N*"). It is clear just from this comparison that the authors have in mind certain particular **uses** of these expression types in some context, rather than the particular bundles of intrinsic semantic/pragmatic properties of each one as such—though the two statuses mentioned above do seem to be linked to such purely linguistic properties of the two expression types mentioned, so they are not consistent in this.

In my view, the basic problem with a Scale of this kind (see also Ariel's (1990) comparable "Accessibility Marking Scale") lies in its conflating of levels of analysis that need to be kept separate, if only in order to be able to pinpoint the specific types of interactions that may occur between them (see also the similar criticism in Kibrik (2011, p. 42)). In the attested data to be presented shortly (Examples (2)–(4) below), tokens of the same expression type (*that N*), are used to realize three distinguishable sub-types of discourse-referring procedure: namely, "'strict' anadeixis", "recognitional anadeixis" and "discourse deixis", respectively. This expression type may also, of course, be used to realize pure deixis as well. See Cornish (2011) for a complete presentation, as well as below. Now, in each such case, the "cognitive status" of the referent of the tokens at issue turns out to be distinct. In fact, the **'strict'-anadeictic** use of the two occurrences of *that N* (lines 4 and 6–7) illustrated in example (2) below, corresponds to the "activated", and not only to the "familiar" status marked by this expression type on the GH:

(2)   'Strict' anadeixis (see Cornish, 2011, pp. 758–759): I noted with smug satisfaction that I own copies of 20 of the 25 films in your "How to be a film buff" feature (22 July), and generally agreed with the list. But I was staggered to see *Armageddon* included. Was it there for a joke, or a dare?
      I rate ***that*** (/*this/the*) ***film*** as one of the most laughably bad I've ever seen, with its corn, abuse of the laws of physics, slow-motion shots of US "heroes" trudging purposefully, script straight from the Big Book of Clichés, poor music, cartoon characterisation and sheer implausibility. I could probably list 1,000 films that should be on ***that*** (/#?*this/the*) ***list*** rather than *Armageddon*, but will restrain myself to one: *Touch of Evil*. (Ian Honest, Hessle, East Riding of Yorkshire, Letter to *Radio Times*, 29.07–4.08.06, p. 136)

There are two distal demonstrative NPs here, *that film* in line 4, and *that list* in lines 6–7. The first retrieves a referent which enjoys a high degree of topicality prior to (though not at) the point of use[8]; but the second maintains the reference to an entity ('the list of 25 films featured in the RT edition of 22 July 2006') which has a somewhat lower degree of topicality at the point of occurrence. Now, given the "reinitialising" function of the subsequent reference to the former referent in line 4 at the start of a new paragraph (marking the introduction of a new discourse unit and thereby signposted as going to be about this particular film), the pronoun *it* would not have been felicitous here.[9] One motivation for the anadeictic use of *that* rather than

[7] The most restrictive is that of "in-focus" at the left-hand end, and the least (or most "open-ended") corresponds to "type-identifiable' at the right.

[8] The referent 'the film *Armageddon*' has already been retrieved by a high-accessibility expression token, the 3rd person pronoun *it* in line 3.

[9] See Pu (2011, p. 99) on discourse unit boundaries in English and Chinese texts, and the effect which episode shifting has on the types of indexicals used to retrieve erstwhile topical referents.

this in *that film* in (2) is the negative stance adopted by the writer in relation to the referent; thus he is certainly not subjectively identifying with it (quite the reverse): the use of proximal *this* would have had that effect. A potential referent of a 'strict'-anadeictic indexical is available in principle within the addressee's or reader's local memory span, but is not (yet) topical.

The pronoun *it* would not have been appropriate in place of the distal demonstrative NP *that list* in lines 6–7, either. This is because unstressed 3rd person pronouns signal referential continuity (i.e. 'pure' anaphora: see the definition at the head of this section)—but the referent targeted here is no longer topical at the point of use. While in (2), both the distal demonstrative NPs could well be replaced by definite NPs headed by the same nouns as used in the antecedent-trigger expressions (since the lexical heads of these NPs both correspond to presupposed information), such a replacement would be completely unacceptable in the case of (4) below: #...*until I'm absolutely sure I want to invest* <u>*the amount of time*</u>. This shows that, unlike the situations in (2), the one in (4) does not involve anaphora (nor indeed, 'strict' anadeixis) as such, *stricto sensu*.[10]

On the other hand, the "**recognitional-anadeictic**" use of *that N* in example (3) (see *that quietly spoken voice* in line 4), could well correspond to the status "familiar" as indicated on the GH for this expression type. But the key point is that it is through being used to realize this procedure that it has this value, not as a function solely of its own intrinsic, system-defined feature values:

(3) ("<u>**Choices**. Telling Tales</u>" (Mon–Fri 11.30 a.m./12 midnight BBC 7), *Radio Times* 29.07–4.08.06, p. 126)
Originally written and read by their author Alan Bennett (...) for TV, these autobiographical stories work so much better on the radio. He re-recorded them for Radio 4 in just one day back in 2000 with the then producer and now head of programmes at BBC 7, Mary Kalemkerian. These snapshots of his childhood growing up in Leeds are delivered in ***that quietly spoken voice***, where his pauses are just as powerful as the words that led up to or followed them...

Here, there is a deictic aspect to the reference of the distal demonstrative NP *that quietly spoken voice* in line 4, in that the writer is clearly orienting the reader's attention toward an (assumed) particular shared representation in (here) episodic memory. This is the *raison-d'être* of the pre-modifying epithet *quietly spoken* within the NP itself, which acts as a memory retrieval cue for the reader. But at the same time, there is an anaphoric dimension, since the use of the NP is presupposing the prior existence of the shared representation ('the playwright Alan Bennett's characteristic voice quality') within the reader's memory—i.e. that s/he will be familiar with it. There is a connotation of "complicity" here between writer and reader, as if to say "You know the particular voice I mean". It is in no sense an attempt to **construct** such a memory representation, a situation which a canonical deictic or discourse-deictic reference (see (4) below for the latter type) would bring about. But this reference is nonetheless more clearly deictic than anaphoric, since the writer cannot assume that the reader's attention will already be focused upon the intended referent in these examples—even peripherally, as is the case with 'strict' anadeictic references (see (2) above).

(4) Discourse deixis: I've written 14 musicals and don't have a huge desire to write another until I'm absolutely sure I want to invest ***that*** (/#?*this*/#*the*) ***amount of time***... ("Staging a revival", RT Interview with Andrew Lloyd-Webber, *Radio Times* 5–11.08.06, p. 18)

In the case of the "**discourse-deictic**" sub-type of discourse-referring procedure,[11] clearly, neither of the GH cognitive statuses "activated" or "familiar" would be appropriate in characterizing the referent created from the result of processing the preceding segment of discourse—since its discourse existence is the outcome of an inference made at the point of occurrence. With discourse deixis, it is the surrounding discourse just constructed which the addressee operates upon to appropriate the intended referent.[12] This involves an act of cognitive pointing towards the result of processing a predication (or a part of a predication) in surrounding discourse, and creating a new discourse entity out of it via an inference (cf. also Webber, 1991, p. 126). As with canonical deixis, with discourse deixis, a discourse-new referent is being introduced into the discourse via the use of the deictic procedure; but unlike canonical deixis, this is not totally new, and the relevant deictic parameters are not being re-set via this act of reference.

In (4), the time taken to write a musical is not in focus or even accessible (or "familiar", as (wrongly) predicted by the GH—see Fig. 1) when the predication *I've written 14 musicals* is realized. Its discourse existence is the result of an inference drawn at the point of interpretation of the indexical. Hence the use of a distal demonstrative NP *that amount of time* to refer to this aspect of the writing of a musical. The proximal determiner *this* or the equivalent definite lexical NP (#*the amount of time*) would not have been equal to the referential task required here; for in the former case, the speaker is distancing himself from the time he obviously needs to write a musical. And in the latter, it is clear that a particular period of time of the kind at issue cannot be presupposed at the point where the NP occurs.

Given that with discourse deixis, it is the surrounding discourse just constructed which the addressee operates upon to appropriate the intended referent, its cognitive status would be closer to the "referential" position marked by position 5 on the GH (Fig. 1) than the "familiar" one which it is said to code systemically, at position 3.

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[10] See Fossard et al. (2012) for experimental reading-time results that confirm the "strict-anadeictic" potential of (distal) demonstrative NPs.

[11] See the distal demonstrative NP *that amount of time* in line 2 of example (4).

[12] See Webber (1991) and Diessel (1999) on this topic.

Now, it is true that the Givenness Hierarchy has a certain in-built flexibility within it, in that in context, tokens of given form-types may target referents whose "cognitive status" is above (i.e. to the left of) the one which it is said to code linguistically on the Scale. For the hierarchy is implicational in character. At any position on the GH, the corresponding lexical item type is said to code that status as well as implying all the lower statuses (those to its right on the hierarchy). A given expression type may convey the status coded by one located to its left on the GH, since the latter's status, being 'stronger' (i.e. cognitively more restrictive), entails the former's.

However, the first Quantity maxim proposed by Grice (1975), namely: "Make your contribution as informative as required (for the current purposes of the exchange)", is used by Gundel et al. (1993) to imply that the use of a 'stronger', entailing one is not in fact warranted. For example, demonstrative pronouns tend not to be used in context to retrieve referents bearing the status "in focus", a status to the left of "activated", which they are marked as coding on the GH. The reason the authors give is that in English, their use only requires "activation" (see position 2 in Fig. 1), so to use them for the former value would **not** be to "make [the speaker's] contribution as informative as required". In such a case, an implicature is created to the effect that the status "in focus" is not involved here.

The second Quantity maxim is as follows: "Do not make your contribution more informative than required." Under this maxim, the use of a 'weaker' (entailed) expression type to the right on the GH relative to the one on its left, conversationally implicates that the 'stronger' (entailing) status does in fact hold. The authors give as an example NPs introduced by the definite article. These are said to conventionally code only the status "uniquely identifiable" at position 4. But in addition they may implicate the 'stronger', more restrictive status "familiar" (as in the case of a notice informing the recipient of the existence of some object, but at the same time presupposing that existence—as in *Mind the step/gap!* or *Beware of the dog!*). Our example (2) above could be analyzed in this way, since the two distal demonstrative NPs *that film* and *that list* both assume the cognitively more restrictive status "activated" rather than just their "coded" status "familiar". But the distal demonstrative NP *that amount of time* in (4) assumes the 'weaker' status "referential" (but **not** also "familiar" and "uniquely identifying"), a status which is two positions further to the right of its allegedly coded one on the GH, "familiar". This is not predicted to be possible by Gundel et al.'s hypothesis, but is a natural consequence of the conception in terms of the use of one or other of the potential indexical referring procedures which we have been seeing above.

The conclusions to be drawn from this discussion are first, that it is the nature of the indexical referring procedure being exploited which determines these values, not the invocation of one or other of Grice's Quantity maxims by the addressee or reader; and second, that it is necessary, in specifying the referential and discourse–cognitive values assumed by given indexical expressions, to distinguish between the expression types involved and their use in context by a speaker.

3.1.2. The FDG account of indexical reference: the "phoric"/"deictic" distinction

Now, to return to FDG and its treatment of context-bound phenomena as if they were system-determined ones, in what may be called the "standard" model of this theory (Hengeveld and Mackenzie, 2008), there is no chapter, section or even subsection specifically devoted to anaphora or deixis as such—context-bound referring procedures which may usefully be subsumed under the more general term "indexical reference". Instead, various subtypes of anaphora are presented and illustrated sporadically, in terms of the entity-type of referent which the various indexical forms may be used to target (predicates, places, times, individuals, predications, propositions, illocutions and so on), or in terms of the expression types typically used in doing so. In Section 2.8.3.1 (p. 114), various types of anaphoric relation are used to test for the referentiality of the antecedent expression (i.e. whether or not it is possible for a Speaker to refer back anaphorically to what may be taken thereby, if such is actually the case, to be a referential subact). So anaphora would seem to assume a purely instrumental value within the model. There is no overall, general characterization of these phenomena as such, bringing out their specific properties, as is attempted at the beginning of Section 3.

The account of anaphoric reference given in FDG is a traditional one, as also in classical FG (Dik, 1997): anaphors need to have an "antecedent" in the prior or subsequent co-text, which, if referential, will have introduced an appropriate referent with which their own referent may be coindexed at the Representational level (RL). However, no **strategy** on the user's part is proposed which might motivate the coindexing of the anaphor's referent at this level with another—apart from that involving the matching of features as well as entity-type properties. Yet in actual use in context, the coherent production and "resolution" of anaphors, and of indexical expressions generally, is by no means a straightforward, quasi-automatic process, akin to agreement marking between controller and target expressions: that is, a purely grammatically-determined phenomenon. For in actual usage, referents may be introduced into a discourse in many other ways than by explicit co-textual introduction. Thus anaphors may on occasion have no appropriate "textual antecedent" with which to be aligned; or indeed, there may be more than one potential referent as well as antecedent bearing the requisite properties, for a given anaphor (see (6) below for an illustration). The authors actually cite one of my own publications (Cornish, 2002) making this very point, and give an invented example to illustrate:

(5) I met our new neighbours yesterday. *She* is an advertising executive. (Hengeveld and Mackenzie, 2008, p. 120, ex. (319))

But no analysis is offered of this example, whereby users might adopt a particular strategy in selecting and "resolving" the 3rd person feminine pronoun *she* in the second sentence—apart from the more general point that in this type of case, "the Addressee will derive a likely coreferent for the pronoun from the information present in the Contextual component" (Hengeveld and Mackenzie, 2008, p. 120). Example (5) is clearly an instance of "indirect" anaphora, where the intended referent is accommodated via "abduction" (see Hobbs, 2004). It is not clear how the existing FDG machinery would, or even

could, handle indirect anaphora of this and other kinds—and alluding to the Contextual component, as standardly constituted, is not much help here, since this only houses contextual information that is, in principle, relevant to the form-generating apparatus of the model, and does not take inferences into account. (6) is a French textual example originally presented in Cornish (2009b, p. 163, ex. (2)):

(6)   L'ÎLE DE ROBINSON **Téléfilm** (...)

Au	XVIIIè siècle,	le	propriétaire	d' une	plantation
at.DEF	18th century	DEF	owner	of INDEF	plantation
s' oppose,	lors	d' une	traversée maritime,		
REFL-oppose-DECL.PRS.3SG	then	of INDEF	crossing sea		
au	capitaine *du*	*bateau.*	*Il*	est	
to.DEF	captain of.DEF	boat	he/it	be-DECL.PRS.3SG	
abandonné	sur une	île.			
abandon-PTCP	on INDEF	island (*Le Monde Supplément Radio-Télévision* 22–28/12/03, p. 8)			

'In the 18th Century, a plantation owner, during a sea voyage, confronts the ship's captain. He is abandoned on an island.'

In (6), a film synopsis, a definite NP *le bateau* 'the boat/ship' in line 3 is used as part of a PP *du bateau* 'of the boat/ship', but occurs anaphorically without a relevant textual antecedent. Moreover, the 3rd person singular masculine pronoun *il* 'it/he' in the second sentence has a total of three potential referents bearing masculine singular "antecedents": 'the owner of the plantation', 'the captain of the boat in question', and 'the boat on which the owner and the captain are travelling'. Yet once again, the solution to these problems is not forthcoming within the constructs made available for handling anaphora in Hengeveld and Mackenzie (2008) (in reality, the account given in this work **presupposes** the existence of the anaphoric relations it specifies formally, as givens). However, as we shall be seeing, if we take into account the dimension of "discourse" (the ever-evolving, mentally-represented situated interpretations of the communicative event by both speaker and addressee) as well as of "text" and context, then they can certainly receive a satisfactory solution. But "discourse", in this sense, is only constructible in terms of the availability of a model of the wider utterance context, which is not (yet) countenanced within FDG.[13]

Let us attempt an analysis of (6) in these terms.

Following the discourse-framing occurrence of a "directly-localizing adverb[ial]" (*au XVIIIè siècle* 'in the 18th Century'), according to Borillo's (1998, pp. 132, 136) taxonomy—an adverbial which has scope over the entire text, the second discourse unit, which corresponds textually to the first sentence minus the framing adverbial, presents the basic situation which forms the framework of the film. The present tense is a narrative present: this value is in part due to the text's **genre**,[14] a film synopsis in which the reader expects an account of an event of some kind, and in part to the *Aktionsart* (lexical aspect) of the verb *s'opposer* as well as to the event PP in apposition *lors d'une traversée maritime* 'during a sea crossing'. This PP (the second discourse unit here), via the nominalised clause which it contains, is characterized both by the temporal preposition *lors* (*de*) 'during' and by the accomplishment *Aktionsart* constituted by the noun group *traversée maritime* 'sea crossing'. Hence, this unit would be integrated with the more encompassing unit corresponding to the main clause in textual terms, via the **coherence relation** *Circumstance*. The definite NP within the PP *du bateau* in this unit maintains the referent **implicitly introduced** into the discourse upstream as a function of the interpretation of the appositional PP *lors d'une traversée maritime* (if there has been a "sea voyage", then it has necessarily been made in a vessel of some kind, typically a sea-going boat). This **inference** would be both "elaborative" and "connective", according to Zwaan and Rapp (2006, p. 735).[15] Recall that inferences are in principle excluded from representation within FDG's Contextual component (cf. Giomi, submitted for publication; Hengeveld and Mackenzie, submitted for publication), but are indispensable as far as the representation of discourse (including anaphor selection and resolution) is concerned. The unit composed of [DU¹ [DU²]][16] in (6) clearly corresponds to a thetic utterance in **information structure** terms. So the hierarchical discourse structure corresponding to the first textual sentence would look like this: [DU⁰ [DU¹ [DU²]]]... (DU⁰ would correspond to the contribution of the discourse-framing adverbial *Au 18è siècle* bearing wide scope over the discourse as a whole).

The passive construction organized round the verb *abandonner* 'to abandon' in the present tense within DU³ (which corresponds textually to the second sentence) places emphasis on the state ('the fact of being abandoned on an island') resulting from the preceding action. Through the functioning of the referential pronominal subject *il* 'he/it', this sentence will naturally assume a categorical (topic-comment) **information status**. The content of this second independent sentence will then be integrated with that of the main-clause unit DU² in virtue of the relation *Intentional Result* (cf. Mann and Thompson, 1988)—this as a function of the reader's world knowledge: namely that the captain of a ship[17] has the right, in principle,

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[13] Though Hengeveld and Mackenzie (2008, p. 25) do state that FDG is intended as the grammatical part of a wider theory of verbal interaction, so this is certainly foreseen.

[14] Cf. Tsiplakou and Floros (2013) for a recent discussion compatible with the approach adopted here.

[15] An "elaborative" inference implies the activation of world knowledge that boosts the saliency of the mental representation of the situation evoked, but which is not strictly necessary to integrate the two assertions; while a "connective" inference would be a means of linking two assertions together (Zwaan and Rapp, 2006, p. 735).

[16] The discourse units (DUs) corresponding to the temporal PP in apposition (DU¹) which is integrated within the main clause (DU²) and the latter, which provides the essential framework of the narrative.

[17] The implicit agent of the passive eventuality in DU³ is evidently 'the ship's captain'.

to regulate the behaviour of the passengers on board his ship. In conjunction with this convention, given the existence of a dispute between him and one of these passengers ('the plantation owner' evoked via DU^2), it is more likely that it would be the plantation owner than the ship's captain who would be 'abandoned on an island', as a result of this altercation. In any case, this discourse entity is the **macro-topic** of the text as a whole here. Once DU^3 has been integrated with DU^2, in terms of the Intentional Result relation, the discourse structure corresponding to this two-sentence text would be, schematically, as follows: $[DU^0$ $[DU^1 [DU^2 + DU^3]]]$.

The *Result* relation would have superimposed upon it the *Problem–Solution* one (Mann and Thompson's (1988) relation "Solutionhood"), given that DU^2 evokes a conflictual, and hence 'problematic' situation (...*s'oppose*...'confronts'), a situation to which the abandoning of the plantation owner on an island could well constitute a 'solution', in the captain's eyes.

The setting up of the relations *Intentional Result* and *Problem–Solution* in order to integrate the two units requires, then, that the subject pronoun *il* should be resolved by targeting the plantation owner rather than the ship's captain. In principle (out of context), however, this masculine singular pronoun could be interpreted as referring back to 'a particular captain', or even to 'some particular boat'.[18] After all, both a boat and its captain may well be "abandoned on an island". But in either of these two cases, the relations *Intentional Result* and *Problem–Solution* would have little justification here as means of integrating the two units at issue. Anaphor selection and resolution, then, are intimately bound up with the invocation of coherence relations in integrating the discourse units associated with text segments in context.

This analysis shows the extent to which the assignment of a referent and a full interpretation to a given anaphor or indexical expression more generally, is not a function simply of alignment with an appropriate textual antecedent expression, or even of coindexing with an existing, textually-introduced referent. In any case, the interpretation of anaphors is simply **conditioned** by their textual antecedents, where they exist (or more generally, by the relevant "antecedent-trigger"), and is not coextensive with or determined uniquely by them: see Cornish (1999, 2010) for some discussion. Rather it is determined via (and is itself an integral part of) the construction of *discourse* on the basis of *text* and *context* (cf. Cornish, 1999, 2009a). It is discourse structure, degree of topicality, genre, particular world and conventional knowledge, the nature of various integrative coherence and information structure relations at work, as well as the drawing of inferences, that jointly contribute to achieving this (see the emboldened terms used in the analysis of (6)). It is the model of the wider utterance context into which the core model would fit that would be capable of handling these elements (see the broad outline of such a model to be presented in Section 4).

Now, to pursue the conception of indexical reference given in standard FDG, Genee (2011) is devoted to giving an account of "recognitional [ana]deixis" within the FDG framework (see example (3) above and the related discussion in Section 3.1.1 for this subtype); but she also provides analyses of examples involving deixis, discourse deixis and anaphora within this model. I have chosen to discuss her accounts at this point, since this is the only other work specifically tackling indexical reference within the FDG framework of which I am aware. Genee presents Hengeveld and Mackenzie's (2008, pp. 118–120) account of the so-called "phoric"/"deictic" distinction as applied to the analysis of 3rd person personal pronouns (see (7) and (8) and their FDG analyses below).

Under the "deictic" use, it is claimed that the correct form of a pronoun is determined via the presence of a set of abstract features at the Interpersonal (pragmatic) Level (henceforth IL) in combination with gender and number specifications at the Representational (semantic) Level (RL). Under the so-called "phoric" use, the correct form would be determined entirely at RL in terms of coindexing with another referent variable at the same level; and the appropriate case form (*he* vs. *him*) would be determined via syntactic function assignment at the Morphosyntactic Level (ML) (see Hengeveld and Mackenzie, 2008, p. 119).

Hence according to this treatment, the pronoun *he* (to take just this example) will have **two different representations** according as it is used "deictically" or "phorically" (examples and analysis adapted by Genee from Hengeveld and Mackenzie (2008, p. 119)):

(7)　　**"Deictic" use of personal pronoun**[a]

　　　((C))　　(Pointing to or looking at attractive male person)　　*He* looks very handsome.
　　　IL　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　$(+id +s R_I: [-S, -A] R_I))$
　　　RL　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　$(masc 1x_i)$ (Genee's 2011 example (29))

[a] Key to the abbreviations used in these representations: "C" = 'Communicated content'; "+/-id": 'referent assumed/not assumed to be identifiable by addressee'; "s": 'specific intended referent'; "R_n": 'referring subact$_n$'; "T_n": 'ascriptive subact$_n$' (see the IL representation for *this pen* in (9) below); "+/-S": 'denotes (+) Speaker, or not (-)'; "+/- A": 'denotes (+) Addressee, or not (-)'; "masc": 'masculine gender'; "1": 'single referent'; "x_n": variable symbol for 1st-order referent; "f_n": predicate variable.

(8)　　"**Phoric" use of personal pronoun** (antecedent(-trigger) underlined)

　　　((C))　　I met <u>Leila's fiancé</u> yesterday.　　*He* looks very handsome.
　　　IL　　$(+/-id +s R_I)$　　　　　　　　　　　　　　$(+id +s R_j)$
　　　RL　　$(1x_i)$　　　　　　　　　　　　　　　　　　(x_i) (Hengeveld and Mackenzie, 2008, p. 119, ex. 318; Genee's 2011 example (30): Genee's annotations)

[18] In this latter case, though, such an interpretation would be difficult in this particular context, given that the NP *le bateau* is embedded in a PP, itself a complement of the noun *capitaine*. So this NP's referent enjoys only a relatively low degree of topicality here.

According to Genee, the appropriateness of the "deictic" pronoun is assessed against relevant aspects of the situational context, namely the presence of an entity in the speech situation capable of acting as a referent. But how would this fundamentally contextual feature get represented within the Contextual component, which is restricted to housing only form-relevant factors? Furthermore, the categorization by the speaker of situation-dependent entities is crucial for indexical reference, so some provision for deriving this information is surely also required.

As for the "phoric" pronoun, its appropriateness is assessed against relevant aspects of the so-called **"textual discourse"** (another conflation of levels that need to be kept separate: see below as well as Section 4)—in effect, the co-text, namely the presence within the Contextual component of (a representation of) a previously mentioned entity that can serve as an "antecedent"[19] which first introduced them into the discourse in question. As pointed out earlier, both the situational (narrowly defined) and the "discoursal" (i.e. "textual") context are represented in the Contextual component, whose representations are continuously updated as the discourse progresses.

However, when Genee, following Hengeveld and Mackenzie (2008), gives two different formal representations of the pronoun *he* according as it is used "deictically" (sic) or "textual-anaphorically", this appears to be problematic (see the distinct representations of *he* in (7) and (8) above). For indeed, we are dealing with the **same** linguistic unit in both cases, with the same system-determined properties; and here the **use** is in actual fact identical (see below). FDG is guilty in this case, it would seem, of conflating two levels of analysis which need to be kept separate in any theoretical account so that their interactions may be made precise: that of the language system *qua* system, which exists independently of the use of the units it makes available to users on any particular occasion, and that of the actual context-dependent use on some occasion by a speaker or writer of the resources which that system provides them with.

In any event, in the case of the 3rd person pronoun tokens of *he* in (7) and (8), as already mentioned, it is arguable that in **both** cases in actual fact, their in-context value is "anaphoric". This is the case since the speaker is presupposing that his/her addressee's attention is **already** focused on the referent at issue at the point of use (cf. Diessel's (2006) notion of "joint focus of attention"). But this would seem to pose a problem as regards its formal representation in FDG, since there is **no** accompanying "entity" in the textually-realized context for the referent exophorically determined by *he* in its predicative context to be coindexed with—unless, of course, FDG countenances a representation of the prior discourse (in my sense, in opposition to the co-text) constructed by the communicators; and this is not yet clearly the case: see the earlier part of this subsection and Sections 4 and 5 for the *text/discourse* distinction assumed here. *En passant*, this is, presumably, why this exophoric use is characterized as "deictic" but not anaphoric in standard FDG. Coindexing is the formal means adopted by FDG for indicating an anaphoric (or "phoric") relation between two entities represented at RL.

And yet, as defined at the beginning of Section 3, the deictic procedure does not operate in this way, but rather serves to bring a referent that is somehow available via the utterance context saliently to the addressee's attention (see the use of *this pen* in (9) below); whereas the unstressed 3rd person pronoun token in (7) presupposes the prior discourse–cognitive activation of its referent in the addressee's mind. So deixis yields a discourse-new referent in some context of utterance, whereas anaphora maintains an already highly salient referent in current attention focus. If however, a 3rd person pronoun like *he* were to be contrastively-accented (i.e. *HE*), then we could indeed call this use "deictic" (the prosodic, vocal highlighting constituting the "pointing gesture" here). And there would be a difference in (phonetic, prosodic) form to mark it. Yet there is no distinction in form (or indeed in terms of semantic–pragmatic properties) between the tokens of *he* in (7) ("Deictic use") and (8) ("Phoric use"). So one wonders why the distinct formal representations of each instance are needed here, in any case.

As for demonstrative pronouns and determiners, Genee claims, following Hengeveld and Mackenzie (2008, pp. 245–246), that their semantics may be handled by representing them as the expression of operators functioning at the level of the individual at RL. In English, these operators are *rem(ote)* and *prox(imal)*. She illustrates this in the following representation of the deictic use of the Np *this pen* in (9):

(9) **Deictic use of demonstrative**

((C)) (Pointing to or looking at pen) I really like *this pen*.

IL $(+id +s R_I (T_I) (R_I))$

RL $(prox\ 1\ x_i: [f_i: pen_N (f_i)) (x_i)])$

(Genee's 2011 (31))

As indicated in this representation, the referent must be identifiable by both S and A. But this is only true **downstream** of this deictic referring act: **upstream of it, only the Speaker is in a position to identify it, since it will not yet have been saliently brought to the Addressee's attention.** But specifying the identifiability of the referent of given expression types independently of their actual use in context is problematic, since the majority of indexical expressions may be used to realize **several different types** of discourse-referring procedure—in particular, pure deixis, pure anaphora, and three sub-types of "anadeixis": 'strict' anadeixis, recognitional anadeixis, and discourse deixis. The three uses of the distal demonstrative expression type *that N* in (2)–(4) above are illustrations. For while the intended referents of *that film* and *that list* in (2) and of *that quietly*

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[19] But this is to confuse the "referents" (on the "discourse" plane—see below) of indexical expressions, and their antecedent(-trigger) on the "textual" level. See Cornish (1999, 2010) for the 'antecedent-trigger'/'antecedent' distinction under this conception.

spoken voice in (3) may well be "identifiable" by the reader, the referent of *that amount of time* in (4) is clearly not—since its use requires him or her to create or establish it (via inference) from the context. In addition, the presence of the symbol 's' (for "specific reference") in the IL representations of *he* in (7) and (8), as well as of *this pen* in (9), has nothing to do with the specification of the expression types *qua* types *hors usage*, but relates solely to the nature of the reference in context that tokens of these types are being used to achieve (cf. also Perridon, 1989): yet another conflation of the system-specific properties of expression types and their in-context referential values.

Furthermore, while the proximal/distal distinction is claimed to be "semantic",[20] the appropriateness of the specific demonstrative in (9) is argued necessarily to depend on the spatial position of the pen in question relative to those of the Speaker and the Addressee in the speech situation. However, as a wide-ranging group of authors have pointed out (cf. among others, Cheshire, 1996; Glover, 2000; Strauss, 1993; Cornish, 2001), the traditional spatial or geographical dimension of the proximal/distal distinction is in fact a special case of the more basic discourse–cognitive distinction between **speaker's subjective sphere** (proximal form types) and a **distancing from speaker's sphere and/or an alignment with the addressee's** (distal form types). See the analyses given above of the various demonstrative expression tokens in examples (2)–(4) in this respect. Cheshire (1996, p. 372), for instance, notes that, in her corpus of English conversational utterances, "the proximal–distal dimension [in connection with the choice of *that* vs. *this* and vice versa] is rarely relevant", "the spatial dimension of their meaning [being] virtually always neutralised". This is also the conclusion reached by Glover (2000, p. 925) on the basis of a corpus of urban planning negotiation interactions.

Now, it is true that proponents of the "relative-geographical-distance-of-referent-from-speaker" account of demonstratives would say (as does standard FDG—in fact, Genee (2011) herself does so) that there is a "metaphorical" kind of distance involved here between the intended referent and the speaker, viewed in psychological terms. However, this analysis is not always possible for every occurrence of *that* in contrast to *this* and vice versa; and in any case, a basic "geographical" distance account would completely fail to capture the **interactional** dimension which forms an integral aspect of the use of the demonstratives, according to Strauss, Cheshire and many others.

The "phoric" ("'strict'-anadeictic", to use my term) use of demonstratives would be handled at the Representational level by specifying coreference between the anaphor and its antecedent(-trigger)—as is the case with canonical "phoric" references in FDG. In illustration, Genee proposes the following constructed text fragment (antecedent(-trigger) underlined, anaphor italicized):

(10) My husband gave me <u>a fountain pen</u> for my birthday. *That pen* is the most beautiful thing I have ever seen.
(Genee's ex. (32))

The Nps *a fountain pen* and *that pen* would be represented as in (10)′ below. Each Np presupposes the performance of a distinct referential subact, hence the non-identical indices on the R_I, R_J and T_I, T_J at IL. At RL the same entity is characterized via different predicates (*fountain pen* and *pen*), which explains the presence of non-identical indices on the f_i, f_j. The identical indices on both x_is reflect the coreference relation between them.

(10)′   **"Phoric" use of demonstrative**
<u>*a fountain pen*</u>   <u>*that pen*</u>
IL (-id +s R_I (T_I) (R_I))   (+id +s R_J (T_J) (R_J))
RL (1 x_i: [f_i: fountain pen$_N$ (f_i)) (x_i)])   (rem 1 x_i: [f_j: pen$_N$ (f_j)) (x_i)]) (Genee's (32)′)

Finally, discourse deixis,[21] according to Genee, can be accounted for in a similar manner. (However, this subtype of indexical reference is not even mentioned in Hengeveld and Mackenzie (2008): see example (4) and the discussion in Section 3.1.1 for discourse deixis). The only difference is that the antecedent(-trigger) will be "a constituent other than a Np". But this is **not** in fact a condition that is reflected in actual usage, judging from the corpora I have collected over the years. And discourse deixis (if that is what is at issue here: see note 21) is **not** simply a sub-type of "anaphora", in fact, since the referent targeted via this type of discourse-referring procedure is precisely not available as such in the co-textual or discourse context **prior to** the act of reference in question, which is responsible for actually introducing a discourse-new, inferred referent into the discourse.[22] It is a type of "anadeictic" reference, whose essential character implies a greater role for deictic than for anaphoric functioning.

Similarly, while in (9), the occurrence of *this pen* may well be analyzed as referring "pure-deictically", the token of *that pen* in (10) is not simply "phoric" (i.e. "anaphoric") in character, but rather "'strict'-anadeictic" in my (2011) typology, as already pointed out.

4. Towards a model of the wider utterance context

To account for these and other factors, I propose that the whole modular, grammatically-oriented system that is the current FDG model should be subsumed within a model of the wider utterance context, which involves real speakers and

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[20] More accurately, "semantic–pragmatic", since it necessarily takes into account the relationship holding at utterance time between speaker and addressee, who are integral parts of the context at issue.

[21] Genee actually uses the term "discourse **anaphora**" here, but it would seem she has in mind discourse **deixis**, in fact.

[22] See Cornish (2011, 2012) for discussion and exemplification, as well as example (4) and the references in note 12 above.

addressees, discourse settings, purposes and the larger socio-cultural frame of reference which accompanies these essential ingredients (see in particular, Connolly, 2007, submitted for publication, and Cornish, 2009a). The current form-oriented model of FDG may be conceived as providing a characterization of the **resources** made available to a language user by the language system at issue, in terms of the full range of form and expression **types**. That is, as is currently the case, the model would generate potential expression or utterance types within a minimal, "idealized" Context, where the situational/utterance context formulated at the Interpersonal level would be restricted to what is minimally relevant for the needs of the model's form-generating apparatus. The first, major, goal of the model (see the characterization in Section 1) would thus be preserved; but there would be no stringent requirement at the subsuming level of analysis, as there is on the standard Contextual component, to contain only material that will influence the grammatical form of the utterance to be generated. As far as possible, the existing constructs within the core FDG model (in particular, the Conceptual and Contextual components) will be used in order to supplement and/or transform the representations already present "upstream".

The output of this larger, more encompassing model would be actual utterance **tokens** as well as defeasible (revisable) **discourse representations**. I see this wider utterance context model, which we might provisionally term "Model of Discourse Interaction" (abbreviated as MDI), as applying to the outputs of each level of representation already specified within the existing FDG model, and fleshing them out as a function of the values determined by setting the relevant contextual parameters made available at this broader context level.

It would not be a question of attempting to revise the **existing** FDG model in specific ways (as is the case in Giomi (submitted for publication), and other works),[23] but of subsuming that model within a more encompassing model of the wider discourse interaction of which it would be an integral part. This would make it possible to represent the essential distinction between the language system, on the one hand, and its use in some particular context, together with other relevant capacities, on the other. This subsumption would not prejudice the existence of possible (and probable) retroactive effects upon the core specifications within the FDG model proper—I am thinking in particular of the discourse–pragmatic as well as –semantic feedback effects consequent upon the framing of the core grammar within this wider model of the utterance context.

For example, regarding the lexical dimension, semantic "broadening" or "narrowing" of lexemes as a function of utterance context and co-text (see Wilson and Carston (2007) and the analysis of (1) above). In more purely pragmatic terms, figures of speech: metonymic and metaphorical uses of lexemes and expressions, again as a function of context of utterance and co-text; irony, as opposed to 'literal' meaning in context; the drawing of inferences intended by speaker/writer and taken up by addressee/reader; the (dis)continuity of attribution of the discourse corresponding to each unit created to a particular viewpoint source (speaker, a human or personified referent evoked in the discourse, narrator, addressee/reader, etc.) spanning a sequence of discourse units; in discourse-referential terms, expanding the somewhat schematic configuration of utterance contexts in the standard FDG model, to include the speaker's selection of a particular indexical referential procedure as a function of MDI (the "model of discourse interaction"): namely, one amongst the pure-deictic, pure-anaphoric or "anadeictic" (strict-anadeictic, recognitional anadeictic or discourse-deictic) indexical referring procedures. Following this selection, choices may be made in terms of "+/-id", "+/- s", etc. as a function of the intended referent targeted via the indexical referring procedure that has been selected (a particular referent only being determinable once the wider utterance context has been properly characterized). At present, such choices are made within the (relatively decontextualised) system within the grammar itself.

In this respect, given that the wider utterance context parameters and the values set for them, as well as representations of the discourse (in my sense), would be available, the coindexing marking between "antecedent" referents and those of their discourse anaphors at RL need not be already indicated within the core grammatical model: this would be the result of the interpretation process contingent, precisely, upon the availability of this wider interactional context. Reference establishment in actual use (in face-to-face conversation, in particular) is often only effected over several dialogue turns: see in particular Geluykens (1994) as far as anaphoric reference is concerned. Coindexing need be applied already within the core model only with respect to grammatically-determined anaphoric relations (involving bound ordinary and reflexive pronouns, restrictive relative pronouns, null subjects of non-finite clauses, and so on). Furthermore, the textual contents of the core model's Contextual component as each new utterance is encountered would be expanded by the discourse-relevant textual features—including semiotically-relevant non-verbal signals and percepts—associated with preceding utterances; and the context-derived Interpersonal and Representational representations issuing from the core model would be converted into augmented discourse representations (see below for the relevant provisions within the model for these representations).

Representing the Situational Context would require the parameters associated with the various factors framing the situational utterance context to be set, as appropriate, for particular values (cf. Connolly, 2007, submitted for publication): namely, the **physical situational context**, with its narrower ("setting") and broader (the relevant wider physical universe) dimensions, and the **socio-cultural situational context**, with its own narrower ("scene", i.e. the occasion of the communicative event) and broader aspects (the norms of thought and behaviour invoked). See the box marked "Situational Context" within the revised FDG model Contextual component in Giomi's (submitted for publication) Fig. 4 (Fig. 2).

Giomi's (submitted for publication) Fig. 4 (see Fig. 2) presenting his integrated speaker-cum-hearer model of FDG is one attempt to model the wider utterance context, since the author makes provision within the Contextual component for both

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[23] See the forthcoming special issue of the journal *Pragmatics* devoted to the question of context in FDG.

text **and** *discourse*—but here his *Text* sub-component only stores the purely linguistic co-text corresponding to previous recent utterances, and does not include non-verbal signals or percepts.

Note in particular the internal tripartite subdivision of the revised Contextual component (abbreviated as 'CtxC') containing subsections for the representations of Discourse, Text and Situational Context, respectively, within this new integrated model. The dedicated discourse-contextual representations, formed in part as a function of the representations of prior co-text within the augmented Contextual component, would fit into the first of these three subsections. This would consist of representations of the prior discourse already constructed upstream of the incoming utterance; and the most recent of these would be operated upon by the discourse unit corresponding to the relevant textual unit in order to update it (see the informal analysis of (6) in Section 3.1.2, and in particular the hierarchical structure formed via the integration of the various D(iscourse)U(nit)s; note that these do not always correspond point by point to the relevant textual units). This subsection of the Contextual component would not correspond totally to the one Giomi (submitted for publication) envisages, since, as we saw in Section 3.1.2, the FDG policy which he espouses (namely to rule out of account inferences drawn from what is uttered or from features of the utterance context) would render the "discourse" that results from the purely verbal co-text unviable. In addition, in Hengeveld and Mackenzie (submitted for publication), it is simply the co-text of the previous utterances represented in separate clause-sized units at each of the four relevant levels within the Grammatical Component which is available as a record of the prior "text" (the Morphosyntactic and Phonological representations, according to Giomi) as well as "discourse" (the Interpersonal and Representational ones). But this is not "discourse" as conceived here: for no integration of the relevant representations is provided for, and implicitly introduced referents and inferences (see examples (4) and (6) above) are not taken into account—that is, it is not derived from relevant features of the wider interactional context. Unlike what appears to be the case under Giomi's conception, here there would be a time delay between the insertions of representations of the Text and the Situational Context, on the one hand, and that of the Discourse, on the other: this is so since the latter would be derived on the basis of the former two contextual factors. In psycholinguistic terms, this "augmented Contextual component" would correspond to "working memory" (cf. Baddeley, 1987; Kibrik, 2011, pp. 445–458; Cornish, 1999, pp. 209–228). The resolution of anaphors (and of indexicals generally), and hence their coindexing, would take place at this level.

The revised FDG Contextual component (cf. my suggested modifications of Giomi's (submitted for publication), model in Fig. 2) would now characterize the global as well as local state of the discourse at the point where a new utterance enters the system. That is, it would specify the macro- as well as more local topics at issue up to this point, in addition to the hierarchical relations obtaining between the discourse units already constructed, incorporating the key discourse notions of activation and information sharedness (a type of givenness) as argued by García Velasco (submitted for publication).

As we saw in analyzing the examples presented in Section 3 (see the analysis of (6) in particular), the current utterance—as well as previous ones—will be converted into discourse units, and the rhetorical or coherence relation connecting it with the discourse already constructed upstream will be assigned. This will be achieved on the basis of a number of features, the most important of which are the nature of what is predicated within the incoming utterance, the information structure the
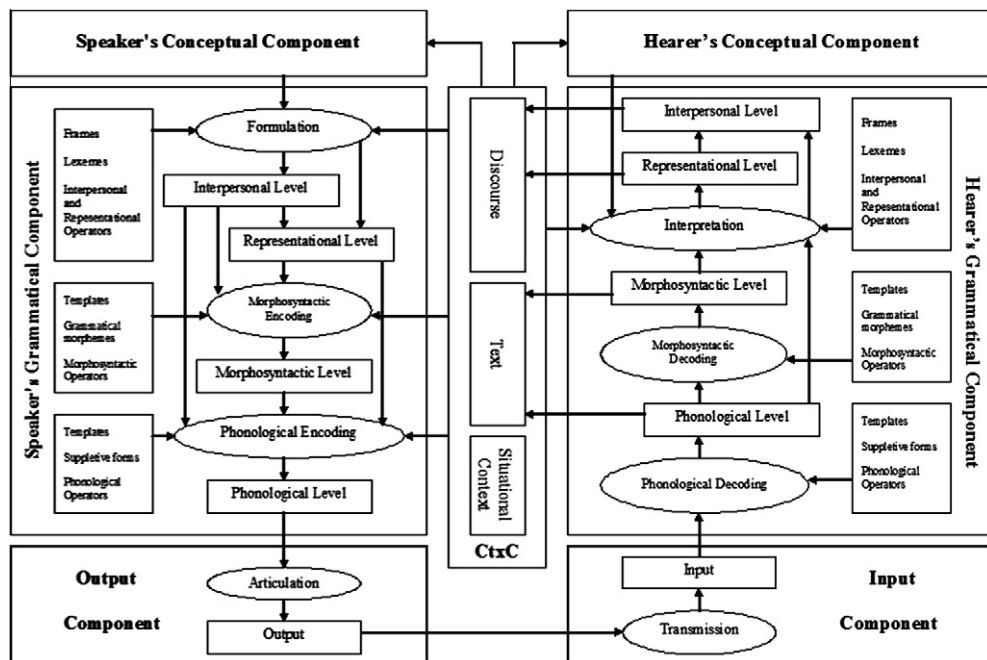

Fig. 2. Giomi's integrated model of FDG (Giomi, submitted for publication, Fig. 4).

utterance expresses, any discourse connective indicating a particular type of link to the preceding discourse context, the tense and aspectual character of the utterance, and so on.

The Conceptual Component would also need to contain a representation (varying with each new utterance) of the Addressee's current state of pragmatic, contextual knowledge, as assumed by the Speaker (see Levelt, 1999, p. 87; Bezuidenhout, 2013), as well as a representation of the discourse–cognitive source from whose point of view the discourse unit in question is being presented. And concomitantly, it should contain a representation of the Addressee's conception of the Speaker's current communicative intentions (see also Giomi, submitted for publication). Such representations are indispensable for the smooth functioning of indexical reference (canonical anaphora, "anadeixis" and canonical deixis) within discourse: see Cornish (2010) on this aspect.

In short, in order to account for *discourse*, it is clear that only an integrated model of speaker-cum-hearer, such as proposed by Giomi (submitted for publication: see Fig. 2), would be able to handle it. As argued notably by Mackenzie (submitted for publication), the revised Contextual component should be conceived as containing information that is deemed shared by speaker and addressee/hearer. So it is only once the hearer's perspective has been properly taken into account that such a situation may obtain: clearly, 'discourse' in the sense at issue here is a joint creation by both speaker and addressee, and is not the sole preserve of the speaker. In this case, provision must be made for the shared creation of discourse on the basis both of the (expanded) co-text being argued for here and on that of the wider utterance context. But in order to accommodate the indisputable fact that, nonetheless, speaker and addressee will not have constructed identical representations of the discourse at hand, provision should be made within the Contextual component for a representation of a common core of shared discourse as between the participants, but with subsections in each that would provide for non-shared representations.

5. Conclusions

To conclude, there are three main problems for the current FDG model which I have tried to bring to light in this article:

First, the fact that, although it is a model which purports to provide a revealing characterization of linguistic structure which is valid typologically, by also aiming to characterize the output of the expression-generating process in terms of the analyst's reconstruction of the types of discourse acts which a speaker of a given language may perform, it "squeezes" linguistic, system-defined factors and contextually-relevant ones into a single theoretical framework (albeit a fundamentally modular one). By doing so, it leaves itself less than fully able to capture the crucial interactions between systemic factors and those which can only be characterized by taking into account the wider context in which the language system is being used for a particular communicative purpose.[24] The model is at one and the same time attempting to do too much, in the sense that it conflates aspects of the language system and of the use of that system in context by users, and too little, since it does not take proper account of the complex system-external factors which help to determine the system-internal choices which are in fact made by a speaker.

A second problem area, which is in fact implied by the first, is the fact that it does not explicitly recognize model-internally, giving it the theoretical weight in terms of an effective "division of labour" that it clearly warrants, the important distinction between the language system and the use of that system (in conjunction with a variety of other capacities), in some context of communication. However, it is true that a distinct model of the wider context of verbal interaction is indeed anticipated by the architects of the FDG model (Hengeveld and Mackenzie, 2008, p. 25), into which the core grammatical model would be fitted. As we have briefly seen (cf. Section 4), certain of the values available via the application of the MDI to the specifications made in the core model will retroactively affect certain of these. So the core model itself is not theoretically "watertight": for invoking the MDI is actually required in order to properly describe and account for certain aspects of language expressions and their potential use which would in principle fall within the purview of the standard model. One such aspect is the structure and functions of indexical expressions, as argued in this article. For this purpose, taking into account the indispensable construction of *discourse* in the sense defined above requires a recognition of its frequent fuzziness or indeterminacy. It is for this reason that the representation of this dimension of language use should be modelled within the characterization of the wider utterance context, and not within the core grammatical model of FDG, as argued in Section 4.

For discourse (the provisional, revisable situated interpretation of the communicative event which both speaker and addressee are representing mentally as it unfolds) is indeed a (re-)constructive, and so highly probabilistic[25] matter: from the addressee's or the reader's point of view, it is in no sense a question of simply **decoding** the text (the perceptible trace of the sequence of acts of utterance being performed as the event proceeds) in order to arrive at the complete message intended by the speaker/writer. 'Meaning' does not lie completely 'within' the text; it has to be constructed by the addressee or reader (and the speaker/writer!) via the text in conjunction with an appropriate context: see in particular the analysis of example (6) in Sec-

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[24] Of course, the model was never set up to do this, in any case. Yet in this regard, FDG's architects might well say that such an interaction **is** in fact recognized in the "division of labour" that exists between the core Grammatical component, and the Conceptual and Contextual subcomponents (cf. in this respect, Hengeveld and Mackenzie, 2008, p. 6). Yet in reality, all of these constructs are part of the expression-generating apparatus, thus serving essentially to specify the resources a given language places at its users' disposal. In particular, FDG does not recognize certain factors and distinctions which are crucial for the explanation of deixis, anadeixis and anaphora—precisely because, as I have tried to argue here, these distinctions are part of the wider model of discourse interaction which core FDG is not currently set up to model.

[25] See also Butler (2012, p. 631) on this issue.

tion 3.1.2. Conceived in terms of actual contexts of communication, the text is but a sequence of 'hints' or instructions to (a) invoke a relevant context (or rather contexts) and (b) create discourse as a function of it or them (cf. Columbia School work, as well as Relevance Theory). It is always incomplete and indeterminate in relation to the discourse that may be derived from it with the help of a context – including knowledge of the world, the genre of which the text at hand is an instance and the social and communicative conventions that regulate the relevant language event.

So it is necessary to make explicit, principled provision for a distinction between the two separable dimensions of *text* and *discourse* – a distinction whose repercussions for a realistic account of indexical reference in discourse (and for a great many other areas of language use as well) are profound and far-reaching. Currently, however, it is only the relevant co-text of earlier utterances which is represented within the Contextual component—at each of the relevant levels of analysis: Interpersonal, Representational, Morphosyntactic and Phonological (cf. Hengeveld and Mackenzie, submitted for publication).

The third problematic area which I have tried to pinpoint has to do with the accurate accounting for **indexical reference** by means of the descriptive machinery the model makes available. As we have seen, it is important to separate those factors that relate to the linguistic units that are used in realizing each of the various discourse-referring procedures in some appropriate context, on the one hand, and the properties and values which accrue from their use as such, on the other. But current FDG does not (indeed, cannot, as it stands) do this consistently. What is needed as a prerequisite to characterizing the expression types that are used to this end, is a precise account of the **procedures** that may achieve indexical reference in context *per se*: deixis, anaphora and "anadeixis" (with each of its various sub-types).

If this is accepted, then the systemic characterizations of each type of indexical can (and should) in fact be much more parsimonious than has hitherto been the case in FDG: for example, as we saw in Section 3.1.2, there would be no need to specify values for the features "id" or "s" at the IL stage, since these would fall out of the choice of indexical referring procedure at this same level in a derivation and the contextual presuppositions that are associated with each one. In addition, as already mentioned, there would be no requirement for non-clause-bound anaphoric dependencies to be formally marked via coindexing at RL, as is the case in the standard model. But as a corollary, the "wider theory of verbal interaction" called for by Dik (1997) and the broader and richer socio-cultural context invoked by Genee (2011), Connolly (submitted for publication), Butler (2008) and anticipated by Hengeveld and Mackenzie (2008, p. 25) themselves, must be made tractable, and its myriad points of interaction with the system-determined units which are made available via the modular FDG framework, specified. Section 4 provides a sketch of the broad outlines of one such model.

Connolly's (submitted for publication) proposal of a new component termed "Functional Discourse Pragmatics", for which his "Extended Model of Context" is the embryo, would appear to be a first step in this direction. The system-determined aspects of the model would characterize **types** of units only, while the context-of-use-determined ones would specify **tokens** of these types. In that way, the grammatical, typological goal of the model would be achievable without affecting the independent modelling of discourse acts—by definition a context-bound phenomenon; and the latter goal would then be more feasible, in interaction with the former.

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