GRAMMAR AND CONTEXT IN FUNCTIONAL DISCOURSE GRAMMAR

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Abstract

This article presents a proposal for the organization of the Contextual Component in Functional Discourse Grammar. A guiding principle in this proposal is that, given the fact that Functional Discourse Grammar is a theory of grammar, the Contextual Component should provide the information that is necessary for a proper functioning of the grammar rather than aim at an exhaustive specification of all the information that plays a role in interpreting linguistic expressions. The Contextual Component contains situational and discursive information and is organized in different strata that correspond to the interpersonal, representational, morphosyntactic, and phonological levels of representation within the grammar. The contextual representations make use of the same formalizations as the corresponding linguistic representations, thus allowing for direct exchange of information between the Grammatical and the Contextual Components. Thus exchange of information is handled by an interface called the *contextualizer*. The article illustrates the functioning of this model by analyzing the role of contextual information with respect to three grammatical phenomena in three different languages: Unexpressed arguments in Turkish, English *too*, and answers to yes/no questions in European Portuguese.

Keywords: Context; Functional Discourse Grammar; Grammatical theory; Unexpressed arguments; yes/no questions.

1. Introduction

The aim of this paper is to give a further elaboration of our view of the interaction between grammar and context in Functional Discourse Grammar (FDG) as first presented in Hengeveld & Mackenzie (2008).[1] Section 2 addresses the issue of

Abbreviations used: 1 = first person, 2 = second person, 3 = third person, ABIL = ability, ABL = ablative, ACC = accusative, ACT = actor, AUX = auxiliary, CAUS = causative, DAT = dative, DEF = definite, LOC = locative, NEG = negation, PF = perfective, PL = plural, POSS = possessive, PST = past, PST.PRT = past participle, Q = question, REC = recipient, REP = reportative, SG = singular, STAT = stative.

delimiting the extent to which contextual considerations may play a role in FDG. Section 3 contains a proposal concerning the internal organization of the Contextual Component, based on and paralleling the multilevel architecture of FDG. In Sections 4-6 we discuss three examples of the working of the proposed model, one concerning unexpressed arguments in Turkish, one concerning the use of English *too*, and the last one concerning answers to yes/no questions in European Portuguese. In Section 7, we round off this paper with our conclusions.

2. Context in FDG

FDG consists of four Components, which together make up its model of verbal interaction. The central component, the FDG proper, is the Grammatical Component. The other three components, the Contextual Component, the Conceptual Component and the Output Components, are ancillary to the Grammatical Component.[2] They interface in different ways with the two fundamental operations that occur within the Grammatical Component, the operations of Formulation and Encoding (for an overview of the interaction of the components, see Figure 1).

 Formulation is an operation that yields valid pragmatic and semantic representations, shown as the Interpersonal Level and Representational Level respectively. Encoding is an operation that translates the information represented at these Levels into Morphosyntactic and Phonological Levels.

 The Conceptual Component develops a communicative intention that is relevant for the current speech event, and as such interfaces with the operation of Formulation, which converts the intention into language-specific representations at the Interpersonal and Representational Levels. The Output Component interfaces with Encoding, specifically the Phonological Level, which it converts into Phonetic Form (or alternatively into written form or in the case of gestural languages into gestural form). The Contextual Component interfaces with the entire Grammatical Component, since – as we shall see – every aspect of the formulation and encoding of linguistic units may be sensitive to contextual factors.

 The interaction between the Grammatical and Contextual Components is so extensive that the Contextual Component should be seen as a companion to the Grammatical Component, collaborating with it to achieve contextually appropriate outputs. 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. Languages are sensitive in different ways to the influence of context upon form, and the relationship between the Contextual and Grammatical Components may differ in detail from language to language. In a now disused avoidance vocabulary of Dyirbal known as Jalnguy (Dixon 1990), for example, the presence of a mother-in-law in the conversation situation affected the possibilities of using all but four lexical items: *guray* 'rosy silky oak', *miyabur* 'helicia australasica'

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[2] It is interesting to note some correspondences between our components and Grosz & Sidner's (1986) 'constituents' of discourse structure. Their 'intentional structure' roughly corresponds to our Conceptual Component, their 'attentional structure' to our Contextual Component, and their 'linguistic structure' to our Grammatical Component. We are convinced that there is room for future work on the complementarity between their approach to discourse and our approach to grammar.

and *jungan* 'bull oak', for instance (Dixon 1990: 2), were obligatorily replaced in Jalnguy by the more general *gurruŋun* 'oak' (there is no general term for 'oak' in standard Dyirbal). This is a good example, because the rules forbidding the presence of the more specific words in avoidance style are systematic. The impact of the Contextual Component will always be of this type: Its specifications have systematic effects upon the operations within the grammar.
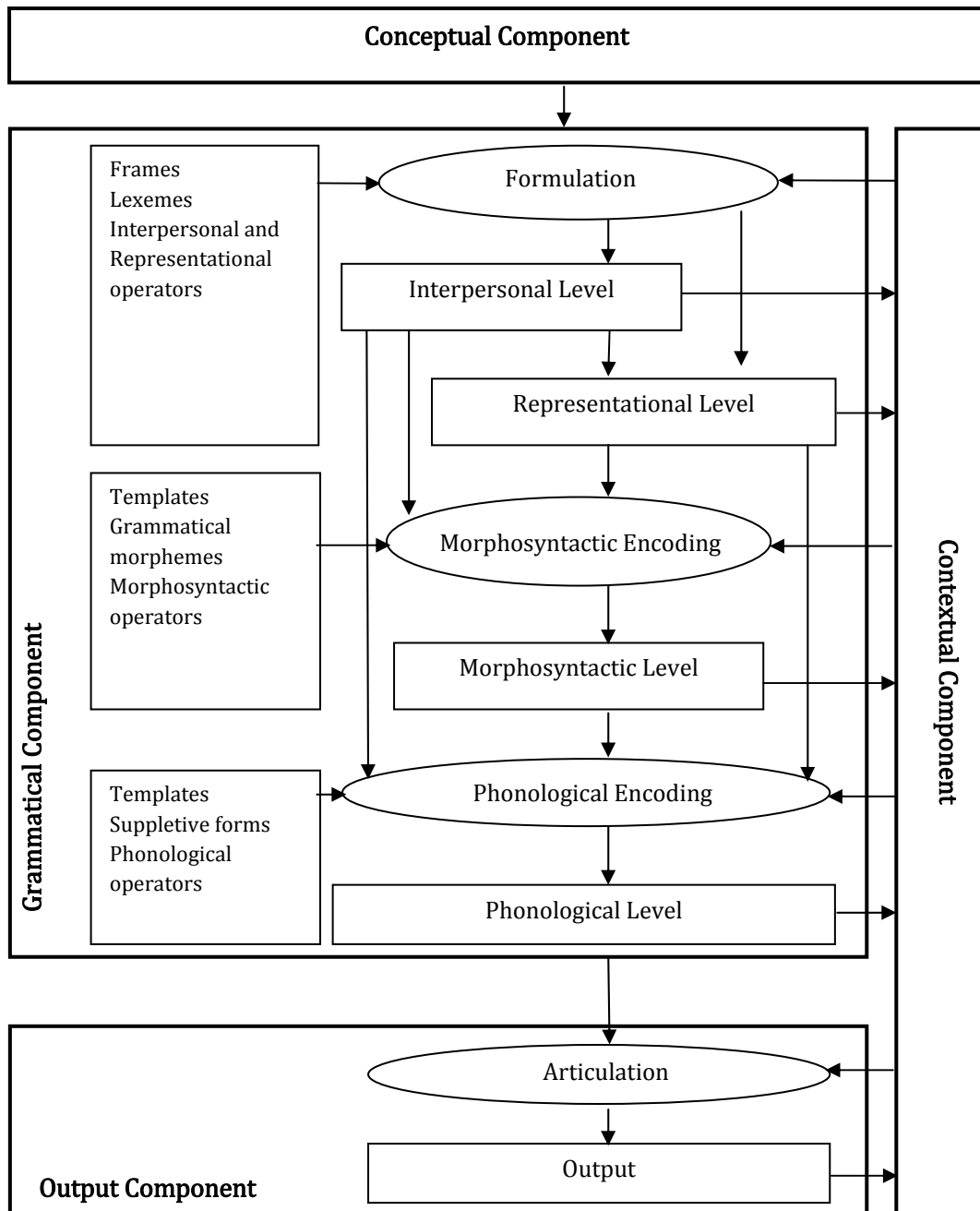

Figure 1. The architecture of Functional Discourse Grammar

A consequence of our position is that Contextual Components are not identical across languages. Individual grammars rely to some extent on different pieces of contextual information, as a result of which the organization of their Contextual Components may vary. 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[3] 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 make no reference to 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.

Note that by taking this restrictive view of the Contextual Component we do not wish to deny the relevance of other types of contextual information 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.

In our proposal the Contextual Component is divided into four Strata, each Stratum corresponding to one of the Levels of the Grammatical Component.[4] Each Stratum in turn covers either one or two kinds of information, Discoursal and Situational. Situational information is relevant at the Strata that correspond to the two Formulation levels,[5] the Interpersonal and Representational Levels. Discoursal information is available at all four Strata.

Situational information offers a language-specific selection of those details of the speech situation that have relevance for Formulation. It should be stressed that this Situational information is dynamic, continually adapting itself to the current interactional circumstances. Situational information covers three distinct dimensions (Connolly 2007, this volume; Rijkhoff 2008; Cornish 2009). Firstly, it includes an indication of the current participants in the speech event (the number and nature of whom may change during a verbal interchange) and all the properties of those interactants that are relevant in the language under analysis. In many languages, the sex of the speakers is important for grammatical distinctions, but not in all; in others the social relationship between them is important, determining the *tu/vous* distinction in many European languages or the honorific distinctions in languages such as Javanese, Japanese and Korean, but again not in all. It will also be important to indicate the presence of multiple communicators, which is for example relevant for the formation of hortatives in certain languages. In some languages the presence of bystanders, eavesdroppers, and ratified vs. non-ratified participants (cf. the discussion of mothers-in-law above) can all potentially impact formulation and encoding in systematic ways.

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[3] 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.

[4] There is a further stratum corresponding to the Output Level in the Output Component, but we will not discuss that Level here. See O'Neill (this volume) for an example of the interaction between the Output Component and the Contextual Component.

[5] And at the Output Component, which, as mentioned, we will not discuss here.

Secondly, aspects of the locale where the speech event is taking place will also be important, so that speakers can indicate (culturally) prominent landmarks with mere deictics. In Tidore (Van Staden 2000: 330ff), spoken on a small volcanic island, there are four landmarks, 'sea' and 'land', 'up' and 'down', which play an essential role in all expressions of motion, no matter how minor: It is therefore essential that in a grammar of Tidore the Contextual Component continually register the current position of the speaker with regard to these two dimensions.

Thirdly, the Situational information will contain an indication of the time of the speech event. As the changes take place in the dynamic Contextual Component, there is an awareness of the passage of time, which we may call the Component's 'clock'. This is relevant, for example, for the establishment of Absolute Time and for the relations of Relative Time which are vital for the operators and modifiers applied at the Episode and State-of-Affairs layers respectively within the Representational Level. This time dimension also lies at the basis of the notion of stacking and decay to be discussed below and is thus also essentially connected to the distinction between Given and New information. But this takes us on to the other type of information located in the Contextual Component, Discoursal information.

Discoursal information, which is found at all four Strata, takes the form of a set of pushdown stacks, which together record, for each linguistic unit as it is created, the information that has been formulated or encoded in the Grammatical Component. Thus the Discoursal information at the Interpersonal Stratum records the Interpersonal Level analysis of all preceding Discourse Acts, with the most recent being placed highest on the stack. The lowest items on the stack gradually decay, mimicking the limitations on episodic memory. The next Discourse Act will move to the top of the stack, pushing the previous top item down one place. In FDG, all Levels have internal hierarchical layering, and each Layer forms its own pushdown stack within the Discoursal information. At the Interpersonal Stratum, for example, there are pushdown stacks for the Layers Move, Discourse Act, Communicated Contents and Subact. For details of the various Strata, see below.

One of the purposes of storing Discoursal information is to allow anaphoric and cataphoric[6] reference to any of the aspects of preceding and following utterances. In 3.2 we show that anaphors can refer back to many different characteristics of earlier material; this can only be achieved by recording all the details of preceding units in the Contextual Component. Another important advantage is that there is a clear basis for distinguishing between Given information (stored in the Contextual Component) and New information (which enters the system in the Grammatical Component).

It should be noted that much of what is commonly considered to be the effect of context on grammar cannot be handled within the approach defended here. Many individual choices of communicative strategy rely not only on the information immediately available in the discoursal and situational context, but also on long-term encyclopaedic knowledge, which Evans & Green (2006: 221), for example, ascribe to context. Furthermore, inferences based on what is expressed or what is not expressed may count as triggers for certain grammatical processes. These inferences are often personal in nature and are therefore not systematic. All these cases cannot be dealt with

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[6] In cases of cataphoric reference an address is created in the Contextual Component that has to be filled with lexical material once the antecedent is specified.

in the model of verbal interaction associated with current FDG, but would require its integration into a much wider model of the human mind, which goes beyond our ambitions. However, cases in which the Contextual Component can interact with this inferential faculty will be mentioned below.

The view that emerges, then, is of a Contextual Component that is very much linked to the Grammatical Component for the particular language being used. It is not a static warehouse but a complex, stratified phenomenon that is dynamically sensitive to the needs of the grammar at any one time.

3. The organization of the Contextual Component

3.1. *Introduction*

This section contains a proposal for the representation of context in FDG. Section 3.2 first discusses where the Contextual Component obtains its information from. Section 3.3 inverts the picture and looks at how contextual information enters the grammar. Section 3.4 elaborates on the notion of 'stacking', which is an important notion in a dynamic view of the Contextual Component, in which old information fades out and new information comes to the fore. Section 3.5 contains our actual proposal for the representation of contextual information in the Contextual Component.

3.2. *Filling in the Contextual Component*

As mentioned above, the Contextual Component is fed information from two different sources.

First, it receives information from the ongoing discourse, as all aspects of earlier contributions are stored in the Contextual Component, such that posterior reference to these aspects is possible. The need to do so is argued for in Hengeveld (2005) and Hengeveld & Mackenzie (2008), where it is shown that anaphoric reference can be made to Interpersonal, Representational, Morphosyntactic, and Phonological aspects of preceding contributions to the discourse, using the examples given in (1)-(4):

Interpersonal Level
(1)   A   Get out of here!
       B   Don't talk to me like **that**!
Representational Level
(2)   A   There are lots of traffic lights in this town.
       B   I didn't notice **that**.
Morphosyntactic Level
(3)   A   I had *chuletas de cordero* last night.
       B   Is **that** how you say 'lamb chops' in Spanish?
Phonological level
(4)   A   I had */tʃuletas#de#kordero/* last night.
       B   Shouldn't **that** be */tʃuletas#de#θordero/*?

In (1B) the anaphoric element *that* refers back to the communicative strategy chosen by A, which is part of the Interpersonal Level of organization in the Grammatical

Component. In (2B) *that* refers back to the situation in the external world that is described within (2A), which pertains to the Representational Level in the Grammatical Component. The anaphoric references in (3B) and (4B) are different since they are metalinguistic in nature. In (3B) *that* does not refer to the entity described by *chuletas de cordero* but to the phrase 'chuletas de cordero' as such, which is part of the Morphosyntactic Level within the Grammatical Component. In (4B) the phonological makeup of the word *cordero* is referred to, which pertains to the Phonological Level within the Grammatical Component. All information that enters the Contextual Component based on the preceding discourse was called *discoursal* in Section 2.

A second source of information for the Contextual Component concerns the physical context within which communication takes place. Here information about the speech situation, including the identity and properties of the speech participants (P_N), the time of the speech situation T_0, and the place of the speech situation L_0 is registered, as well as information about everything that is perceived in the physical surroundings of the speech situation. This includes properties, individuals, states of affairs, etc. that are present in the speech situation. All information that enters the Contextual Component from the physical context in which communication takes place was called *situational* in Section 2.

In sum, the following information is present in the Contextual Component:

Situational
Speech situation:	Participants, utterance time, utterance place
Physical world:	Perceived entities, such as individuals, events, properties, etc.

Discoursal
Interpersonal:	Acts that have been executed in the previous discourse
Representational:	Entities that have been denoted in the previous discourse
Morphosyntactic:	Morphosyntactic units that have been produced in the previous discourse
Phonological:	Phonological units that have been produced in the previous discourse

3.3. *The Contextual Component feeding the Grammatical Component*

The way in which information feeds from the Contextual Component into the Grammatical Component is not organized in the same way: In this process both situational and discoursal information may be simultaneously relevant. For an entity to be contextually salient, for instance, both its visual or audible presence in the physical world surrounding the speech situation and its previous mention in the discourse may play a role, such that situational and discoursal information both contribute to its contextual saliency. So from a Context-to-Grammar perspective, the categories of contextual information listed above have to be sorted in a different way, where, we suggest, the various Levels distinguished within the Grammatical Component are decisive. As stated in Section 2, within the Contextual Component there are Strata that correspond one-to-one with the Levels of the Grammatical Component. There are Interpersonal, Representational, Morphosyntactic, and Phonological Levels in the Grammatical Component, and parallel to these there are Interpersonal, Representational, Morphosyntactic, and Phonological Strata in the Contextual Component. The

Interpersonal and Representational Strata in the Contextual Component receive both discoursal and situational information, while the Morphosyntactic and Phonological Strata receive discoursal information only. This leads to the following classification:

Interpersonal Stratum: (i) Situational source: participants, utterance time, utterance place; (ii) Discoursal source: Acts that have been executed in the previous discourse.

Representational Stratum: (i) Situational source: perceived entities, such as individuals, events, properties; (ii) Discoursal source: entities that have been denoted in the previous discourse

Morphosyntactic Stratum: Discoursal source: morphosyntactic units that have been produced in the previous discourse

Phonological Stratum: Discoursal source: phonological units that have been produced in the previous discourse

By organizing the Contextual Component in this way we do not mean to suggest that the Interpersonal Stratum within the Contextual Component may only influence the Interpersonal Level within the Grammatical Component, the Representational Stratum only the Representational Level, etc. The perceivability of an entity in the physical world at the Representational Stratum within the Contextual Component may, for instance, lead to the selection of this entity as the Topic of a Discourse Act at the Interpersonal Level within the Grammatical Component. In example (4) above a unit at the Representational Level within the grammar denotes a unit at the Phonological Stratum within the Contextual Component, etc.

3.4. *Stacking and decay*

The feeding of the Contextual Component is a dynamic process, in which certain information fades out over time (see Grosz & Sidner 1986: 180), while more recent updates are more prominently present. This temporal dimension of the Contextual Component is implemented in our proposal by means of a stacking procedure: Information that is last fed into the Contextual Component occupies the highest position on a stacked list. Applying this, for instance, to the presence of individuals within the Representational Stratum of the Contextual Component, the discourse in (5) would progressively lead to the stack in (6):

(5) Ian_k met $Mary_l$ yesterday. He_k had just visited Ann_m, who_m is looking after $Mary_l$'s dog_n.

(6) (x_k) (x_l) (x_k) (x_m) (x_m) (x_l) (x_n)
       (x_k) (x_l) (x_k) (x_k) (x_m) (x_l)
                              (x_l) (x_l) (x_k) (x_m)
                                                          (x_k)

Stacking is thus a way of implementing the notion of contextual saliency, which should not be confused with activation state. Contextual saliency is an observable feature of texts and situations and relies on the actual mention of an entity in a discourse or its actual perception in the situation in which a text is produced. Contextual saliency is therefore necessarily shared between interlocutors, a crucial property of contextual information (see Mackenzie, this volume). Activation state is a highly individual notion,

as it may, for instance, depend on factors such as personal engagement or obsession with an entity. Activation state as a notion is therefore relevant within the Conceptual Component, contextual saliency within the Contextual Component.

Stacks do not grow without limits. At some point elements at the bottom of a stack will fade away. This too may have grammatical consequences. The following example is from Nheengatú (Cruz 2011: 530-531). In this language a fundamental distinction is made between thetic and categorial statements: In the former the explicit subject follows the predicate, in the latter the subject precedes the predicate or remains unexpressed. Thetics are used to introduce or reintroduce new referents. In the text below, (7a) and (7b) have *Sofia* as their topic. There is a brief shift to another topic in (7c), which leads to the explicit mention of *Sofia* in (7d), though not in a thetic statement. Only after the long interruption that follows (7d), with various other topics being discussed, does the return to the original topic *Sofia* have to be realized by means of a thetic statement. We may interpret this as a sign that *Sofia* has disappeared from the stack and has to be reintroduced.

(7)   a.   Sofia paa   sera.
                Sofia REP   3.SG.STAT.name
                'It is said that her name was Sofia.'
    b.   U-sika   paa   mimi Kuyari   apira sui.
                3.SG.ACT-arrive   REP   far   Cuiari   up   ABL
                'It is said that she came from far up there, from Cuiari.'
    c.   Ta-mbeu   paa   Karaka   upe.
                3.PL.ACT-tell   REP   Caracas   LOC
                'They told that she had been in Caracas.'
    d.   Mimi Kuyari   apira Sofia u-ri.
                far   Cuiari   up   Sofia 3.SG.ACT-come
                'Sofia came from far up there, from Cuiari.'

                [long stretch about religion, with various other entities being introduced]

    e.   U-sika   Sofia.
                3.SG.ACT-arrive   Sofia
                'Sofia arrived.'

Of course, the simple stacking procedure proposed here would have to be fine-tuned in many ways. Not every mention will have the same effect. The explicit (re-)introduction of a new topic will have a stronger effect on contextual saliency than, for instance, the mention of an entity as an attribute of another one. Rules regulating the position of an entity in a stack may furthermore be language-specific. The general procedure is appropriate to capturing what we understand by contextual saliency.

3.5. *Representation*

We are now ready to propose a representational system for the Contextual Component in FDG. Given our point of departure specified above that the Strata within the Contextual Component are organized in parallel with the Levels within the Grammatical Component, it is just a small step to assuming that the representations within the

Contextual Component use the same symbols as those used in the Grammatical Component. This is justified by the fact that the Discoursal information in the Contextual Component contains units that are taken over directly and automatically from the Grammatical Component, with the labels they have acquired there; the Situational information is represented in the same way as the Discoursal information in order to achieve unity within the Contextual Component. This close relation between the two components leads to parallel representations, which simplifies the exchange of information between the two components. The relation between the components is set out in Figure 2, which is schematic in that it does not fill in all of the detail that is necessary for the Contextual Component; this we will postpone to the following sections, where we discuss a number of concrete examples. What is shown here is, however, the parallelism between Levels and Strata and the identical ways of representing Levels and Strata. The representation in Fig. 2 also shows a basic implementation of the ideas of stacking, as the units entered most recently in the Contextual Component appear in first position in the relevant lists, as can be seen from the order of the indices used.

	Grammatical Component	Contextual Component
IL	$(M_K: (A_K: [(F_K) (P_I)_S (P_J)_A (C_K) ...$	Situational: P: $(l\ P_I:$ Sheila $(P_I)),$ $(h\ P_J:$ Mr Smith $(P_J))$ T: $T_0 = $ <date, time> L: $L_0 = $ <coordinates>[7] Discoursal: M:　　(M_J) 　　　(M_I) A :　(A_J) 　　　(A_I)　　　　　　etc.
RL	$(p_k: (ep_k: (e_k: (f_k: [(f_l) (x_k) ...$	Situational: x:　　$(x_j:$ clock $(x_j))$ 　　　$(x_h:$ dish $(x_h))$ f:　　$(f_j:$ temperature $(f_j))$ 　　　$(f_i:$ green $(f_i))$　　etc. Discoursal: x:　　(x_i) 　　　(x_g)　　　　　　etc.
ML	$(Le_k: (Cl_k: [(Xp_k: [(Xs_k) (Aff_k)...$	Discoursal: Le:　(Le_j) 　　　(Le_i) Cl:　(Cl_j) 　　　(Cl_i)　　　　　etc.
PL	$(U_k: (IP_k: [(PP_k: [(PW_k: (S_k) ...$	Discoursal: U:　　(U_j) 　　　(U_I) IP:　(IP_j) 　　　(IP_i)　　　　　etc.

Figure 2. The representation of the Contextual Component

[7] The use of longitude and latitude is introduced here as a shortcut. In a particular situation, it may be more appropriate to use 'landmarks' shared by the communication partners (e.g. 'home', 'near the sea', etc.).

This model is schematic for practical reasons, and lists all the stacks separately. A more principled representation would give an integrated representation per level, as for instance in the following fragment of the Representational Stratum.

$(p_i$:
    $(ep_i$:
        $(e_i$:
            $(f_i$:   etc.
        $(e_j$:
            $(f_j$:   etc.
    $(ep_j$:
        $(e_k$:
            $(f_k$:   etc.
$(p_j$: etc.

The important thing here is that horizontally the hierarchical structure is respected, while vertically the stack-relations between units of like rank are represented.

       The interaction between the Grammatical and the Contextual Components is a complex one, as mentioned earlier, and has to be handled by an interface, the Contextualizer, which takes care of the many-to-many relationships between Levels and Strata. The interaction may be represented schematically as in Figure 3.

		Grammatical Component		Contextual Component
IL		$(M_K$: etc		Situational:
				Discoursal:
RL		$(p_k$: etc	Contextualizer	Situational:
				Discoursal:
ML		$(Le_i$: etc		Discoursal:
PL		$(U_i$: etc		Discoursal:
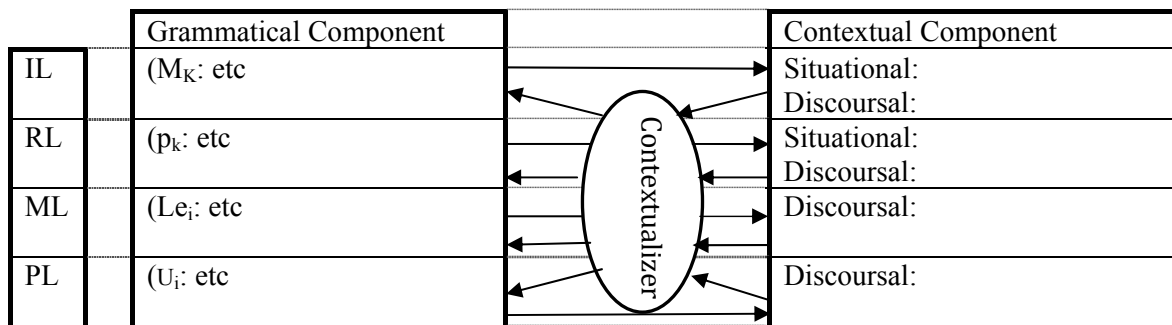
Figure 3. The Contextualizer

The Contextualizer takes input from all four Strata of the Contextual Component and distributes information as appropriate to any or all of the four Levels of the Grammatical Component. Discoursal information at the Phonological Stratum, for example, can impact the Grammatical Component at the Interpersonal Level.

       In order to illustrate the working of the model outlined above we will elaborate three examples in the next three sections, the first concerning unexpressed arguments in Turkish, the second the use of the English word *too* and the third concerning answers to yes/no questions in European Portuguese.

4. Unexpressed arguments in a Turkish example

Consider the following example from Turkish (Öztürk 2002: 241):[8]

(8) a *(Ben) ev-e   gel-di-m.
         I   house-DAT   come-PST-1.SG
         'I came home.'
     b. (*Ben) kitap   oku-du-m.
         I   book   read-PST-1.SG
         'I read a book.'
     c. (*Ben) televizyon   seyret-ti-m.
         I   television   watch-PST-1.SG
         'I watched television.'
     d. *(Sen) ara-dı-n.
         you   call-PST-2.SG
         'You called.'

This example is discussed in Hengeveld (2012) as proof of the fact that Turkish is a language that exhibits contextual agreement, i.e. nominal subject arguments may be dropped, in which case the verb can be said to agree with a contextually given argument, from which the agreement properties are copied to the verb. In order to do the copying, the argument triggering agreement thus has to be accessible in the Contextual Component. Under this analysis, the progression in (8) can be understood as a result of the interaction between grammar and context in the way indicated in the following representations. The starting point is (8a). Assuming this is the first utterance in a conversation, the Contextual Component contains very little information at the moment this first utterance is produced. Given that there is no stack of potential referents, the subject term has to be realized overtly and takes the form *ben* 'I'.

For (8b) the contextual specification now contains two potential referents, including (x_i), corresponding to the speaker, as specified in the situational Representational Stratum (RS) in the Contextual Component. The availability of this referent high up in the stack allows for the dropping of the subject in (8b). In the morphosyntactic representation of this sentence the subject Np is missing. In order to account for verb agreement the features of this Np have to be retrieved from the Contextual Component, in which it is stored as Np_i.

As (8b) reinforces (x_i)'s referential status, it maintains its high position at the moment when (8c) is produced. Again, dropping of the subject is licensed by the presence of this referent high up in the stack in the Contextual Component, from where the relevant agreement properties can again be retrieved.

In (8d), however, a new participant is introduced (new at the Representational Level, that is). As this referent is not available in the Contextual Component at all, it has to be realized overtly in the form of *sen* 'you'.

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[8] An asterisk preceding the brackets indicates that the item concerned cannot be left out, while an asterisk following the bracket indicates that the item concerned has to be left out.

8a	Grammatical Component	Contextual Component
IL	$(A_I: [(F_I: DECL (F_I)) (P_I)_S (P_J)_A (C_I: [(T_I) (R_I: [+S, -A] (R_I))_{Top} (R_J)] (C_I))] (A_I))$	Situational: P: $(P_I: Hasan (P_I))$ $(P_J: Mohamed (P_J))$ T: T_0 = April 21, 2011, 16.02.06 L : L_0 = Latitude: 41° 1' 7 N, Longitude: 28° 57' 53 E Discoursal: --
RL	$(past\ ep_i: [(sim\ e_i: - (f_i: gel- (f_i)) (1x_i)_A (x_j: ev- (x_j))_L - (e_i))$	Situational: x : $(x_i) = (P_I)$[9] Discoursal: --
ML	$(Cl_i: [(Np_i: ben (Np_i))_{Subj} (Np_j: eve (Np_j)) (Vp_i: geldim (Vp_i))] (Cl_i))$	Discoursal: --
PL	$(U_i: / - ben\ eve\ geldim - / (U_i))$	Discoursal: --

8b	Grammatical Component	Contextual Component

IL	$((A_J: [(F_J: DECL (F_J)) (P_I)_S (P_J)_A (C_J) [(T_J) (R_K)] (C_J))] (A_J))$	Situational:
		P: $(P_I: Hasan (P_I))$
		       $(P_J: Mohamed (P_J))$
		T: T_0 = April 21, 2011, 16.02.08
		L: L_0= Latitude: 41° 1' 7 N,
		       Longitude: 28° 57' 53 E
		Discoursal:
		$(A_I: [(F_I: DECL (F_I)) (P_I)_S (P_J)_A (C_I: [(T_I) (R_I: [+S, -A] (R_I)) (R_J)] (C_I))] (A_I))$

RL	$(Sim\ e_j: - (f_j: oku- (f_j)) (x_i)_A (x_k: kitap- (x_k))_U - (e_j))$	Situational: x: $(x_i) = (P_I)$ t: past $< T_0$ Discoursal: ep: $(past\ ep_i)$ e: $(sim\ e_i: - (f_i: gel- (f_i)) (x_i)_A (x_j: ev- (x_j))_L - (e_i))$ x: $(x_j: ev- (x_j))$ (x_i)
ML	$(C (Cl_j: [(Np_l: kitap (Np_l)) (Vp_j: okudum (Vp_j))] (Cl_j))$	$Cl: (Cl_i: (Np_i: ben (Np_i))_{Subj} (Np_j: eve (Np_j)) (Vp_i: geldim (Vp_i))] (Cl_i))$
PL	$(U (U_j: / - kitap\ okudum - / (U_j))$	$U: (U_i: / - ben\ eve\ geldim - / (U_i))$

___

[9] P_I has to be specified at this stratum, as it is not only a speech act participant, but also a participant in the State-of-Affairs that is being described. This is not the case for P_J.

8c	Grammatical Component	Contextual Component
IL	$(A_K: [(F_K: DECL (F_K)) (P_I)_S (P_J)_A (C_K: [(T_K) (R_L)] (C_K))] (A_K))$	Situational: P: $(P_I: Hasan (P_I))$ $(P_J: Mohamed (P_J))$ T: T_0 = April 21, 2011, 16.02.10 L: L_0= Latitude: 41° 1' 7 N, Longitude: 28° 57' 53 E Discoursal: A: $(A_J: [(F_J: DECL (F_J)) (P_I)_S (P_J)_A (C_J) [(T_J) (R_K)] (C_J))] (A_J))$ $(A_I: [(F_I: DECL (F_I)) (P_I)_S (P_J)_A (C_I: [(T_I) (R_I: [+S, -A] (R_I))_{Top} (R_J)] (C_I))] (A_I))$

RL	$(Sim\ e_k: - (f_k: seyret- (f_k)) (x_i)_A (x_l: televizyon- (x_l))_U - (e_k))$	Situational:
		x: $(x_i) = (P_I)$
		t: $past < T_0$
		Discoursal:
		ep: $(past\ ep_i)$
		e: $(sim\ e_j: - (f_j: oku- (f_j)) (x_i)_A (x_k: kitap- (x_k))_U - (e_j))$
		        $(sim\ e_i: - (f_i: gel- (f_i)) (x_i)_A (x_j: ev- (x_j))_L - (e_i))$
		x: $(x_k: kitap- (x_k))$
		       (x_i)
		       $(x_j: ev- (x_j))$

ML	$(Cl_k: [(Np_n: televizyon (Np_n)) (Vp_k: seyrettim (Vp_k))] (Cl_k))$	Discoursal: Cl: $(Cl_j: [(Np_l: kitap (Np_l)) (Vp_j: okudum (Vp_j))] (Cl_j))$ $(Cl_i: [(Np_i: ben (Np_i))_{Subj} (Np_j: eve (Np_j)) (Vp_i: geldim (Vp_i))] (Cl_i))$
PL	$(U_k: / - televiˈzjon sejˈret:im - / (U_k))$	U: $(U_j: / - kitap okudum - / (U_j))$ $(U_i: / - ben eve geldim - / (U_i))$

Though the examples may seem to suggest that in (8b) and (8c) we are dealing with Subject drop or Topic drop, other examples show that it really is the contextual givenness of a referent that determines the dropping of arguments. In (9b) (Kornfilt 1997: 89) both the Actor and the Undergoer are dropped, which is licensed by their contextual givenness:

(9) a Kitab-ı   bit-ir-di-n   mi?
        book-ACC   finish-CAUS-PST-2.SG   Q
        'Did you finish the book?'
     b Hayır,   bit-ir-e-me-di-m.
        no   finish-CAUS-ABIL-NEG-PST-1.SG
        'No, (I) couldn't finish (it).'

And in (10b) (Kornfilt 1997: 90) both the Actor and the Recipient are dropped, again licensed by their contextual givenness:

(10) a Ali-ye   gazete-yi   mi   ver-di-n?
         Ali-DAT   newspaper-ACC   Q   give-PST-2.SG

      'Did you give the newspaper to Ali?'

b   Hayır,   kitab-ı   ver-di-m.
    no,   book-ACC   give-PST-1.SG
    'No, (I) gave the book (to him).'

8d	Grammatical Component	Contextual Component

IL	$(A_L: [(F_L: \text{DECL} (F_L)) (P_I)_S (P_J)_A (C_L: [(T_L) (R_M)] (C_L))] (A_L))$	Situational:
		P: $(P_I: \text{Hasan} (P_I))$
		        $(P_J: \text{Mohamed} (P_J))$
		T: $T_0 = \text{April 21, 2011, 16.02.12}$
		L: $L_0 = $ Latitude: 41° 1' 7 N, Longitude: 28° 57' 53 E
		Discoursal:
		A: $(A_K: [(F_K: \text{DECL} (F_K)) (P_I)_S (P_J)_A (C_K: [(T_K) (R_L)] (C_K))] (A_K))$
		    $(A_J: [(F_J: \text{DECL} (F_J)) (P_I)_S (P_J)_A (C_J): [(T_J) (R_K)] (C_J))] (A_J))$
		    $(A_I: [(F_I: \text{DECL} (F_I)) (P_I)_S (P_J)_A (C_I: [(T_I) (R_I: [+S, -A] (R_I))_{Top} (R_J)] (C_I))] (A_I))$

RL	$(\text{Sim } e_l: - (f_l: \text{ara-} (f_l)) (1x_m)_A - (e_l))$	Situational:
		x: $(x_m) = (P_J)$
		t: $\text{past} < T_0$
		Discoursal:
		ep: $(\text{past } ep_i)$
		e: $(\text{sim } e_k: - (f_k: \text{seyret-} (f_k)) (x_i)_A (x_l: \text{televizyon-} (x_l))_U - (e_k))$
		    $(\text{sim } e_j: - (f_j: \text{oku-} (f_j)) (x_i)_A (x_k: \text{kitap-} (x_k))_U - (e_j))$
		    $(\text{sim } e_i: - (f_i: \text{gel-} (f_i)) (x_i)_A (x_j: \text{ev-} (x_j))_L - (e_i))$
		x: $(x_l: \text{televizyon-} (x_l))$
		    (x_i)
		    $(x_k: \text{kitap-} (x_k))$
		    $(x_j: \text{ev-} (x_j))$

ML	$(Cl_l: [(Np_o: \text{sen} (Np_o))_{Subj} (Vp_l: \text{aradın} (Vp_l))] (Cl_l))$	CL: $(Cl_K: [(Np_n: \text{televizyon} (Np_n)) (Vp_k: \text{seyrettim} (Vp_k))] (Cl_K))$
		    $(Cl_j: [(Np_l: \text{kitap} (Np_l)) (Vp_j: \text{okudum} (Vp_j))] (Cl_j))$
		    $(Cl_i: [(Np_i: \text{ben} (Np_i))_{Subj} (Np_j: \text{eve} (Np_j)) (Vp_i: \text{geldim} (Vp_i))] (Cl_i))$

PL	$(U_l: / - \text{sen aradɯn} - / (U_l))$	U: $(U_k: / - \text{televiˈzjon sejˈret:im} - / (U_k))$
		    $(U_j: / - \text{kitap okudum} - / (U_j))$
		    $(U_i: / - \text{ben eve geldim} - / (U_i))$

5. English *too*

Our second case study concerns the word *too* in English. The grammatical word *too* can be seen as a marker of the second element of a coordination. It is licensed where the coordinated elements are identical, except for one element:

(11)   a   John ordered a beer and Bill ordered a beer, too.
       b   John ordered a beer and then he ordered a whisky, too.
       c   John ordered a whisky and he drank it, too.
       d   *John ordered a beer and Bill ordered a whisky, too.
       e   *John ordered a beer and then he drank a whisky, too.[10]
       f   *John ordered a whisky and Bill drank one, too.

In a dynamic implementation of FDG, the first conjunct is sent to the Contextual Component before the second one is produced. At the RS an entry (ep_i) appears at the (ep)-layer, and at the (e)-layer an entry (e_i) appears; at the (x)-layer, an entry (x_i) (John) appears on top of the stack, which is then pushed down by (x_j) (beer); at the (f)-layer, (f_i) appears (order) which is then pushed down by (f_j) (beer). Now, when the second conjunct is added, its grammatical analysis at the (e)-layer is compared with the highest (e) on the stack, the only one; similarly at the (x)-layer and the (f)-layer. Where there is a single contrast, the use of *too* is licensed. In (11d)-(11f), there is more than one contrast; here *too* cannot be licensed.

   This is clarified for (11a) in the following representation of the Grammatical and Contextual Components for each of the conjuncts. With the first conjunct, there is no discoursal, only situational, material in the Contextual Component; with the second conjunct, there is discoursal material stemming from the first conjunct. Comparison of the (f)-layers shows that there is identity between the (f_j) of the second conjunct and the (f_j) in the Contextual Component. There is thus only one difference, as brought out by the Contrast function on *John* in the first conjunct and *Bill* in the second, and at the Phonological Level, here shown in simplified form, by the high pitch on /bɪl/ and /dʒɒn/, and this justifies the use of the grammatical word *too*.

   In (11b), the contrast will be between *beer* and *whisky*, but the co-reference between *John* and *he* ensures that there is only one difference between the Grammatical and Contextual Components. And similar arguments apply to (11c).

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[10] This example and the following one may be acceptable in contexts in which 'ordered' is taken to imply 'drank'; note that *John drank a beer and then he drank a whisky, too* is impeccable. This requires the interaction of the grammatical component with encyclopedic knowledge. Though we recognize the relevance of this interaction, our linguistically-based approach cannot by itself completely solve cases like this one.

11a1	Grammatical Component	Contextual Component
IL	(M$_I$: [(A$_I$: [(F$_I$: DECL (F$_I$)) (P$_I$)$_S$ (P$_J$)$_A$ (C$_I$: [(T$_I$) (R$_I$: John (R$_I$))$_{Contr}$ (R$_J$)] (C$_I$))] (A$_I$)) …	Situational: P: (P$_I$: Fred (P$_I$)) (P$_J$: Shirley (P$_J$)) T: T$_0$ = April 21, 2011, 17.14.37 L: L$_0$= Latitude: +37.107765, Longitude: − 8.761597 Discoursal: --
RL	(past ep$_i$: [(sim e$_i$: − (f$_i$: order (f$_i$)) (1x$_i$)$_A$ (x$_j$: (f$_j$: beer (f$_j$)) (x$_j$))$_U$ − (e$_i$)) …	Situational: Discoursal: --
ML	(Cl$_i$: [(Np$_i$: John (Np$_i$))$_{Subj}$ (Vp$_i$: ordered (Vp$_i$)) (Np$_j$: − a beer − (Np$_j$))] (Cl$_i$))	Discoursal: --
PL	(U$_i$: / − DƷɒN ˈɔːdəd əˈbiə − / (U$_i$))	Discoursal : --

11a2	Grammatical Component	Contextual Component
IL	(A$_J$: [(F$_J$: DECL (F$_J$)) (P$_I$)$_S$ (P$_J$)$_A$ (C$_J$: [(T$_J$) (R$_K$: Bill (R$_K$))$_{Contr}$ (R$_L$)] (C$_J$))] (A$_J$))…	Situational: P: (P$_I$: Fred (P$_I$)) (P$_J$: Shirley (P$_J$)) T: T$_0$ = April 21, 2011, 17.14.39 L: L$_0$= Latitude: +37.107765, Longitude: − 8.761597 Discoursal: (A$_I$: [(F$_I$: DECL (F$_I$)) (P$_I$)$_S$ (P$_J$)$_A$ (C$_I$: [(T$_I$) (R$_I$: John (R$_I$))$_{Contr}$ (R$_J$)] (C$_I$))] (A$_I$))

RL	(sim e$_j$: (f$_i$: order (f$_i$)) (1x$_k$)$_A$ (x$_l$: (f$_j$: beer (f$_j$)) (x$_l$))$_U$ (e$_j$))] …	Situational:
		t: past < T$_0$
		Discoursal:
		ep: (past ep$_i$)
		e: (e$_i$: (f$_i$: order (f$_i$)) (1x$_i$)$_A$ (x$_j$: (f$_j$: beer (f$_j$)) (x$_j$))$_U$ (e$_i$))
		x: (x$_j$: (f$_j$: beer (f$_j$)) (x$_j$))
		      (x$_i$)
		f: (f$_j$: beer (f$_j$))
		      (f$_i$: order (f$_i$))

ML	… (Gw$_i$: and (Gw$_i$)) (Cl$_j$: [(Np$_k$: Bill (Np$_k$))$_{Subj}$ (Vp$_j$: ordered (Vp$_j$)) (Np$_l$: a beer (Np$_l$)) (Gw$_j$: too (Gw$_j$))] (Cl$_i$))	Discoursal: Cl: (Cl$_i$: [(Np$_i$: John (Np$_i$))$_{Subj}$ (Vp$_i$: ordered (Vp$_i$)) (Np$_j$: a beer (Np$_j$))] (Cl$_i$))
PL	(U$_j$: / − ənd BIL ˈɔːdəd əˈbiə tuː − / (U$_j$))	Discoursal: U: (U$_i$: / − ʤɒn ˈɔːdəd əˈbiə − / (U$_i$))

What counts as a single contrast is in practice not handled merely by the Grammatical and Contextual Components but also by the inferential faculty that is inherent in human mental processing, see Section 2 above. In footnote 10 we noted that (11e) and (11f) may be understood by inference (order > drink) as involving only one contrast between the coordinated elements, allowing (11e) and (11f) to be used acceptably.[11] Similarly, the following example (which we owe to Evelien Keizer) can be understood as involving a single contrast:

(12)   John wrote the script and directed the movie too.

Here, although there appear to be multiple contrasts (write—direct; script—movie), we infer – with reference to the encyclopaedic knowledge with which the language system can interact – a single contrast between two complex (but related) activities, script-writing and movie-direction, justifying the insertion of *too*.

The principle of a single contrast also applies to ellipses with *too*. Ellipses occur where one or more elements are identical between the current grammatical unit and the corresponding unit in the Contextual Component. In (13b), the Representational Level contains elements that are identical to what has been registered in the Contextual Component for *want* and *a beer*. The difference resides in the identification of the speaker in (13a) and (13b) as A and B respectively.[12] This sole difference licenses and indeed imposes the use of *too*:

(13)   a   A: I want a beer.
        b   B: Me too.
        c   B: *Me.

The same applies to relative clause constructions:

(14)   a   John ordered the beer that Bill ordered too.
        b   *John ordered the beer that Bill wanted too.

In (14a) the relative clause involves an embedded (e). Its analysis will show close identity with the Contextual Component's register of *John ordered the beer,* with identity at the (f)-layer between *beer* and *that*. However, where there are two differences at the (f)-layer, as in (14b), *too* is no longer possible.

What of cases like the following?

(15)   A: It's going to rain.
        B: I think so too.

Here the speaker A deposits a Propositional Content in the Contextual Component, which is marked as coming from him/her by being associated with the Communicated Content of (15A), which is embedded in an Illocution of Speaker A. We thus have a (p_i), which is characterized by a propositional attitude of certainty A: (cert p_i). In

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[11] Notice that unlike the processes that link the Conceptual and Grammatical Components, inferences are defeasible: it is always possible to order a beer and not drink it!

[12] The form *me* is used in English as the expression of 1SG unless 1SG occurs as Subject of a finite verb.

uttering (15B), speaker B refers anaphorically to (p_i) with *so* and expresses a propositional attitude with the lexical verb *think* that characterizes his attitude as positive as well. What will be stored in the Contextual Component after B's utterance is (pos p_i), now linked to B through the Communicated Content of his Discourse Act. Again, there is a single difference between the Grammatical and Contextual Components, i.e. in the identification of the Speaker endorsing (p_i). This shows up in *too*.

In cases with less parallelism between the elements related by *too*, the Contextual Component always shows the same behaviour:

(16)   Unemployment is hitting men badly, and that applies to women, too.

Here the anaphor *that* refers back to the Configurational Property *hit-badly (unemployment, men)*. However, the second conjunct cannot be interpreted as **That unemployment is hitting men badly applies to women*, which is clearly a contradiction. Since the speaker has uttered a contradiction, the inferential faculty allows the hearer to re-interpret the anaphor *that* as identifying only the elements 'unemployment', 'hit' and 'badly', leaving one contrast (of *women* with *men*), as is indicated by the presence of *too*.

Finally, consider cases where *too* is used in an initial utterance, as in (17):

(17)   I've read that book too.

Here, imagine a situation of two people in a café, A and B, one of whom (B) is reading *Wuthering Heights*. In order to strike up conversation, A utters (17). The situational section of the Contextual Component contains the statement "read (B, *Wuthering Heights*)". The deictic expression *that book* achieves identity with *Wuthering Heights* and there is identity at the (f)-layer for *read*, so what motivates the use of *too* is again the difference of speaker. It is thus clear that situational and discoursal information in the Contextual Component work in the same way.

6. Answers to yes/no questions in European Portuguese

In certain languages, the answer to a yes/no question takes the form of a fragmentary utterance, with the verb of the interrogative being repeated in identical form. Consider the following European Portuguese dialogue (cf. Santos 2009 for a discussion of the phenomenon in question in a generative framework):

(18)   A   A   reunião   corr-eu   bem?
             DEF   meeting   run-PST.PF.3.SG   well
             'Did the meeting go well?' ("Did the meeting run well?")
        B.   Corr-eu.
             run-PST.PF.3.SG
             'Yes, it did.' ("It ran.")

The producer of (18B) can achieve his/her communicative purpose simply by reutilizing the verb form that has been stored at the Morphosyntactic Stratum of the Contextual

Component. Notice that the literal content of (18B) is not a relevant answer to the question in (18A), where the Focus lies on *bem* 'well'. What B wishes to convey is that it was a success. Where the subject is third-person (singular or plural) the rule of repetition suffices.

Where the question is negative, a positive answer can be given by uttering the verb twice (cf. Santos 2009: 84):

(19)   A   A   reunião   não   corr-eu   bem?
           DEF meeting   NEG   run-PST.PF.3SG   well
           'Did the meeting not go well?' ("Did the meeting not run well?")
       B. Correu   correu.
           run-PST.PF.3SG   run-PST.PF.3SG
           'Yes, it did.' ("It ran, it ran.")

Further indication that this is a matter of repetition comes from the fact that auxiliary verbs can be found as answers in this construction (and these are introduced at the Morphosyntactic Level) and that forms of over three syllables generally are avoided in this construction (suggesting the involvement of the Phonological Level):

(20)   A. Não   tem   lido   o   jornal?
           NEG   AUX.3.SG   read.PST.PRT   DEF   newspaper
           'Hasn't s/he been reading the newspaper?'
       B. Tem   tem.
           AUX.3.SG   AUX.3.SG
           'Yes.'
(21)   A. O   João não   amachuc-ou   o   papel?
           DEF   John NEG   crumple-PST.3.SG   DEF   paper
           'Did John not crumple the paper?'
       B. ?Amachuc-ou   amachuc-ou.
           crumple-PST.3.SG   crumple-PST.3.SG
           'Yes.' (Santos 2009: 90)

Yet another indication of the repetitional status of the answer comes from the fact that the verb used in the answer cannot be a synonym of the verb used in the question, as shown in the following example:

(22)   A. Liga-ste   à   tua   mãe?
           call-PST.PF.2.SG   DEF.REC   POSS.2.SG   mother
           'Did you call your mother?'
       B. *Telefon-ei.
           call-PST.PF.1.SG
           'Yes' (lit. "(I) called")

Finally, an indication of the copying nature of the response comes from the fact that some speakers of Brazilian Portuguese do indeed literally copy the verb form of the question in the answer, as in the following example:[13]

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[13] We are indebted to Roberto Camacho and Erotilde Goretti Pezatti for pointing this out to us.

(23) A. Você ligou   para sua   mãe?
          you   call-PST.PF.2.SG   REC   POSS.2.SG   mother
          'Did you call your mother?'

      B. Ligou.
          call-PST.PF.2.SG
          'Yes' (lit. "you called")

In general, however, where the 1st or 2nd person is involved, the form cannot simply be copied, as it has to be inflected in the appropriate way. However, the inflection is so highly predictable as to amount almost to repetition: A 2nd person question engenders a 1st person response and vice versa. Consider the following example:

(24) A. Lig-aste   à   tua   mãe?
          call-PST.PF.2SG   to.DEF   2.SG.POSS   mother
          'Did you call your mother?'

      B. Ligu-ei.
          call-PST.PF.1.SG
          'Yes.' ("I called.")

This example shows repetition of the verb stem and the automatic adaptation of the affix.

Using the formalisms introduced earlier we may represent this process as follows. The question in (24A) is produced in the following context:

24A	Grammatical Component	Contextual Component
IL	$(M_I: [(A_I: [(F_I: INT (F_I)) (P_I)_S (P_J)_A (C_I: [(T_I) (R_I: [-S, +A] (R_I)) (R_J)] (C_I))] (A_I))] (M_I))$	Situational: P: $(P_I: Pedro (P_I))$ $(P_J: Maria (P_J))$ T: $T_0 = $ April 22, 2011, 17.35.50 L: $L_0=$ Latitude: +37.107765, Longitude: $-$ 8.761597 Discoursal: --
RL	$(p_i: [(past ep_i: [(sim e_i: - (f_i: lig- (f_i)) (1x_i)_A (x_j: (f_j: [(f_k: mãe (f_k)) (x_j)_U (x_i)_{Ref}] (f_j)) (x_j))_L - (e_i))] (ep_i))] (p_i))$	Situational: x: $(x_i) = (P_J)$ Discoursal: --
ML	$(Cl_i: [(Vp_i: (Vw_i: [(Vs_i: lig- (Vs_i)) (Aff_i: -aʃt (Aff_i))] (Vw_i)) (Vp_i)) (Prepp_j: - à tua mãe - (Prepp_j))] (Cl_i))$	Discoursal: --
PL	$(U_i: / - lig'aʃt a tuɐ mẽj - / (U_i))$	Discoursal : --

The answer involves the assignment of a positive value to the Propositional Content that is being questioned by the speaker (P_J) of the answer. This is indicated at the Representational Level within the Grammatical Component. The form of the answer crucially relies on the identification of the finite verb at the Morphosyntactic Stratum

and the corresponding form at the Phonological Stratum within the Contextual Component at the moment the answer is given:

24B	Grammatical Component	Contextual Component

IL	(M_J: [(A_J: [(F_J: DECL (F_J)) (P_J)_S (P_I)_A (C_J)] (A_J))] (M_I))	Situational:
		P: (P_I: Pedro (P_I))
		    (P_J: Maria (P_J))
		T: T_0 = April 22, 2011, 17.35.50
		L: L_0= Latitude: +37.107765,
		    Longitude: − 8.761597
		Discoursal:
		M: (M_I: [(A_I: [(F_I: INT (F_I)) (P_I)_S (P_J)_A (C_I: [(T_I) (R_I: [−S, +A] (R_I)) (R_J)] (C_I))] (A_I))] (M_I))

RL	(pos p_i)	Situational: t : past < T_0 Discoursal: p: (p_i: [(past ep_i: [(sim e_i: − (f_i: lig-(f_i)) (1x_i)_A (x_j: (f_j: [(f_k: mãe (f_k)) (x_j)_U (x_i)_Ref] (f_j)) (x_j))_L − (e_i))] (ep_i))] (p_i))
ML	(Cl_j: [(Vp_j: (Vw_j: [(Vs_i: lig- (Vs_i)) (Aff_j: -ej (Aff_j))] (Vw_j)) (Vp_j))] (Cl_j))	Discoursal: Cl: (Cl_i: [(Vp_i: (Vw_i: [(Vs_i: lig- (Vs_i)) (Aff_i : - aʃt (Aff_i))] (Vw_i)) (Vp_i)) (Prepp_i: − à tua mãe − (Prepp_i))] (Cl_i))
PL	(U_j: / − liˈgej − / (U_j))	Discoursal : U: (U_i: / − ligˈaʃt a tuɐ mẽj − / (U_i))

In other words, the Speaker can give a positive value to the Propositional Content s/he wishes to convey (cf. Hengeveld & Mackenzie 2008: 154-155) by importing material from the top of the stack for verbal Stems in the Morphosyntactic Stratum of the Contextual Component and the stack of phonological words in the Phonological Stratum.

Where the clause-initial position of the question is occupied by one of a closed set of markers, a positive answer involves the repetition of that marker, as in (25):

(25)   A.   Já   liga-ste   à   tua   mãe?
            already   call-PST.PF.2.SG   to.DEF   2.SG.POSS   mother
            'Have you called your mother?'
        B.   a   Já.
               already
               'Yes.' ("Already")
        B.   b   *Liguei.[14]
               call-PST-PF-1.SG
               'Yes.' ("I called.")

---

[14] Santos (2009: 60), discussing parallel examples, does not exclude the form in (26Bb) but in usage (26Ba) is the norm.

Here again the literal meaning of *já* 'already' does not answer the question; the answer comes directly from the stack in the Contextual Component. A negative answer to such a question can only take the following form, with no repetition of *já*:

(26) B. a Não.
         NEG
         'No.'
     B. b *Não   já.
         NEG   already
         'No, I haven't.'

These facts are fully consistent with the treatment of elements such as *já* as polarity items in FDG (see Hengeveld & Mackenzie 2008: 178-179).

7. Conclusions

In this paper we have proposed a view of the Contextual Component in FDG in which its content is limited to discoursal and situational information, two types of information that are observable and accessible to the analyst. We furthermore have proposed that the application of the formalism that is used within the Grammatical Component to the Contextual Component be extended, to facilitate the exchange of information between the two components. Finally, we have shown that the adoption of this view of the Contextual Component allows us to deal with grammatical phenomena as diverse as the non-expression of arguments in Turkish, the use of English *too*, and answers to *yes/no* questions in European Portuguese. There are many aspects of language use that we cannot deal with in this approach, but we argue that these should be dealt with within the context of the study of the human mind from a much broader perspective.

References

Connolly, John H. (2007) Context in Functional Discourse Grammar. *Alfa* 51/2: 11–33.

Connolly, John H. (this volume) The Contextual Component within a dynamic implementation of the FDG model: Structure and interaction. *Pragmatics* 24.2: 229-248.

Cornish, Francis (2009) Text and discourse as context: Discourse anaphora and the FDG contextual component. In Gerry Wanders, and Evelien Keizer (eds), *Web Papers in Functional Grammar* WP-FDG-82, *Special Issue: the London Papers I*: 97–115.
Available at: http://www.functionaldiscoursegrammar.info/.

Cruz, Aline da (2011) *Fonologia e Gramática do Nheengatú: A língua geral falada pelos povos Baré, Warekena e Baniwa.* Utrecht: LOT.

Dixon, R.M.W. (1990) The origin of "mother-in-law vocabulary" in two Australian languages. *Anthropological Linguistics* 33: 1–56.

Evans, Vyvyan, and Melanie Green (2006) *Cognitive linguistics: An introduction*. Mahwah NY: Erlbaum.

Grosz, Barbara J., and Candace L. Sidner (1986) Attention, intentions, and the structure of discourse. *Computational Linguistics* 12.3: 175-204.

Hengeveld, Kees (2005) Dynamic expression in Functional Discourse Grammar. In Casper de Groot, and Kees Hengeveld (eds.), *Morphosyntactic expression in Functional Grammar* (Functional Grammar Series 27). Berlin: Mouton de Gruyter, pp. 53-86.

Hengeveld, Kees (2012) Referential markers and agreement markers in Functional Discourse Grammar. *Language Sciences* 34.4: 468-479.

Hengeveld, Kees, and J. Lachlan Mackenzie (2008) *Functional Discourse Grammar: A typologically-based theory of language structure*. Oxford: Oxford University Press.

Kornfilt, Jaklin (1997) *Turkish* (Routledge Descriptive Grammars). London: Routledge.

Mackenzie, J. Lachlan (this volume) The Contextual Component in a dialogic FDG. *Pragmatics* 24.2: 249-273.

O'Neill, Gareth (this volume) Humming, whistling, singing, and yelling in Pirahã: Context and channels of communication in FDG. *Pragmatics* 24.2: 349-375.

Öztürk, Balkız (2002) Turkish as a non-pro-drop language. In Eser Erguvanlı Taylan (ed.), *The verb in Turkish* (Linguistik Aktuell/Linguistics Today 44). Amsterdam: John Benjamins Publishing Company, pp. 239-259.

Rijkhoff, Jan (2008) Layers, levels and contexts in Functional Discourse Grammar. In Daniel García Velasco, and Jan Rijkhoff (eds), *The noun phrase in Functional Discourse Grammar*. Berlin & New York: Mouton de Gruyter, pp. 63-115.

Santos, Ana Lúcia (2009) *Minimal answers: Ellipsis, syntax and discourse in the acquisition of European Portuguese*. Amsterdam: John Benjamins Publishing Company.

Staden, Miriam van (2000) Tidore: A linguistic description of a language of the North Moluccas. Ph.D. dissertation. Leiden.

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