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Functional Discourse Grammar

Construal and the Conceptual Component of Functional Discourse Grammar

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1. Introduction

The Conceptual Component of Functional Discourse Grammar (FDG) serves the vital purpose of developing the communicative intention behind a Discourse Act into a preverbal Message that is capable of linguistic expression. Following its introduction in Hengeveld and Mackenzie (2008: 7-8, 47-48),[1] the Conceptual Component has been the subject of more detailed proposals in Connolly (2013, 2015, 2017). The present paper follows on from these, to deal with a topic that has not yet received the attention that it deserves, namely Construal, which is defined by Langacker (2015: 120) as 'our ability to conceive and portray the same situation in alternative ways'. Our aim here is to explore the wide-ranging and important role that Construal plays during prelinguistic Conceptualisation, and to give an indication of how Construal may be built into our description of the Conceptual Component of FDG and taken into account in the Formulation process within the Grammatical Component.

2. Construal

2.1. The Notion of Construal and its Importance

Construal is a topic that has been much discussed by writers in the field of Cognitive Linguistics, and so this would seem to provide a useful starting point. Accordingly, we shall draw on the work of authors in that field in order to summarise what is meant by 'Construal' and why it is important.

Consider the pair of examples in (1):

(1)　(a)　The restaurant is directly above the kitchen.
　　　(b)　The kitchen is directly below the restaurant.

Let us suppose that both of these sentences are intended to describe precisely the same objective fact. Accordingly, if (1a) is true, then so is (1b), and vice versa. But nevertheless, (1a) and (1b) do not share exactly the same meaning, since the situation that they describe is viewed from opposite points of view in the two cases. To employ Langacker's terminology (2000: 5), then, the same content is here being 'construed' in different ways, with the result that the two sentences have different meanings.[2] However, as Langacker points out (2002:

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[1] It may be noted that even in earlier writings, dating from the era of Functional Grammar (FG) that preceded that of FDG, certain authors, including Dik (1986: 2), Nuyts (1989: 1-4) and Anstey (2002: 10), envisaged a cognitive or conceptual component or information-source lying behind the grammar and providing input to it. Dik (1986: 3-6, 1989: 12) proposed that such a component would contain (i) perceptual knowledge, represented in the form of stylised images, and (ii) conceptual knowledge, represented in a symbolic form similar in nature to that of linguistic predications, though somewhat more abstract. He also proposed (1987: 25) that the two forms of representation should be inter-convertible, though he did not provide a detailed mechanism for this. On the other hand, Nuyts (1990: passim) argued that the conceptual knowledge representation should be more abstract and less language-biased than predications. He employed a graphical, network-style form of representation for such a purpose.

[2] On the use of the term 'meaning' here, see 3.1 below.

61), this difference cannot be adequately handled in terms of truth-conditional semantics. Rather, he contends (2000: 9), meaning is a function not only of content but also of Construal. Furthermore, he states (1987: 128) that in 'structuring a scene in a specific manner', as is done in (1a) or in (1b), a Speaker establishes a 'construal relationship' between himself/herself (the 'conceptualiser') and 'the scene so structured' (the 'conceptualisation'); see also Langacker (2002: 79).

Verhagen (2007: 48), echoing Langacker (1987: 128), maintains that 'construal is a feature of the meaning of all linguistic expressions', and Croft and Cruse (2004: 69) say that 'any sentence involves a myriad of construals of the experience to be communicated'. Conversely, Croft and Cruse (2004: 3) state that 'all aspects of conceptual structure are subject to construal'. Hence, according to Langacker (2000: 5), 'construal is crucial for both semantic and grammatical structure'; see also Langacker (2002: 291). Clearly, if Construal is such a ubiquitous and significant phenomenon, then it is well worthy of our attention in FDG.

Indeed, Langacker (2002: 301) postulates that Construal represents 'the *primary* semantic contribution of grammatical structure' (emphasis added).[3] In lexical semantics, too, Construal is a matter of great significance, and it is described by Croft and Cruse (2004: 103) as a 'central notion' in their treatment of this sub-field. They postulate (2004: 105) that words do not have meanings as such, but only construed meanings. Similarly, they characterise sense relations as obtaining 'not between words as such, but between particular contextual construals of words' (2004: 141). For instance, consider the examples in (2):

(2) (a) A close vowel.
     (b) A close relation.

As may be readily appreciated, the meaning of the adjective 'close' does not become apparent until it is construed either (i) as describing a sound, as in (2a), in which case its opposite is 'open', or (ii) as describing a family-member, as in (2b), in which case its opposite is 'distant'.[4]

2.2. The Classification of Construal Operations

Croft and Cruse (2004: 40) state that whenever we produce an utterance, we 'unconsciously structure every aspect of the experience we intend to convey.' This is achieved through the application of a variety of conceptual processes known as 'Construal Operations'. A number of different Construal processes have been identified, and various attempts have been made to classify them; see for instance Langacker (2007: 435-438), Talmy (2000: 40-84) and Croft and Cruse (2004: 45-69). The most comprehensive of these, as Verhagen (2007: 56) remarks, is that of Croft and Cruse, and so it is this classification that we shall employ here. It is organised into four superordinate categories:

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[3] Whether this position is tenable is debatable. Grammatical structure can reflect facts about the objective world – for instance who or what performed an action and who or what was its target. Surely such matters are at least as important as the viewpoint from which it is construed.
[4] A possible question here is that if lexical items are subject to Construal, then are there any limits to that process? Can an item, in principle, mean anything whatsoever? The answer is, surely, that the potential for Construal is constrained by the stable denotative meaning (as codified in dictionaries) and expressive meaning of the item, the discoursal and situational context in which it occurs, and the Speaker's assessment of the plausibility that the Addressee will be able to recover the intended, construed meaning through the process of inferencing.

(3)   (a)   Attention/Salience
      (b)   Judgment/Comparison
      (c)   Perspective/Situatedness
      (d)   Constitution/Gestalt

The terms involved here may be briefly elucidated as follows. Attention (3a) involves directing the mind toward some particular focus, while Salience is a property of phenomena whereby they attract attention. Making a Judgment (3b) entails deciding among alternatives, and this necessarily involves drawing a Comparison between one phenomenon and another. Adopting a Perspective (3c) in relation to something means taking up a particular position or viewpoint with reference to it, and this relates to one's Situatedness within some concrete or abstract space. Finally, taking elements of experience, which may well be fragmentary, and forming them into a coherent structure, or Gestalt, is termed the Constitution (3d) of experience.

The four superordinate categories (3a-d) just outlined are subdivided in the manner about to be described. The outcome is an inventory of twenty-three kinds of Construal.

2.2.1. Attention/Salience

The superordinate category of Attention/Salience (3a) is subclassified as in (4):

(4)   (a)   Selection
            (i)   Profiling
            (ii)   Metonymy
      (b)   Scope
            (i)   Accessibility
            (ii)   Scope of predication
            (iii) Search domains
      (c)   Scalar adjustment
            (i)   Quantitative
            (ii)   Qualitative
      (d)   Dynamic attention
            (i)   Fictive motion
            (ii)   Summary/sequential scanning

The cognitive faculty of Selection (4a) enables us to focus on matters that are relevant to the purpose in hand, while disregarding matters that are not relevant to that purpose. For instance, the noun 'Wales' denotes a country in the British Isles, but it is construed differently in the following three examples:

(5)   (a)   Wales is beautiful.
      (b)   Wales decides.
      (c)   Wales won the football match.

In (5a) it is the land of Wales that is in the Speaker's mind, while in (5b), which might be uttered at the time of a referendum, it is the people of Wales that is meant, whereas in (5c) it is a sports team representing Wales that constitutes the appropriate interpretation. We may say, then, that the meaning of the word 'Wales' is multi-faceted, and that different facets are picked out, or 'profiled', in the three examples. In each case, this involves the selection of the relevant facet of the meaning by the Speaker and (hopefully also) by the Addressee.

The selection of an appropriate interpretation is again illustrated in (6):

(6)   That pianist specialises in playing Chopin.

Here we have an example of metonymy, in which the name of the composer is used in place of the more literal expression 'the music of Chopin' (the music obviously being closely associated with the name of its composer, as is characteristic of the figure of speech in question). However, there is no problem in picking out the intended meaning.
        As for Scope (4b), consider the following example:

(7)   The mechanic is going to repair my car. He hopes he can find the handbook.

In the first sentence, the focus of attention falls upon repairing the car. However, the focus of attention is surrounded by a broader scope of attention, and the handbook containing technical details of the vehicle falls within that scope. Consequently, it is straightforward to construe the noun 'handbook' as referring to the particular manual associated with the particular car concerned. Whatever falls within the scope of attention is relatively easy to access, and so a Construal Operation pertaining to (discoursal) accessibility is involved in (7).
        Scope is also involved in the examples in (8):

(8)   (a)   A bulb is an essential component of a brakelight, and so is a red lens.
       (b)   I must buy a spare bulb for my car.

In (8a) the word 'bulb' is construed in relation to the component of which it is an immediate part, while in (8b) it is construed in relation to the whole vehicle. Hence, the Construal is based more broadly, and thus has a wider scope, in (8b) than in (8a). Since the interpretation is predicated on a broader conceptual basis in (8b) than in (8a), we may say that there is a difference in the scope of 'predication', to use Langacker's (1987: 96) term.
        Another phenomenon involving scope is the stacking of modifiers. Compare:

(9)   (a)   The vacuum cleaner is next to the cupboard by the door.
       (b)   The vacuum cleaner is by the door next to the cupboard.

In (9a) we can imagine that there is more than one cupboard and that it is the one by the door that is being referred to, whereas in (9b) we can suppose that there is more than one door and that it is the one by the cupboard that is being specified. In either case, the modifier that comes first (e.g. the expression 'next to the cupboard' in (9a)) is construed as defining the scope within which the second modifier is to be understood. To use Langacker's (1987: 286) term, the 'search domain' for the interpretation of the second modifier is narrower than that of the first.
        Scalar Adjustment (4c) involves Construal at a particular level of granularity or specificity. For instance, in (10a) the ice is construed as a surface (in two dimensions), but in (10b) as a solid (in three dimensions):

(10)   (a)   David skated across the ice.
       (b)   David fell through the ice.

Clearly, the ice is really a volume, and so to construe it as a surface is to perform an abstraction in which one loses sight of one of its dimensions. This entails an alteration in the

magnitude of the detail with which the scene is viewed, and it is said to represent a quantitative scalar adjustment.

However, in the case of (11), the difference lies in the fact that (11a) specifies that the escaped cattle are females which have not yet borne a calf, whereas (11b) is uncommitted in respect of these attributes:

(11)　(a)　Some heifers escaped.
　　　(b)　Some cattle escaped.

The characterisation of the beasts in (11b) is obviously less specific than in (11a), certain properties of these animals being lost sight of in (11b). However, to construe them as cattle rather than as heifers may well be more appropriate in contexts where the attributes in question are irrelevant to the purpose of the Message. Again, then, we have to do with an adjustment in the degree of detail, but this time involving a difference in properties rather than magnitude, and this is known as a qualitative scalar adjustment.

As for Construal in respect of Dynamic Attention (4d), consider the following example:

(12)　　　The path wound its way through the valley.

Although the path is really stationary, it is here construed in a dynamic manner, with our attention being directed along its length, producing what Talmy (2000: 101, 103-106) calls 'fictive motion'. Next, take the following pair of examples:

(13)　(a)　The train departed from the station.
　　　(b)　The departure of the train from the station.

In Langacker's (1987: 144-145) terminology, the scene here is 'scanned' in two contrasting ways. In (13a) we have a case of 'sequential scanning', in which the process of departing is construed as being extended (however briefly) along the time axis, whereas in (13b) we encounter an instance of 'summary scanning' where the scene is construed holistically and without reference to temporal extension.

2.2.2. Judgment/Comparison

The superordinate category of Judgment/Comparison (3b) is subclassified as in (14):

(14)　(a)　Categorisation
　　　(b)　Metaphor
　　　(c)　Figure-Ground

When a Speaker wishes to communicate an experience to an Addressee, he or she is faced with a task of Categorisation (14a), which involves choosing, among the available concepts, the one which most appropriately applies (in the Speaker's opinion) to the situation that is being conceptualised. For example, in (15), assuming that the same person is being referred to in both sentences, Bill's single-mindedness is categorised in terms of different concepts in (15a) and (15b).

(15)　(a)　Bill is resolute.
　　　(b)　Bill is obstinate.

Metaphor (14b) involves drawing an apt comparison between two domains, which is then exploited to produce a figure of speech. For instance, the idea of moving physically upwards is often used as a basis for metaphor when speaking of a person's career progress, as in the following example:

(16)   David Lloyd George rose to become prime minister.

The word 'rose' in this context is obviously to be construed figuratively.

Comparison is again involved in the figure-ground relationship (14c), where one phenomenon is set off against another. Take the following example:

(17)   The fire occurred during the siege.

Here the siege is construed as a background event relative to which the fire is foregrounded. Hence, the fire constitutes the figure while the siege represents the ground.

2.2.3. Perspective/Situatedness

The superordinate category of Perspective/Situatedness (3c) is subclassified as in (18):

(18) (a) Viewpoint
            (i)   Vantage point
            (ii)   Orientation
      (b) Deixis
            (i)   Spatio-temporal
            (ii)   Epistemic
            (iii) Empathy
      (c) Subjectivity/Objectivity

Viewpoint (18a) is dependent on the Speaker's position. Consider the examples in (19):

(19) (a) Chris is in front of the flowerbed.
      (b) Chris is behind the flowerbed.

Either of these sentences may be appropriately uttered, even if Chris does not move. Suppose that the Speaker stands in such a position that Chris is between him or her and the flowerbed. In that case, (19a) is true. However, if the Speaker moves to a vantage point where the flowerbed lies between him or her and Chris, then (19b) is true. Thus, the same objective situation may be construed differently, depending on the vantage point of the Speaker.

Orientation describes the Speaker's vertical alignment, which is normally upright. Sentences such as (20) are normally construed from such an orientation:

(20)   The dictionary is on the shelf above the maps.

To force an alternative Construal (without changing the objective situation), one would need to imagine the Speaker being upside down.

Deixis (18b) is dependent on the situatedness of the Speaker in relation to the represented scene. A very familiar example of spatio-temporal deixis is seen in the use of tenses, so that for instance (21), with its present-tense verb-form, is construed as overlapping in time with the moment of utterance:

(21)   It is sunny outside.

Another kind of Construal Operation involving situatedness is epistemic deixis, which is determined by what Clark and Carlson 1992: 68-69) call the 'common ground' between Speaker and Addressee,[5] and which may be illustrated with reference to the definite and indefinite articles, as in the following pair of examples:

(22)   (a)   I saw the hawk yesterday.
        (b)   I saw a hawk yesterday.

Typically, the use of the definite article, as in (22a), construes the relevant entity as lying within the common ground, whereas the use of the indefinite article, as in (22b), construes it as lying outside of the common ground. Thus, (22a) would be expected if the Speaker adjudges the Addressee to know about the particular hawk concerned, but (22b) otherwise.
    Topic-comment structure, too, comes under the heading of epistemic deixis. Since Hengeveld and Mackenzie (2008: 92-93) claim that English does not have a Topic function, we may take the following example from German, where someone is asked the question in (23a) and gives the reply in (23b):

(23)   (a)   Hast du   ein Buch um   Goethe   geschrieben?
              have you a   book about Goethe   written

              'Have you written a book about Goethe?'

        (b)   Nein, das hat Otto getan.
              no   that has Otto done

              'No, Otto has done that.'

In (23b), 'das' is the Topic and is construed as being part of the common ground, while Otto is the Focus of the new Information contained within the Comment, which occupies the remainder of the sentence.
    Another issue relating to perspective is the choice of Subject and Object. Croft and Cruse: (2004: 61-62) acknowledge that this question has been treated in different ways by different linguists, but they themselves consider it to be a matter of 'empathy', i.e. identification with the point of view of one or other of the participants in the represented situation; cf. Kuno (1987: 206). A similar approach is taken by Dik (1997: 64-65).
    Suppose that two people are talking, and that one of them introduces a new topic of conversation into the dialogue. This person asks the question in (24a), the interlocutor responds as in (24b), and so the person who knows what happens sets about explaining, but is confronted with the choice of replying with (25a) or (25b):

(24)   (a)   Do you know what happened at the beach today?
        (b)   No, what happened?

(25)   (a)   A child from the local school was saved from drowning by one of the lifeguards!
        (b)   One of the lifeguards saved a child from the local school from drowning!

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[5] The notion of 'common ground' has also been employed in several previous writings relating specifically to FDG, including Connolly (2013: 139, 2014: 242-244), Giomi (2014: 279) and Mackenzie (2012: 427).

The choice depends on whether the Speaker presents the explanation from the perspective of the child or the lifeguard. Neither of these individuals lies within the common ground. Accordingly, the choice of Subject is determined by the Speaker's decision as to whether to construe the event from the point of view of the child or the lifeguard.

Subjectivity/Objectivity (18c) relates to the Construal of scenes in which the Speaker is personally involved. For example, suppose that a woman is speaking with her husband and utters the sentence in (26a):

(26) (a) You can be honest with me.
     (b) You can be honest with your wife.

In (26a) the Speaker presents herself subjectively, using the first person pronoun 'me'. However, she might alternatively have replied as in (26b), and thus presented herself in a more detached or objective way, highlighting her social role rather than her self-identity.

2.2.4. Constitution/Gestalt

The superordinate category of Constitution/Gestalt (3d) is subclassified as in (27):

(27) (a) Structural schematisation
         (i)   Topological/Geometric Schematisation
         (ii) Individuation
         (iii) Scale
     (b) Force Dynamics
     (c) Relationality

As a prelude to describing a scene through language, it is necessary to perceive a structure within it, and that involves construing the scene in a particular way or ways. This may involve the application of schematic concepts of a generalised nature, e.g. 'container', which generalises over more particular concepts such as 'cup' or 'mug'. Such structural schematisation (27a) may be seen in the topological example ('container') just given, and also in the use of spatial terms that imply a dimensioned geometrical space with orthogonal axes, such the terms 'above' and 'below', which relate to the y axis of that space, even though the Construal may be figurative, as in (28):

(28)   The committee's conduct was above reproach.

Under the same heading comes the Construal of phenomena within a scene as either bounded or unbounded. Individuated entities are regarded as bounded and mass entities as unbounded. The distinction is exemplified in (29), where the two sentences reflect different Construals of the same objective situations:

(29) (a) The researchers are interested in the movement of road traffic.
     (b) The researchers are interested in the movement of road vehicles.

Here, 'vehicles', being a countable noun, denotes an individuated and therefore bounded concept, while 'traffic', being a mass noun, denotes an unbounded concept. Another example of the 'bounded'/'unbounded' distinction may be seen in the following pair of examples, which differ in respect of verbal aspect (progressive versus non-progressive):

(30) (a)   The sun is setting in the west.
      (b)   The sun sets in the west.

In (30b) the event of 'setting' is temporally unbounded. On the other hand, in (30a) the event is presented as being currently in progress, but it is to be understood that the event began and will end within a circumscribed period of time.

Another notion that is structural in nature is that of scale; and whether a particular concept is or is not gradable in relation to a relevant scale is a mater of Construal. For instance, consider the following examples, which pertain to girls' names:

(31) (a)   Dervla is an Irish name.
      (b)   Angharad is a Welsh name.
      (c)   Dervla is a very Irish name.

If sentence (31a) is contrasted with (31b), then the property 'Irish' is construed in terms of a discrete category, as is the property 'Welsh' in (31b). However, in (31c) the attribute 'Irish' is construed as gradable.

Force Dynamics (27b) relates to the Construal of events in relation to the application of external forces or the resistance of these; see Talmy (2000: 219, 409-470). Consider the following examples:

(32) (a)   Kim put the washing on the line.
      (b)   The washing hung on the line.
      (c)   The washing remained on the line.

In (32a) Kim is presented as supplying the energy that resulted in the situation in (32b). Now let us contrast (32b) with (32c). In (32b) no allusion is made to any external forces. However, in (32c) the implication is that the washing might well not have stayed on the line, but that it did so in spite of external forces, such as a strong wind, or perhaps some kind of psychological or social pressure on Kim to take the washing down.

Relationality (27c) turns on whether concepts are, or are not, being understood in relation to other concepts. Consider the following examples:

(33) (a)   The task was difficult.
      (b)   She was undaunted by difficulties.

In (33a) the concept of difficulty is understood as a property of, and hence in relation to, the concept of the task. However, in (33b), the concept of difficulty is understood as an abstract entity without reference to whatever other entities it might have been ascribed to in the relevant context. It is a signal characteristic of entities, which are expressed linguistically as nominals, that they are construed as being non-relational; cf. Langacker 1987: 214-217), Croft and Cruse (2004: 67-68). The theory, then, is that nominals are non-relational and summarily scanned, whereas verbal processes are relational and sequentially scanned, while adjectivals and adverbials are relational but summarily scanned.

In the present paper the aim is not to develop the theory underlying Construal itself, but to enhance our understanding of how Construal may be handled in FDG. For this reason, we shall accept the account just given as a viable starting point, and proceed on this basis.

3. Construal in FDG

3.1. The FDG Model

Given the importance of Construal and the ubiquity of Construal Operations, the next question that we need to address is how Construal should be handled within the FDG model. In the FDG framework as expounded in Hengeveld and Mackenzie (2008: 1-25), the grammar constitutes part of a broader model of verbal interaction (MVI). Within this model, the Grammatical Component itself is connected to a Conceptual Component, a Contextual Component and an Output Component. In Connolly (2007: 21, 2013: 126, 129, 2014: 233) the Output Component is termed the Empiric Component, and the Contextual Component is divided into the Discoursal Context Component and the Situational Context Component.

The Conceptual Component is described by Hengeveld and Mackenzie (2008: 7) as supplying the 'driving force' behind the Grammatical Component, and as providing the 'ideational and interactive material' that encapsulates the Message behind each Discourse Act generated by the model. In forming prelinguistic Messages, it is necessary for the Conceptual Component to develop Conceptualisations in relation to the context, as Hengeveld and Mackenzie (2008: 6) make clear.

The generation of a 'preverbal Message', as it is termed by Levelt (1989: 9), serves to set the Grammatical Component into operation. The Grammatical Component takes the output of the Conceptual Component as the input to the process of Formulation, which results in the production, for any given input, of a pair of underlying representations: an Interpersonal Level Representation (ILR) and a Representational Level Representation (RLR). Formulation includes the choice of frames and lexemes. (As Hengeveld and Mackenzie (2008: 19) explain, frames 'define the possible combinations of elements at the Interpersonal Level and at the Representational Level'.) The ILR and RLR are then input to the process of Encoding, which yields two further representations: the Morphosyntactic Level Representation (MLR) and the Phonological Level Representation (PLR). The output of the Grammatical Component is then input to the Empiric Component, where it is realised either (in the case of speech) through the activation of an airstream and its modification by means of articulatory and (where appropriate) phonatory activity, or (in the case of writing) through the appropriate manual movements.

The inclusion within the FDG framework of a Conceptual Component as a separate element of the model, distinct from the Grammatical Component, is of great importance in the present context. As we have seen, the notion of Construal has been insightfully developed within Cognitive Linguistics, and it will, of course, be beneficial to make use here of the understanding gained as a result of that research. However, Langacker (2002: 2) equates 'conceptualisation' with meaning, while Croft and Cruse (2004: 40) not only echo the claim that 'semantics is conceptualisation', but suggest (2004: 1, 3) that 'grammar is conceptualisation' as well. This stance contrasts sharply with that adopted in FDG, in which Conceptualisation is regarded as prelinguistic and is handled in the Conceptual Component, while all aspects of grammar, including linguistic semantics, are handled in the Grammatical Component. As Croft and Cruse (2004: 40) make clear, Construal Operations are 'conceptualisation processes', and they will therefore be treated here as falling within the province of the Conceptual Component.

Given that meaning is equated with conceptualisation in Cognitive Linguistics, it proved convenient to go along with such terminological usage in Section 2 above, when we were dealing with proposals deriving from the Cognitive Linguistic framework. However, in FDG, Hengeveld and Mackenzie (2008: 5) associate meanings with the Representational and Interpersonal Levels of the grammar, which suggests that 'meaning' in FDG is a strictly

linguistic phenomenon; and from here on, this is the stance that we shall adopt. Accordingly, we shall regard Construal as a process that impacts directly upon the formation of the prelinguistic Message, though it has an indirect affect upon linguistic meaning insofar as the Formalisation process is driven by the content of the Message.

In the FDG literature, Construal is a subject that has been touched on previously, but it has not so far received a focused treatment. Butler (2013: 29) states that because 'FDG currently does not deal with conceptualisation … it is not surprising that it has little to say about construal'; and he complains that when the effects of Construal are discussed, the 'communicative motivations' that lie behind the grammatical reflexes of Construal are not considered, even though, as he points out in Butler (2008: 1), Construal is one of the processes that 'drive the grammar'. It is only by treating Construal in terms of its roots in the Conceptual Component, as we shall attempt to do here, that we can hope to make progress on this state-of-affairs.

As we shall see (in 3.4 below), the reflexes of Construal Operations may be found at either the Interpersonal Level or the Representational Level. A further advantage of the FDG framework is that since it allows us to treat Construal in the Conceptual Component, it enables us to give a unitary treatment of the basic phenomenon in a single place within the model.

An attempt is made in Connolly (2013, 2015, 2017) to contribute some further detail to the Conceptual Component by (i) suggesting an internal architecture for it and (ii) developing a form of representation for the conceptual structures generated within the Conceptual Component, which act as input to the Formulator. It is proposed in Connolly (2013: 128-132) that the Conceptual Component contains three subcomponents: (i) a Conceptualiser, which generates Messages from prelinguistic intentions, (ii) a Settings Register, which holds Information relating to matters such as the level of formality, and (iii) a Monitor, which takes feedback into account and instigates repair if appropriate. It is further proposed that the MVI is driven by a Control Mechanism, whose tasks include (i) governing the internal operation of the Conceptual Component and (ii) managing its interaction with the other Components to which it is connected.

In addition, following Butler (2012: 624), it is proposed that the Conceptual Component should have access to a knowledge base like FunGramKB (as described in Mairal Usón and Periñán-Pascual (2009) and Periñán-Pascual and Arcas-Túnez (2010)), which would contain (i) an Ontology, furnishing Information about the concepts that underlie Discourse Acts and how those concepts interrelate, and (ii) an Onomasticon, providing Information relating to proper names that might be incorporated into Discourse Acts. It is also suggested in Connolly (2013: 130) that a Long Term Knowledge Store (LTKS) containing encyclopaedic Information should be available to the Conceptualiser, to be drawn on as required.

The Conceptualiser has the task of forming the prelinguistic Message, or Conceptualisation, underlying each Discourse Act. The process by which Conceptualisations are produced is not well understood. However, some light has been cast on this matter by Konopka and Brown-Schmidt (2014), who present a synopsis of existing psycholinguistic research in the pertinent area, from which it appears that the following mental activities play a significant part:

(34) (a) Message Planning, which includes:
(i) Selecting a starting point.
(ii) Planning the remainder of the message.
(b) Shaping of the Message in the light of contextual factors, including the surrounding discourse and the characteristics of the Addressee.

Konopka and Brown-Schmidt's approach is adopted by Hengeveld and Mackenzie (2016: 1138) as the basis of a two-stage model of the operation of the Conceptual Component, which is discussed further in Sections 6 and 7 of Connolly (2017). We shall return to the process of Conceptualisation in 3.2 and 3.3 below.

3.2. Representation

Another question concerning the Conceptual Component concerns the manner in which its output may be represented. In Connolly (2013, 2015, 2017) a form of representation is proposed that is derived from Devlin's (1991) theory of Information. The idea is to represent preverbal messages in terms of the Information that they are intended to communicate. For example, the output of the Conceptual Component produced in the process of generating the Discourse Act in (35a) is presented in (35b):

(35) (a)   A woman helped the child.
      (b)   ((EVENT:HELP$_{270\#1}$ (ENTITY:WOMAN$_{271}$_*STANDPOINT_UPDATE*$_{\#2}$)
            (ENTITY:CHILD$_{272\#3}$) $_{\#4}$)
            (QUALITY:$\in_{\#5}$ (#2) (#1) $_{\#6}$)
            (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR($\bullet$0)$_{\#8}$) $_{\#9}$)
            _*INFO-PRESENTATION*)

What we have in (35b) is an example of a Conceptual Level Representation (CLR). It is composed of a sequence of (in this case) three predicate-argument structures, each of which is termed a 'relational description' (RD). The first of these RDs is composed of (in this instance) three components, which we may term 'Message Elements':

(36) (a)   EVENT:HELP
      (b)   ENTITY:WOMAN
      (c)   ENTITY:CHILD

Each Message Element in (35b, 36) consists of a denotative concept (respectively 'HELP', 'WOMAN' and 'CHILD'), together with its categorisation in terms of the three metaconcepts from the FunGramKB Ontology (mentioned in 3.1 above), which are 'ENTITY', 'EVENT' or 'QUALITY'.

In addition to concepts, RDs may contain utterance-specific Information, which is preceded in the notation by an underscore '_'. This is used in (35b) to designate the application of a concept to a particular instance, such as the individual child that the Speaker has in mind. The instance is notated by an underscore followed by an integer, which in the present example ('CHILD$_{272}$') is, obviously, 272. (The integer illustrated here, as elsewhere in this paper, has been chosen arbitrarily, for expository purposes.) Additionally, each Message Element and each RD is assigned an index number preceded by a hash symbol '#', to facilitate cross-reference, an example being the '#3' seen in 'ENTITY:CHILD$_{272\#3}$'.

Further utterance-specific interpersonal Information can be added to CLRs, as necessary, to drive the assignment of pragmatic functions in the Grammatical Component; see section 5.4 of Connolly (2017). The possibilities include the following:

(37) (a)   *UPDATE*
      (b)   *EMBARK*
      (c)   *RETRIEVE*
      (d)   *DIFFERENTIATE*

(38)   *STANDPOINT*

The four instructions in (37) underlie, respectively, the pragmatic functions of Focus, Aboutness Topic, Given Topic and Contrast, while (38) underlies the assignment of Perspective at the Interpersonal Level,[6] reflected in the choice of Subject at the Morphosyntactic Level. In example (35b), *STANDPOINT* and *UPDATE* have both been assigned to 'ENTITY:WOMAN$_{271}$'.

The second RD in (35b) contains the symbol '€', which indicates the source of the energy input that serves to bring about a change in the state-of-affairs, and is applied to the concept underlying the Actor; cf. Hengeveld and Mackenzie (2008: 196). In this instance, the RD states that the ENTITY:WOMAN$_{271}$, represented by index number #2, is the source of energy input to the EVENT:HELP$_{270}$, represented by index number #1.

The third RD in (35b) consists of the following Message Elements:

(39) (a)   QUALITY:TEMPORALITY
      (b)   #4
      (c)   QUALITY:PRIOR(•0)

This indicates the 'TEMPORALITY' (i.e. the location along the time axis) of the first RD (designated by its index number '#4') in relation to the present moment, represented by '•0'. There are three possibilities:

(40) (a)   OVERLAP(•0)
      (b)   PRIOR(•0)
      (c)   SUBSEQUENT(•0)

These relate respectively to present, past and future time, with (40b) being featured in the current example.

As implied in 3.1 above, the output of the Conceptual Component includes not only ideational but also interactive material. Under the latter category falls Information relevant to Illocution. There are three possibilities:

(41) (a)   *INFO-PRESENTATION*
      (b)   *INFO-REQUEST*
      (c)   *ACTION-REQUEST*

Respectively these stand for the presentation of Information, the requesting of Information and the requesting of action (underlying Declarative, Interrogative and Imperative Illocutions, respectively). In the present example, the sequence of RDs constitutes an *INFO-PRESENTATION*, as indicated at the end of (35b). With regard to notation, this Information is utterance-specific and therefore preceded by an underscore. Because the contents of (37-38) and (41) are not concepts, they are written in italics in order to indicate this difference.

Next, let us amend example (35) slightly, so that it incorporates a proper name:

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[6] On the inclusion of Given Topic within FDG see García Velasco (2014), and on the inclusion of Perspective see Keizer (2014).

(42) (a) A woman helped Lucy.
(b) ((EVENT:HELP$_{270\#1}$ (ENTITY:WOMAN$_{271}$_*STANDPOINT_UPDATE*$_{\#2}$) (_$_{272\#3}$) $_{\#4}$)
(QUALITY:÷€$_{\#5}$ (#2) (#1) $_{\#6}$)
(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR(•0)$_{\#8}$) $_{\#9}$)
_*INFO-PRESENTATION*)

Because names are not denotative concepts, they do not appear in CLRs. In their place the symbol '\\' is employed together with an utterance-specific reference number (in this case '(_$_{272}$)'), as seen in the first RD within (42b); and it is assumed that Information about the individuals concerned is to be found in the Onomasticon.

As pointed out above (in 3.1), Hengeveld and Mackenzie model the operation of the Conceptual Component as a two-stage process. At the end of the first stage, the requisite Information is passed to the Formulator to enable the latter to select the appropriate frames. In accordance with this model, it is proposed in Section 7.1 of Connolly (2017) that a distinction should be drawn between the following:

(43) (a) Germinal Conceptual Level Representations.
(b) Terminal Conceptual Level Representations.

A Germinal Conceptual Level Representation (GCLR) constitutes the output of stage 1 in the aforementioned model, whereas a Terminal Conceptual Level Representation (TCLR), comprises the output of stage 2.

It should be noted that in what follows, CLRs and RLRs will be simplified to some extent, in the interests of clarity of exposition. In particular, the indicators that underlie the choice of verbal aspect or the assignment of pragmatic functions will be included in CLRs only where they are of direct expository relevance.

3.3. The Conceptualisation Process and the Application of Construal Operations

As stated in 3.1 above, Konopka and Brown-Schmidt (2014) divide the Conceptualisation process into (i) Message Planning and (ii) Shaping of the Message in relation to contextual influences. We shall now give closer consideration to Message Planning and to the opportunities that it affords for the various Construal Operations identified in 2.2 above to take effect. In preparation for this, it will be helpful to subdivide Message Planning into three:

(44) (a) Distillation
(b) Angulation
(c) Classification

The 'Distillation' (44a) of a Message consists in forming, from the Speaker's flow of thought, a feasible and manageable communicative intention, organised into one or more distinguishable Message Elements, which (if there is more than one) stand in some kind of direct or indirect interrelationship. 'Angulation' (44b) involves viewing certain aspects of the Message from particular angles or positions. 'Classification' (44c) consists in describing aspects of the Message in terms of the Speaker's repertoire of expressible concepts. Examples will be given below.

It is not suggested that the three subdivisions of Message Planning listed in (44) operate as successive stages. Rather, it is recognised that they may well occur, to a considerable

extent, in parallel;[7] and we shall call (44a), (44b) and (44c) the three overlapping 'waves' of Message Planning.

3.3.1. Distillation

Let us begin our consideration of the three waves of Message Planning with the Distillation of the Message, since until this is underway, little can be achieved in the formation of a sufficiently coherent Message to admit of expression as a Discourse Act.

For the sake of illustration, suppose that a man is walking with his wife along a busy street and observes that a group of people further down the road are watching three clowns, who are providing street entertainment. The spectators are mostly children, but a few adults are also engrossed. He considers this last fact to be worthy of comment, and so he remarks to his wife:

(45)   Some adults are watching the clowns performing.

From all that is going on, the Speaker has here distilled a distinguishable state-of-affairs within which two events (i.e. watching and performing) are identified, together with the participants involved in the respective events (i.e. who is watching, what is being watched and who is performing). He has also formed an intention to communicate Information about this scene to his wife, who is thus cast in the role of Addressee.

In relation to example (45) the Distillation process affords several opportunities for Construal. Firstly, as we have just seen, the Message Elements are construed as two events, involving a total of three entities. However, this is not the only possible Construal of the state-of-affairs concerned. It would have also been possible for the Speaker to say:

(46)   Some adults are watching the clowns' performance.

In (46) the Message Elements are construed in terms of just one event (i.e. watching) and three entities (i.e. adults, clowns and performance). Thus, the performing is construed as an entity here, rather than an event as in (45). The option between Construal as an event and Construal as an entity is a matter of relationality and of scanning, given that concepts that lend themselves to expression as nominals are non-relational and entail summary scanning.

A second type of Construal Operation, namely individuation, is found in both (45) and (46). Here, the entities expressed by the words 'adults' and 'clowns' are construed as bounded concepts (and are therefore realised by countable nouns). Moreover, the events expressed by the words 'watching' and 'performing' are construed as bounded (and are therefore realised by progressive verb-forms). Again, however, there is more than one option. For example, in (46) the concept of 'performance' may be construed as either bounded (meaning an individual performance) or as unbounded (meaning performance as an ongoing activity). For convenience of exposition, we shall assume the latter Construal.

A third type of Construal Operation, namely force dynamics, is also implicated in the aforementioned examples. Its relevance stems from the fact that the Message Elements underlying 'adults' and 'clowns' constitute the source of energy input, which is an aspect of force dynamics.

Before proceeding any further, it will be appropriate to consider how Construal relates to the CLRs that we have proposed for use within FDG. We are viewing Construal as an inherent part of the process of Conceptualisation, and we are treating CLRs as the outcome of

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[7] This would not necessarily be the case in a computational implementation.

that process. Consequently, CLRs do not actually show Construal in action, but rather, they encapsulate its results. With regard to examples (45) and (46), repeated here as (47a) and (48a), the partially formed CLRs yielded by the Distillation operations are presented in (47b) and (48b) respectively.

(47) (a) Some adults are watching the clowns performing.

 (b) ((EVENT:BOUNDED$_{1 \#1}$ (ENTITY:BOUNDED:MULTIPLE$_{2 \#2}$)
 (EVENT:BOUNDED$_{3 \#3}$ (ENTITY:BOUNDED:MULTIPLE$_{4 \#4}$)$_{\#5}$)$_{\#6}$)
 (QUALITY:~C~$_{\#7}$ (#2) (#1) $_{\#8}$)
 (QUALITY:TEMPORALITY$_{\#9}$ (#6) (QUALITY:OVERLAP(•0))$_{\#10 \ \#11}$)
 (QUALITY:~C~$_{\#12}$ (#4) (#3) $_{\#13}$)
 (QUALITY:TEMPORALITY$_{\#14}$ (#5) (QUALITY:OVERLAP(#6))$_{\#15 \ \#16}$)
 _INFO-PRESENTATION)

 (c) ((EVENT:BOUNDED:~WATCH~$_{1 \#1}$ (ENTITY:BOUNDED:MULTIPLE:~ADULT~$_{2 \#2}$)
 (EVENT:BOUNDED:~PERFORM~$_{3 \#3}$ (ENTITY:BOUNDED:MULTIPLE:~CLOWN~$_{4 \#4}$)$_{\#5}$)$_{\#6}$)
 (QUALITY:~C~$_{\#7}$ (#2) (#1) $_{\#8}$)
 (QUALITY:TEMPORALITY$_{\#9}$ (#6) (QUALITY:OVERLAP(•0))$_{\#10 \ \#11}$)
 (QUALITY:~C~$_{\#12}$ (#4) (#3) $_{\#13}$)
 (QUALITY:TEMPORALITY$_{\#14}$ (#5) (QUALITY:OVERLAP(#6))$_{\#15 \ \#16}$)
 _INFO-PRESENTATION)

(48) (a) Some adults are watching the clowns' performance.

 (b) ((EVENT:BOUNDED:_$_{1 \#1}$ (ENTITY:BOUNDED:MULTIPLE:_$_{2 \#2}$)
 (ENTITY:BOUNDED:_$_{3 \#3}$)$_{\#4}$)
 (QUALITY:~C~$_{\#5}$ (#2) (#1) $_{\#6}$)
 (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:OVERLAP(•0))$_{\#8 \ \#9}$)
 (QUALITY:CATENATION$_{\#10}$ (#3) (ENTITY:BOUNDED:MULTIPLE:_$_{4 \#11}$)$_{\#12}$)
 (QUALITY:~C~$_{\#13}$ (#11) (#3) $_{\#14}$)
 _INFO-PRESENTATION)

 (c) ((EVENT:BOUNDED:~WATCH~$_{1 \#1}$ (ENTITY:BOUNDED:MULTIPLE:~ADULT~$_{2 \#2}$)
 (ENTITY:BOUNDED:~PERFORM~$_{3 \#3}$)$_{\#4}$)
 (QUALITY:~C~$_{\#5}$ (#2) (#1) $_{\#6}$)
 (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:OVERLAP(•0))$_{\#8 \ \#9}$)
 (QUALITY:CATENATION$_{\#10}$ (#3) (ENTITY:BOUNDED:MULTIPLE:~CLOWN~$_{4 \#11}$)$_{\#12}$)
 (QUALITY:~C~$_{\#13}$ (#11) (#3) $_{\#14}$)
 _INFO-PRESENTATION)

Now, the representations in (47b) and (48b) are, or course, not fully formed, since they encapsulate only the result of the Construal Operations considered so far (within the present Section). Unfortunately, however, such partially formed CLRs may be found to be less than perspicuous; and so, in the interests of readability, we have added (47c) and (48c), in which an indication is given of the specific concepts that will appear the eventual fully formed CLR, employing crossed-through labels as a notational device for this purpose. It is emphasised that (47b) and (48b) are the proper representations, whereas (47c) and (48c) have been supplemented with annotations that are not actually part of the representation pertinent to the current wave.

In (47b/c) and (48b/c) the Message Elements are shown as having been construed as either events or entities, and also (in the wake of individuation) as either bounded or

unbounded; and in the former case, they have been marked as 'MULTIPLE' if there is more than one. In (48b/c) the relationship between the entity expressed as 'clowns' and the entity expressed as 'performance' is represented as a quality which we term 'CATENATION', meaning simply that a connection is construed as existing between the two. This connection is (in the current example) realised at the Representational Level via the semantic function 'Associative' (see Hengeveld and Mackenzie (2008: 243)), and at the Morphosyntactic Level by a possessive construction.

It will be seen that the fact that the Conceptualisations represented in (47b/c) and (48b/c) are marked as presentations of (rather than, for example, requests for) Information, because this interactive purpose is such a fundamental aspect of the communicative intention that it needs to be included from the outset; cf. similarly Levelt (1989: 157). Acknowledging it at such an early stage within the Conceptualisation process, as we are proposing, is highly consonant with spirit of the FDG approach, in which the Interpersonal function of language is regarded as being of cardinal importance.

Moving on from matters of notation, the next point that needs to be made is that the Distillation process involves selectivity. It is never possible to say everything that could possibly be said about a situation. In examples (47) and (48) the Speaker has not made explicit the location of the event(s), the exact number of people involved, the precise antics of the clowns, and so on. Of course, the avoidance of unnecessary verbiage is consonant with a well-known pragmatic principle of interpersonal communication, namely the Gricean maxim of quantity whereby the Message should be only as informative as the context demands. Another example can be seen in (49a), where it will be assumed that both the Speaker and the Addressee know that the Speaker has an unusual type of car and that the vehicle is in for repair, but that the mechanic who will carry out the work has mislaid the manual:

(49) (a)   The mechanic is hoping he will find the handbook.
       (b)   ((EVENT:BOUNDED:HOPE$_{11\#1}$ (ENTITY:BOUNDED:MECHANIC$_{12\#2}$)
              (EVENT:UNBOUNDED:FIND$_{13\#3}$ (#2) (ENTITY:BOUNDED:HANDBOOK$_{14\#4}$) $_{\#5}$) $_{\#6}$)
              (QUALITY:C$_{\#7}$ (#2) (#1) $_{\#8}$)
              (QUALITY:TEMPORALITY$_9$ (#6) (QUALITY:OVERLAP(•0))$_{\#10\ \#11}$)
              (QUALITY:C$_{\#12}$ (#2) (#3) $_{\#13}$)
              (QUALITY:TEMPORALITY$_{\#14}$ (#5) (QUALITY:SUBSEQUENT(•0))$_{\#15\ \#16}$)
              _INFO-PRESENTATION)

Here, the natural interpretation of 'the handbook' is that this pertains to the car, since the latter is afforded the highest level of accessibility by virtue of the context. Consequently, it is unnecessary to say:

(50)   The mechanic hopes he will find the handbook relating to the car.

On the other hand, if the topic of conversation had been about the repair of an old aeroplane, then 'the handbook' would be construed as relating to the aircraft concerned.

The ends of the same Gricean maxim are served in a Discourse Act such as (51):

(51) (a)   The technician inserted the connector into the router.

       (b)   ((EVENT:UNBOUNDED:~~INSERT~~$_{21\#1}$ (ENTITY:BOUNDED:~~TECHNICIAN~~$_{22\#2}$)
(ENTITY:BOUNDED:~~CONNECTOR~~$_{23\#3}$) $_{\#4}$)
(QUALITY:~~C~~$_{\#5}$ (#2) (#1) $_{\#6}$)
(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR($\bullet$0))$_{\#8\ \#9}$)
(QUALITY:DESTINATION$_{\#10}$ (#4) (ENTITY:BOUNDED:~~ROUTER~~$_{24\#11}$) $_{\#12}$)
_*INFO-PRESENTATION*)

Allusion to 'the router' in (51a) implies a different scope of predication from (52), which offers a more detailed account of the state-of-affairs described, but goes into a degree of elaboration that many addressees might take for granted or else not be interested in:

(52)   The technician inserted the connector into a port in the router.

The difference involved is a matter of scope of predication, such that the connector is construed as part of its immediate housing in (52) but as part of a larger scale device in (51).
     Scope is also involved in the following example:

(53) (a)   The prospector found the gold inside a container in some water.

       (b)   ((EVENT:UNBOUNDED:~~FIND~~$_{31\#1}$ (ENTITY:BOUNDED:~~PROSPECTOR~~$_{32\#2}$)
(ENTITY:UNBOUNDED:~~GOLD~~$_{33\#3}$) $_{\#4}$)
(QUALITY:~~C~~$_{\#5}$ (#2) (#1) $_{\#6}$)
(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR($\bullet$0))$_{\#8\ \#9}$)
(QUALITY:LOCATION$_{\#10}$ (#3) (ENTITY:BOUNDED:~~CONTAINER~~$_{34\#11}$) $_{\#12}$)
(QUALITY:LOCATION$_{\#13}$ (#11) (ENTITY:UNBOUNDED:~~WATER~~$_{35\#14}$) $_{\#15}$)
_*INFO-PRESENTATION*)

Here the container is construed as being in the water, whereas in (54) the water is construed as being in the container:

(54) (a)   The prospector found the gold in some water inside a container.

       (b)   ((EVENT:UNBOUNDED:~~FIND~~$_{31\#1}$ (ENTITY:BOUNDED:~~PROSPECTOR~~$_{32\#2}$)
(ENTITY:UNBOUNDED:~~GOLD~~$_{33\#3}$) $_{\#4}$)
(QUALITY:~~C~~$_{\#5}$ (#2) (#1) $_{\#6}$)
(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR($\bullet$0))$_{\#8\ \#9}$)
(QUALITY:LOCATION$_{\#10}$ (#3) (ENTITY:UNBOUNDED:~~WATER~~$_{34\#11}$) $_{\#12}$)
(QUALITY:LOCATION$_{\#13}$ (#11) (ENTITY:BOUNDED:~~CONTAINER~~$_{35\#14}$) $_{\#15}$)
_*INFO-PRESENTATION*)

The difference hinges on which locative expression is within the scope of which, and this is a question of search domain. In terms of Conceptualisation, it is a matter of how the Message Elements concerned relate to one another, and the difference is reflected in the internal structure of (53b) compared with (54b).
     In section 7.1 of Connolly (2017), the point of view is put forward that a Message is inevitably conceived of in relation to its place on the time axis, and that this part of the Conceptualisation process should be seen as being among the initial steps in Message Planning. The Construal Operation that is relevant in this connection is spatio-temporal deixis. For instance, in (55), with its present-tense verb, the CLR shows that the event overlaps with the present moment (represented by '$\bullet$0'), while in (56) the event is prior to the present moment:

(55) (a) The wind blows.
   (b) ((EVENT:UNBOUNDED:~~BLOW~~ _91#1 (ENTITY:UNBOUNDED:~~WIND~~ _92#2) #3)
        (QUALITY:~~C~~#4 (#2) (#1) #5)
        (QUALITY:TEMPORALITY#6 (#3) (QUALITY:OVERLAP(•0))#7 #8)
        _*INFO-PRESENTATION*)

(56) (a) The wind blew.
   (b) ((EVENT:UNBOUNDED:~~BLOW~~ _91#1 (ENTITY:UNBOUNDED:~~WIND~~ _92#2) #3)
        (QUALITY:~~C~~#4 (#2) (#1) #5)
        (QUALITY:TEMPORALITY#6 (#3) (QUALITY:PRIOR(•0))#7 #8)
        _*INFO-PRESENTATION*)

Moreover, as noted earlier (in 2.2.4 above), the operation of individuation is also relevant to the grammar of the verb phrase. For example, in (55) the event is characterised as 'unbounded' (expressed via the non-progressive aspect), whereas in (57) the event is characterised as 'bounded' (expressed via the progressive):

(57) (a) The wind is blowing.
   (b) ((EVENT:BOUNDED:~~BLOW~~ _91#1 (ENTITY:UNBOUNDED:~~WIND~~ _92#2) #3)
        (QUALITY:~~C~~#4 (#2) (#1) #5)
        (QUALITY:TEMPORALITY#6 (#3) (QUALITY:OVERLAP(•0))#7 #8)
        _*INFO-PRESENTATION*)

   Overall, the first wave within the process of Message Planning, namely the Distillation of the Message, serves to identify and delimit the Message Elements and acknowledge their interrelationship, and to locate this state-off-affairs on the time axis. As we have seen, it affords the opportunity for eight types of Construal to operate, namely the following:

(58) (a) Accessibility
   (b) Force dynamics
   (c) Individuation
   (d) Relationality
   (e) Scanning
   (f) Scope of predication
   (g) Search domain
   (h) Spatiotemporal deixis

Among these, (58b), (58c) and (58d) belong to Croft and Cruse's superordinate category of Constitution/Gestalt, (58h) to that of Perspective/Situatedness, and the remainder to that of Attention/Salience.
   If we consider the Distillation operations collectively, then there are two points to be made. Firstly, the communicative motivation behind them is twofold:

(59) (a) To crystallise thought, and communicative intentions in particular, into Messages that consist of discrete Message Elements which are coherently related to one another, with the result that those Messages are capable of linguistic expression.

(b) To facilitate selectivity in the formation of the Message, and hence to provide one of the available means of achieving conciseness in the planning of Messages, thus fostering communicative efficiency.[8]

(c) To relate the Message to the time axis.

Secondly, because the Distillation operations determine the number of Message Elements and their interrelationship, the CLRs that result from their application contain the Information required to enable the Formulator to choose appropriate frames; see Section 8 of Connolly (2017). Accordingly, the Construal Operations pertaining to Distillation can be regarded as belonging to stage 1 of Hengeveld and Mackenzie's model of the Conceptual Component.

3.3.2. Angulation

Let us now move on to the second wave within the Message Planning process, namely Angulation. As noted in 3.1 above, Konopka and Brown-Schmidt pick out the selection of a starting point as a significant step in Message Planning. Some of the Construal Operations that we are here grouping under the heading of Angulation are relevant to this, and so we shall deal with these first. We may begin with force dynamics, which is relevant to Angulation as well as to Distillation. Consider the following example:

(60) (a) The girl helped the boy.

(b) ((EVENT:UNBOUNDED:~~HELP~~$_{21\#1}$ (ENTITY:BOUNDED:~~GIRL~~$_{22\#2}$)
(ENTITY:BOUNDED:~~BOY~~$_{23\#3}$) $_{\#4}$)
(QUALITY:~~C~~$_{\#5}$ (#2) (#1) $_{\#6}$)
(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR($\bullet$0))$_{\#8\ \#9}$)
_*INFO-PRESENTATION*)

Here the fact that the girl supplied the energy that powered the event lends a certain salience to the said performer, whereas in (61) it is the boy who is rendered salient in a similar way:

(61)   The boy helped the girl.

In the next pair of examples, on the other hand, the force dynamics do not explain the choice of starting point:

(62) (a) The mechanic was driving the car.

(b) ((EVENT:BOUNDED:~~DRIVE~~$_{31\#1}$ (ENTITY:BOUNDED:~~MECHANIC~~_*STANDPOINT*$_{32\#2}$)
(ENTITY:BOUNDED:~~CAR~~$_{33\#3}$) $_{\#4}$)
(QUALITY:~~C~~$_{\#5}$ (#2) (#1) $_{\#6}$)
(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR($\bullet$0))$_{\#8\ \#9}$)
_*INFO-PRESENTATION*)

(63)   The car was being driven by the mechanic.

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[8] There are, of course, other ways, besides, in which selectivity may be supported, for instance through the use of ellipsis.

However, the event is construed from the point of view of the mechanic in (62) and the car in (63); and this is a matter of empathy (or 'camera angles', as Kuno (1987: 29) puts it). The favoured point of view is shown by the indicator '*STANDPOINT*' in (62b), which is written in italics as it is not a concept. It will be assumed that a standpoint needs to be chosen only if there is more than one option in respect of this.

We shall suppose that in (62) and (63) the mechanic and the car, which are both definite, both constitute given Information. However, let us consider example (64), which consists of a sequence of three Discourse Acts: (64a.i), (64a.ii) and (64a.iii). In (64a.ii) the element 'the formulae' has been chosen as the starting point, at least partly because, in context, it is construed as representing common ground between Speaker and Addressee. Whether something is regarded as lying inside or outside of that common ground is a matter of epistemic deixis. The element concerned will bear the function of Given Topic in the Discourse Act (see García Velasco (2014: 312-314)), and in the pertinent CLR (64b) it is tagged with a '*RETRIEVE*' instruction, as per Section 5.4 of Connolly (2017).

(64)　(a)　(i)　The visiting lecturer gave a presentation that contained some complex formulae and also some stunning visual illustrations.
　　　　　(ii)　The formulae few students understood.
　　　　　(iii)　However, the visual illustrations everyone enjoyed.

　　　(b)　((EVENT:UNBOUNDED:~~UNDERSTAND~~$_{41\#1}$
　　　　　(ENTITY:BOUNDED:MULTIPLE:FEW:~~STUDENT~~$_{42}$_*STANDPOINT*$_{\#2}$)
　　　　　(ENTITY:BOUNDED:MULTIPLE:~~FORMULA~~$_{43}$_*RETRIEVE*$_{\#3}$) $_{\#4}$)
　　　　　(QUALITY:~~C~~$_{\#5}$ (#2) (#1) $_{\#6}$)
　　　　　(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR(•0))$_{\#8}$ $_{\#9}$)
　　　　　_*INFO-PRESENTATION*)

In terms of empathy, on the other hand, the state-of-affairs is construed from the point of view of the students. The fact that the students have, nevertheless, not been taken as the starting point may be due to the Speaker's desire to bring out the connectivity between the mention of 'the formulae' in (64a.ii) and its mention in the preceding discourse, causing the Speaker to assign it a *RETRIEVE* instruction in (64b).

Another factor in the choice of starting point may be seen at work in the following pair of examples:

(65)　(a)　The picture hangs above the clock.
　　　(b)　((EVENT:UNBOUNDED:~~HANG~~$_{51\#1}$ (ENTITY:BOUNDED:~~PICTURE~~$_{52\#2}$) $_{\#3}$)
　　　　　(QUALITY:LOCATION$_{\#4}$ (#2) (QUALITY:SUPERIOR(ENTITY:BOUNDED:~~CLOCK~~$_{53)\#5}$) $_{\#6}$)
　　　　　(QUALITY:TEMPORALITY$_{\#7}$ (#3) (QUALITY:OVERLAP(•0))$_{\#8}$ $_{\#9}$)
　　　　　_*INFO-PRESENTATION*)

(66)　　　The clock hangs above the picture.

In (65) the vertical relationship between the picture and clock is construed in relation to the clock as the origin, whereas the reverse is true of (66). Here, the geometric configuration (a matter of schematisation) works in conjunction with a figure-ground Construal Operation, such that in (65) the picture constitutes the figure and the clock constitutes the ground; and it is the figure that affords itself as the starting point.

There are other Construal Operations which fall under the heading of Angulation but which are not strongly associated with the selection of a starting point. These include the

adoption of an orientation, for instance the upright stance normally assumed in examples like (65) and (66), and the taking up of a vantage point, for instance in (67) and (68) respectively:

(67) (a) The salt stood in front of the pepper.
   (b) ((EVENT:UNBOUNDED:STAND_$_{61\#1}$ (ENTITY:BOUNDED:SALT_$_{62\#2}$) $_{\#3}$)
   (QUALITY:LOCATION$_{\#4}$ (#2) (QUALITY:ANTEPOSED(ENTITY:BOUNDED:PEPPER_$_{63}$)$_{\#5}$) $_{\#6}$)
   (QUALITY:TEMPORALITY$_{\#7}$ (#3) (QUALITY:PRIOR(•0))$_{\#8 \ \#9}$)
   _*INFO-PRESENTATION*)

(68) The pepper stood behind the salt.

The Construal of an entity subjectively as opposed to objectively is another operation that we may treat under the heading of Angulation, as it involves taking a particular perspective on a described situation. For instance, when addressing a young child, a lady might utter (69), thus projecting herself onto the scene as an objective participant, whereas in other circumstances she would probably project herself subjectively, as in (70).

(69) (a) Grandma likes cake.
   (b) ((EVENT:UNBOUNDED:LIKE_$_{71\#1}$ (_$_{72\#2}$) (ENTITY:UNBOUNDED:CAKE_$_{73\#3}$) $_{\#4}$)
   (QUALITY:€$_{\#5}$ (#2) (#1) $_{\#6}$)
   (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:OVERLAP(•0))$_{\#8 \ \#9}$)
   _*INFO-PRESENTATION*)

(70) I like cake.

(In (69b) 'Grandma' has been taken to be a kind of name, and has been notated accordingly.)
   Fictive motion, too, involves taking a perspective. For instance, in (71) the path is construed as starting low in the valley, but in (72) the course of the path is presented as beginning higher up:

(71) (a) The path meandered up the valley.
   (b) ((EVENT:UNBOUNDED:MEANDER_$_{81\#1}$ (ENTITY:BOUNDED:PATH_$_{82\#2}$) $_{\#3}$)
   (QUALITY:DIRECTION$_{\#4}$ (#3) (QUALITY:ASCENDING(ENTITY:BOUNDED:VALLEY_$_{83}$)$_{\#5}$) $_{\#6}$)
   (QUALITY:€$_{\#7}$ (#2) (#1) $_{\#8}$)
   (QUALITY:TEMPORALITY$_{\#9}$ (#3) (QUALITY:PRIOR(•0))$_{\#10 \ \#11}$)
   _*INFO-PRESENTATION*)

(72) The path meandered down the valley.

As will be apparent, Angulation affords the opportunity for ten types of Construal to operate, namely the following:

(73) (a) Empathy
    (b) Epistemic deixis
    (c) Fictive motion
    (d) Figure/ground
    (e) Force dynamics
    (f) Orientation
    (g) Schematisation
    (h) Spatio-temporal deixis
    (i) Subjectivity/objectivity
    (j) Vantage point

Among these, the majority unsurprisingly belong to Croft and Cruse's superordinate category of Perspective/Situatedness. However, (73c) belongs to the superordinate category of Attention/Salience, (73d) to that of Judgment/Comparison, and (73e) and (73g) and to that of Constitution/Gestalt.

Collectively, the Construal Operations in (73) fulfil the following communicative motivations:

(74) (a) To organise the presentation of Information to the Addressee, through the choice of a particular starting point followed by an appropriate continuation.
    (b) To systematise the portrayal of the described situation from a consistent viewpoint with which the Addressee can align.

These operations are not crucial for the choice of frames and may therefore be treated as belonging to stage 2 of the model. This is particularly appropriate to the extent that they contribute to the shaping of the Message with a view to the orderly flow of Information within the discourse, and the need to present material in a manner sympathetic to the Addressee, who is expected to assimilate the content.

3.3.3. Classification

We now move on to the third wave within the Message Planning process, namely Classification, whereby the Message Elements are conceptualised in terms of the Speaker's repertoire of expressible concepts. However, there is a often choice of potentially apposite concepts; and this provides the opportunity for a Construal Operation, namely categorisation, to take place in order to resolve the conflict among the alternatives, by choosing concepts in a way that reflects the Speaker's nuanced view of the Classification process as it applies to the concepts concerned. For example, in (75) the scholar's punctilious attention to detail is construed negatively (represented by '_-'), whereas in (76) it is categorised positively ('_+'):

(75) (a) The scholar was pedantic.
    (b) ((QUALITY:UNBOUNDED:PUNCTILIOUS$_-\__{121\#1}$ (ENTITY:BOUNDED:SCHOLAR$_{122\#2}$) $_{\#3}$) (QUALITY:TEMPORALITY$_{\#4}$ (#3) (QUALITY:PRIOR($\bullet$0))$_{\#5\ \#6}$)
        _*INFO-PRESENTATION*)

(76) (a) The scholar was meticulous.
    (b) ((QUALITY:UNBOUNDED:PUNCTILIOUS$_+\__{121\#1}$ (ENTITY:BOUNDED:SCHOLAR$_{122\#2}$) $_{\#3}$) (QUALITY:TEMPORALITY$_{\#4}$ (#3) (QUALITY:PRIOR($\bullet$0))$_{\#5\ \#6}$)
        _*INFO-PRESENTATION*)

(Now that we have moved on to the Classification process, our CLRs (75b) and (76b) show the specific concepts that have been chosen by the Speaker, and there is therefore no need to continue with the crossed-through notation.)

Other Construal Operations may also play a part in the choice of concepts. In (77) the word 'alive' expresses a concept that is typically not gradable, but in (78) the Construal Operation of scale has applied so as to give it a gradable dimension:

(77) (a) The girl was alive.
      (b) ((QUALITY:UNBOUNDED:ALIVE$_{30\#1}$ (ENTITY:BOUNDED:GIRL$_{31\#2}$) $_{\#3}$)
           (QUALITY:TEMPORALITY$_{\#4}$ (#3) (QUALITY:PRIOR($\bullet$0))$_{\#5 \#6}$)
           INFO-PRESENTATION)

(78) (a) The girl was very alive.
      (b) ((QUALITY:UNBOUNDED:ALIVE$_{30\#1}$ (ENTITY:BOUNDED:GIRL$_{31\#2}$) $_{\#3}$)
           (QUALITY:INTENSE:$_{\#4}$ (#1) $_{\#5}$)
           (QUALITY:TEMPORALITY$_{\#6}$ (#3) (QUALITY:PRIOR($\bullet$0))$_{\#7 \#8}$)
           INFO-PRESENTATION)

In (79) the wire is construed as a one-dimensional object (or possibly two-dimensional if both the length and the width were measured), while in (80) it is regarded as three-dimensional, the difference being one of quantitative scalar adjustment:

(79) (a) The electrician measured the wire.
      (b) ((EVENT:UNBOUNDED:MEASURE$_{41\#1}$ (ENTITY:BOUNDED:ELECTRICIAN$_{42\#2}$)
           (ENTITY:BOUNDED:WIRE$_{43\#3}$) $_{\#4}$)
           (QUALITY:€$_{\#5}$ (#2) (#1) $_{\#6}$)
           (QUALITY:TEMPORALITY$_7$ (#4) (QUALITY:PROR($\bullet$0))$_{\#8 \#9}$)
           INFO-PRESENTATION)

(80)   The electrician snipped the wire.

In (81) copper is construed as a substance with particular properties (e.g. ductility, malleability and fusibility), whereas in (82) it is described in terms of a more general chemical class, in which those properties are not implied, the difference this time being one of qualitative scalar adjustment:

(81) (a) Copper is a metal.
      (b) ((ENTITY:BOUNDED:METAL$_{50\#1}$ (ENTITY:UNBOUNDED:COPPER$_{51\#2}$) $_{\#3}$)
           (QUALITY:TEMPORALITY$_{\#4}$ (#3) (QUALITY:OVERLAP($\bullet$0))$_{\#5 \#6}$)
           INFO-PRESENTATION)

(82)   Copper is an element.

In the next pair of examples we again see the operation of force dynamics. In (83) the source of creative energy is ascribed to the poet, but in (84) he or she is cast in a passive role and the source of the inspiration is not included (another instance of selectivity at work), with 'idea' indicating the Means or Instrument by which the inspiration was accomplished:

(83) (a) The poet conceived an idea.
  (b) ((EVENT:UNBOUNDED:CONCEIVE_$_{61\#1}$ (ENTITY:BOUNDED:POET_$_{62}$_*STANDPOINT*$_{\#2}$)
  (ENTITY:BOUNDED:IDEA_$_{63\#3}$) $_{\#4}$)
  (QUALITY:Ɇ$_{\#5}$ (#2) (#1) $_{\#6}$)
  (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR(•0))$_{\#8\ \#9}$)
  _INFO-PRESENTATION)

(84) (a) The poet was inspired with an idea.
  (b) ((EVENT:UNBOUNDED:INSPIRE_$_{61\#1}$ (ENTITY:BOUNDED:POET_$_{62}$_*STANDPOINT*$_{\#2}$)
  (ENTITY:BOUNDED:IDEA_$_{63\#3}$) $_{\#4}$)
  (QUALITY:MEANS$_{\#5}$ (#3) (#1) $_{\#6}$)
  (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR(•0))$_{\#8\ \#9}$)
  _INFO-PRESENTATION)

(It may be noted that, in (84b), the fact that the Message Element underlying 'the poet' is not agentive is indicated by the fact that it is not designated as a source of energy input (Ɇ) within this CLR.)

Let us next consider profiling. In (85) 'music' is construed as a type of text, containing musical notation, whereas in (86) the word signifies the audible performance of the art-form, the difference being one of profiling:

(85) (a) The lady reads music.
  (b) ((EVENT:UNBOUNDED:READ_$_{71\#1}$ (ENTITY:BOUNDED:LADY_$_{72\_\#2}$)
  (ENTITY:UNBOUNDED:MUSIC_$_{73\#3}$) $_{\#4}$)
  (QUALITY:Ɇ$_{\#5}$ (#2) (#1) $_{\#6}$)
  (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:OVERLAP(•0))$_{\#8\ \#9}$)
  _INFO-PRESENTATION)

(86) (a) The lady plays music.
  (b) ((EVENT:UNBOUNDED:PLAY_$_{71\#1}$ (ENTITY:BOUNDED:LADY_$_{72\#2}$)
  (ENTITY:UNBOUNDED:MUSIC_$_{73\#3}$) $_{\#4}$)
  (QUALITY:Ɇ$_{\#5}$ (#2) (#1) $_{\#6}$)
  (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:OVERLAP(•0))$_{\#8\ \#9}$)
  _INFO-PRESENTATION)

However, given that the CLR represents the output of the Construal process, the difference between the two interpretations is not indicated in the notation because they relate to different facets of the same concept. It would, of course, be possible to make the difference explicit be recasting (85) as (87):

(87) (a) The lady reads music notation.
  (b) ((EVENT:UNBOUNDED:READ_$_{71\#1}$ (ENTITY:BOUNDED:LADY_$_{72\#2}$)
  (ENTITY:UNBOUNDED:NOTATION_$_{73\#3}$) $_{\#4}$)
  (QUALITY:ATTRIBUTE$_{\#5}$ (ENTITY:UNBOUNDED:MUSIC_$_{74\#6}$) (#3) $_{\#7}$)
  (QUALITY:Ɇ$_{\#8}$ (#2) (#1) $_{\#9}$)
  (QUALITY:TEMPORALITY$_{\#10}$ (#4) (QUALITY:OVERLAP(•0))$_{\#11\ \#12}$)
  _INFO-PRESENTATION)

However, this would not afford due recognition to the fact that the formation of Messages is selective, and that the Speaker in (85) has decided not to include the concept of notation within the Message.

A similar consideration applies in the case of metonymy. In (88) Shakespeare is construed as a person, whereas in (89) the allusion is to part of his work, as spelt out in the paraphrase in (90):

(88) (a)   Shakespeare wrote *Hamlet.*
      (b)   ((EVENT:UNBOUNDED:WRITE$_{81\#1}$ (_$_{82\#2}$) (_$_{83\#3}$) $_{\#4}$)
            (QUALITY:€$_{\#5}$ (#2) (#1) $_{\#6}$)
            (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR(•0))$_{\#8\ \#9}$)
            _INFO-PRESENTATION)

(89) (a)   The actor was reciting Shakespeare.
      (b)   ((EVENT:BOUNDED:RECITE$_{81\#1}$ (ENTITY:BOUNDED:ACTOR$_{82\#2}$) (_$_{83\#3}$) $_{\#4}$)
            (QUALITY:€$_{\#5}$ (#2) (#1) $_{\#6}$)
            (QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR(•0))$_{\#8\ \#9}$)
            _INFO-PRESENTATION)

(90) (a)   The actor was reciting verse by Shakespeare.
      (b)   ((EVENT:BOUNDED:RECITE$_{81\#1}$ (ENTITY:BOUNDED:ACTOR$_{82\#2}$)
            (ENTITY:UNBOUNDED:VERSE _$_{83\#3}$) $_{\#4}$)
            (QUALITY:€$_{\#5}$ (#2) (#1) $_{\#6}$)
             (QUALITY:€$_{\#7}$ (_$_{84\#8}$) (#3) $_{\#9}$)
            (QUALITY:TEMPORALITY$_{\#10}$ (#4) (QUALITY:PRIOR(•0))$_{\#11\ \#12}$)
            _INFO-PRESENTATION)

Again, the selectivity of the Speaker in (89), in comparison with (90), is respected in the associated CLR (89b). The CLRs in (88b-90b) also show that Shakespeare and (in this context) *Hamlet* are names rather than concepts. However, there is a complication here, because in (90a) the object of the verb (namely 'verse by Shakespeare') is headed by a mass noun; and given that (89a) may be seen as a proxy for (90a), it is reasonable, following Nunberg (1995: 115-116), to regard 'Shakespeare' as a 'mass term' in this particular context. Since the Conceptual Component is supposed to 'drive the grammar', it behoves us to give some indication in the CLR of this marked status of the proper name as a mass term,[9] in order that due account may be taken of it in the grammar, where mass and count nouns do not have identical properties. Therefore, as a notational device to facilitate this, we have employed the symbol '\\' in (89b) to indicate a name with the status of a mass rather than a count term. A further point is that the final RD in (90b) presents Shakespeare as bearing an agentive kind of relationship with the relevant passage of text, hence the symbol '€$_{\#7}$'; this is in consonance with Hengeveld and Mackenzie (2008: 203).

As for metaphor, consider examples (91) and (92), which describe a man who is displaying an unfeeling facial expression that shows especially in his eyes:

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[9] Although marked, the use of proper names as mass terms is not uncommon, as for instance in 'Edam' (cheese) and 'Cologne' (perfume).

(91) (a) The man gave a wooden stare.
   (b) ((EVENT:UNBOUNDED:GIVE_$_{91\#1}$ (ENTITY:BOUNDED:MAN_$_{92\#2}$)
   (ENTITY:BOUNDED:STARE_$_{93\#3}$) $_{\#4}$)
   (QUALITY:ATTRIBUTE$_{\#5}$ (QUALITY:WOOD^{μ}_$_{94\#6}$) (#3) $_{\#7}$)
   (QUALITY:€$_{\#8}$ (#2) (#1) $_{\#9}$)
   (QUALITY:TEMPORALITY$_{\#10}$ (#4) (QUALITY:PRIOR(•0))$_{\#11\ \#12}$)
   _INFO-PRESENTATION

(92) (a) The man gave a flinty stare.
   (b) ((EVENT:UNBOUNDED:GIVE_$_{91\#1}$ (ENTITY:BOUNDED:MAN_$_{92\#2}$)
   (ENTITY:BOUNDED:STARE_$_{93\#3}$) $_{\#4}$)
   (QUALITY:ATTRIBUTE$_{\#5}$ (QUALITY:FLINT^{μ}_$_{94\#6}$) (#3) $_{\#7}$)
   (QUALITY:€$_{\#8}$ (#2) (#1) $_{\#9}$)
   (QUALITY:TEMPORALITY$_{\#10}$ (#4) (QUALITY:PRIOR(•0))$_{\#11\ \#12}$)
   _INFO-PRESENTATION)

In (91b) and (92b) the metaphorical concepts have been labelled with a superscript 'μ' symbol, in order that they may be identifiable as such, in the event that any grammatical rule might need to be sensitive to their figurative character.

   In (91a) the metaphorical expression 'wooden' is used in preference to a literal expression such as 'unfeeling' or 'impassive', while in (92a) the metaphorical expression 'flinty' is employed, rather than a literal expression like 'pitiless' or (again) 'unfeeling'. Thus, not only is there a choice here between a metaphorical and a non-figurative Construal of more-or-less the same outward state-of-affairs, but also a choice between a metaphor which brings out the dead(-pan), unresponsive emotion communicated by 'wooden' and a metaphor which brings out the hard, pitiless emotion conveyed by 'flinty'. (Interestingly, in the current examples there is actually a choice of available metaphorical expressions as well: 'glazed' in the case of (91) or 'steely' in the case of (92), or 'stony' in either case.) Once more, given that the CLR is based on the outcome of Construal Operations, the metaphorical concepts are contained in (91b) and (92b). Of course, in the literal example (93) the CLR (93b) contains the relevant non-figurative concept:

(93) (a) The man gave an unfeeling stare.
   (b) ((EVENT:UNBOUNDED:GIVE_$_{91\#1}$ (ENTITY:BOUNDED:MAN_$_{92\#2}$)
   (ENTITY:BOUNDED:STARE_$_{93\#3}$) $_{\#4}$)
   (QUALITY:ATTRIBUTE$_{\#5}$ (QUALITY:UNFEELING_$_{94\#6}$) (#3) $_{\#7}$)
   (QUALITY:€$_{\#8}$ (#2) (#1) $_{\#9}$)
   (QUALITY:TEMPORALITY$_{\#10}$ (#4) (QUALITY:PRIOR(•0))$_{\#11\ \#12}$)
   _INFO-PRESENTATION)

   As can be seen, Classification affords the opportunity for eight types of Construal to operate, namely the following:

(94) (a) Categorisation
      (b) Force dynamics
      (c) Metaphor
      (d) Metonymy
      (e) Profiling
      (f) Qualitative scalar adjustment
      (g) Quantitative scalar adjustment
      (h) Scale

Among these, (94d), (94e), (94f) and (94g) belong to Croft and Cruse's superordinate category of Attention/Salience, (94a) and (94c) to that of Judgment/Comparison, (94b) to that of Perspective/Situatedness and (94h) to that of Constitution/Gestalt. It is of interest that the operation of force dynamics, uniquely, is relevant to all three waves of Message Planning.

Collectively, the communicative motivations behind the Construal Operations in (94) are as follows:

(95) (a) To facilitate an appropriate and nuanced choice among concepts underlying lexemes, thus facilitating the selection of appropriate means for the lexical expression of those concepts during Formulation.
      (b) To facilitate economy in linguistic expression by affording the possibility of particular lexemes' having more than one possible interpretation, depending on the context. As is the case with Distillation operations (see (59b) above), this helps to foster communicative efficiency.

Since Classification operations are oriented towards concepts underlying lexemes, it is clear from Hengeveld and Mackenzie (2016: 1138) that they belong to stage 2 of the Message Formation process.

3.4. From Conceptualisation to Formulation

When all the operations belonging to the Conceptual Component, including those of Construal, have been carried out, the results are passed to the Formulator. Here the outcomes of Construal are reflected in various ways, and the effects may be felt at the Interpersonal Level and/or the Representational Level. This will now be briefly exemplified.

An instance of Construal having a reflex in the ILR can be seen in relation to example (64a.ii,b) above, repeated here as (96a,c):

(96) (a) The formulae few students understood.
      (b) $(M_{21}:$
           $(A_{31}: [(F_{31}: DECL (F_{31})) (P_1)_S (P_2)_A (C_{31}: [(T_{41})_{Foc} (-id\ persp\ R_{42}) (+id\ R_{43})_{GivTop}]$
           $(C_{31}))] (A_{31}))$
           $(M_{21}))$

      (c) $((EVENT:UNBOUNDED:UNDERSTAND\_{41\#1}$
           $(ENTITY:BOUNDED:MULTIPLE:FEW:STUDENT\_{42}\_STANDPOINT_{\#2})$
           $(ENTITY:BOUNDED:MULTIPLE:FORMULA\_{43}\_RETRIEVE_{\#3})\ _{\#4})$
           $(QUALITY:€_{\#5} (\#2) (\#1)\ _{\#6})$
           $(QUALITY:TEMPORALITY_{\#7} (\#4) (QUALITY:PRIOR(\bullet 0))_{\#8\ \#9})$
           $\_INFO-PRESENTATION)$

Here the Given Topic function has been assigned to the Referential Sub-act R_{43} within the ILR (96b), in response to the attachment of the '*RETRIEVE*' instruction (see 3.2 above) to the corresponding concept 'FORMULA' within the CLR (96c), as a result of the Construal Operation of epistemic deixis. Similarly, the 'persp' function in the RLR has been triggered by the '*STANDPOINT*' indicator in the CLR.

At the Representational Level it is possible to find reflexes of Construal Operations in the selection of (i) frames, (ii) operators and (iii) lexemes. Let us consider examples (47a,c) and 48a,c), repeated here as (97a,c) and (98a,c):

(97)　(a)　Some adults are watching the clowns performing.

　　　(b)　$(p_1: (pres\ ep_1: (e_1:$
　　　　　$(f_1: [(f_2: watch_V\ (f_2))\ (^m x_1: (f_3: adult_N\ (f_3))\ (x_1))_A$
　　　　　$(e_2: (f_4: [(f_5: perform_V\ (f_5))\ (^m x_3: (f_6: {}^m clown_N\ (f_6))\ (x_3))_A]\ (f_4))\ (e_2))_U]\ (f_1))$
　　　　　$(e_1))\ (ep_1))\ (p_1))$

　　　(c)　((EVENT:BOUNDED:~~WATCH~~$_{1\#1}$ (ENTITY:BOUNDED:MULTIPLE:~~ADULT~~$_{2\#2}$)
　　　　　(EVENT:BOUNDED:~~PERFORM~~$_{3\#3}$ (ENTITY:BOUNDED:MULTIPLE:~~CLOWN~~$_{4\#4}$) $_{\#5}$) $_{\#6}$)
　　　　　(QUALITY:~~€~~$_{\#7}$ (#2) (#1) $_{\#8}$)
　　　　　(QUALITY:TEMPORALITY$_{\#9}$ (#6) (QUALITY:OVERLAP(•0))$_{\#10\ \#11}$)
　　　　　(QUALITY:~~€~~$_{\#12}$ (#4) (#3) $_{\#13}$)
　　　　　(QUALITY:TEMPORALITY$_{\#14}$ (#5) (QUALITY:OVERLAP(#6))$_{\#15\ \#16}$)
　　　　　_INFO-PRESENTATION)

(98)　(a)　Some adults are watching the clowns' performance.

　　　(b)　$(p_1: (pres\ ep_1: (e_1:$
　　　　　$(f_1: [(f_2: watch_V\ (f_2))\ (^m x_1: (f_3: adult_N\ (f_3))\ (x_1))_A$
　　　　　$(^r e_2: (f_4: [(f_5: performance_N\ (f_5))\ (^m x_2: (f_6: clown_N\ (f_5))\ (x_2))_A]\ (f_4))\ (^r e_2))_U]\ (f_1))$
　　　　　$(e_1))\ (ep_1))\ (p_1))$

　　　(c)　((EVENT:BOUNDED:~~WATCH~~$_{1\#1}$ (ENTITY:BOUNDED:MULTIPLE:~~ADULT~~$_{2\#2}$)
　　　　　(ENTITY:BOUNDED:~~PERFORM~~$_{3\#3}$) $_{\#4}$)
　　　　　(QUALITY:~~€~~$_{\#5}$ (#2) (#1) $_{\#6}$)
　　　　　(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:OVERLAP(•0))$_{\#8\ \#9}$)
　　　　　(QUALITY:CATENATION$_{\#10}$ (#3) (ENTITY:BOUNDED:MULTIPLE:~~CLOWN~~$_{4\#11}$) $_{\#12}$)
　　　　　(QUALITY:~~€~~$_{\#13}$ (#11) (#3) $_{\#14}$)
　　　　　_INFO-PRESENTATION)

The difference in the CLRs concerns the Construal of the clowns' activity as either an event (97c) or an entity (98c), through the operation of relationality and scanning. In the RLR (97b) the object of the activity of 'watching' is formulated using the predication frame for a one-place property given in Hengeveld and Mackenzie (2008:186), whereas in (98b) it is formulated by means of the predication frame for relational properties (2008: 190-191, 203, 243).

An issue arises here over the use of the 'e' variable in RLRs. The noun 'performance' is conventionally represented in FDG via an 'e' variable, following Hengeveld and Mackenzie (2008: 131, 142, 166, 236), on grounds that it is located in time as well as in space. However, this fails to reflect the fact that, at the Conceptual Level, the relevant concept has been construed as summarily scanned (see 2.2.1 above), and thus conceptualised, without reference

to its temporal extension (regardless of the fact that objectively the event occupies an interval of time). This summary scanning is reflected grammatically in the use of nominalisation in (98), but not in (97), where the Construal Operation is that of sequential scanning. To capture the effect of the Construal, 'performance' is treated here as an example of a special type of State-of-Affairs (SoA), which we term a 'reified' SoA and which we represent by means of the variable '^{r}e', as has been done in (98b).

Also at work in examples (97) and (98) is the Construal Operation of individuation, as a result of which the concepts underlying 'adults' and 'clowns' are construed as plural, and 'performance' as countable but singular. The reflexes of this at the Representational Level are indicated in (97b) and (98b) as operators on the x variables. The notation here is based on Hengeveld and Mackenzie's account of Quantifying Operators (2008: 246), whereby the left superscript 'm' signifies 'plural' and the left superscript 'c' (used in example (100) below) signifies 'countable'.

As for the selection of lexemes, it is proposed in Connolly (2013: 143) that this is achieved with the aid of lexical mappings such as the following:

(99) (a)   ENTITY:BOUNDED:SCHOLAR   {scholar$_N$, academic$_N$}
      (b)   QUALITY:PUNCTILIOUS_-   {pedantic$_A$, hairsplitting$_A$, nitpicking$_A$}
      (c)   QUALITY:PUNCTILIOUS   {fastidious$_A$, punctilious$_A$}
      (d)   QUALITY:PUNCTILIOUS_+   {meticulous$_A$, painstaking$_A$}

(These rules offer lexemes, such as 'scholar$_N$', for the expression of concepts, such as 'ENTITY:BOUNDED:SCHOLAR'. Often, as here, there is some lexical choice in the expression of a particular concept.) So, for instance, with regard to example (75a,b), repeated here as (100a,c), the RLR in (100b) may be formulated using (99a) and (99b):

(100) (a)   The scholar was pedantic.

      (b)   (p$_{106}$: (past ep$_{106}$: (e$_{128}$: (f$_{181}$: [(f$_{182}$: pedantic$_A$ (f$_{182}$))
            (^{c}x$_{139}$: (f$_{183}$: scholar$_N$ (f$_{183}$)) (x$_{139}$))$_U$] (f$_{181}$)) (e$_{128}$)) (ep$_{106}$)) (p$_{106}$))

      (c)   ((QUALITY:UNBOUNDED:PUNCTILIOUS_-_$_{121\#1}$ (ENTITY:BOUNDED:SCHOLAR_$_{122\#2}$) $_{\#3}$)
            (QUALITY:TEMPORALITY$_{\#4}$ (#3) (QUALITY:PRIOR(•0))$_{\#5\ \#6}$)
            _INFO-PRESENTATION)

Thus, the Construal Operation of categorisation that led to the choice of the concept 'PUNCTILIOUS_-' to describe the 'SCHOLAR' is reflected in the selection of an appropriate lexeme at the Representational Level.

Two final consideration relating to lexemes need to be addressed. The first concerns the treatment of metaconcepts (see 3.2 above). As we have noted, the clowns' activity is construed as an event in (97) but as an entity in (98), as a result of the Construal Operations of relationality and scanning. The CLRs (97c) and (98c) duly reflect the difference, through the pairing of the concept 'PERFORM' with the metaconcept 'EVENT' in (97c) but with the metaconcept 'ENTITY' in (98c). The implication here is that the pairing of concepts with metaconcepts is not part of the input to the Construal process, but part of its output.

This raises the problem of what happens if the language concerned does not contain ready-made lexical items, such as 'perform' and 'performance' in English, to express the alternate Construals. For instance, consider the concept underlying the noun 'therapy', which we may represent as 'ENTITY:THERAPY'. It happens that the English lexicon does not contain a verb corresponding to the noun 'therapy', and consequently, if a Speaker wishes to construe

the same concept as an event, then he or she runs into the problem of (in)expressibility, discussed in Section 5.2 of Connolly (2015). Three possible solutions suggest themselves. Firstly, the speaker could coin a non-established verb '(to) therap' or '(to) therapise',[10] especially in a fairly light-hearted context. Secondly, he or she could substitute another, similar though not identical, concept, for example 'EVENT:TREAT', which can straightforwardly be expressed by means of a verb. Thirdly, he or she could recast the CLR so as to lead to an outcome such as 'provide therapy'. To see how these alternatives work out in practice, consider (102a), (103a) and 104a) as possible answers to the question in (101). (The replies have been kept maximally terse for expository purposes.)

(101)   What do therapists do?

(102)   They therap!

(103) (a) They treat.
       (b) ((EVENT:UNBOUNDED:TREAT_$_{71\#5}$ (#2) $_{\#6}$)
            (QUALITY:€$_{\#7}$ (#2) (#5) $_{\#8}$)
            (QUALITY:TEMPORALITY$_{\#9}$ (#6) (QUALITY:OVERLAP(•0))$_{\#10\ \#11}$)
            _*INFO-PRESENTATION*)

(104) (a) They provide therapy.
       (b) ((EVENT:UNBOUNDED:PROVIDE_$_{71\#5}$ (#2) (ENTITY:UNBOUNDED:THERAPY_$_{72\#6}$) $_{\#7}$)
            (QUALITY:€$_{\#8}$ (#2) (#5) $_{\#9}$)
            (QUALITY:TEMPORALITY$_{\#10}$ (#7) (QUALITY:OVERLAP(•0))$_{\#11\ \#12}$)
            _*INFO-PRESENTATION*)

Among these alternatives, (102a) is appropriate only in a limited range of contexts, while (103a) is rather too broad in application; and so (104a) is probably the least unsatisfactory response. The recasting of the CLR in the case of (104b) is evident when we compare the latter with (103b), since (104b) contains an additional argument.

     The second issue we need to address concerns a complication that sometimes occurs in the selection of lexemes in the wake of a Construal Operation. Let us consider two examples, beginning with (78), repeated here as (105):

(105) (a) The girl was very alive.
       (b) ((QUALITY:UNBOUNDED:ALIVE_$_{30\#1}$ (ENTITY:BOUNDED:GIRL_$_{31\#2}$) $_{\#3}$)
            (QUALITY:INTENSE:$_{\#4}$ (#1) $_{\#5}$)
            (QUALITY:TEMPORALITY$_{\#6}$ (#3) (QUALITY:PRIOR(•0))$_{\#7\ \#8}$)
            _*INFO-PRESENTATION*)

Here, as pointed out in 3.3.3 above, the Construal Operation of scale has applied in such a way as to lend to the word 'alive' a gradable dimension that it would otherwise lack. As a consequence, the lexeme concerned is accompanied by the degree modifier 'very'. The result is a combination that would not normally occur within the relevant frame (which pertains to Lexical Properties; see Hengeveld and Mackenzie (2008: 236)). The second example is (89), repeated here as (106), which illustrates the Construal Operation of metonymy:

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[10] In fact, the author, who was at one time involved in research into clinical linguistics, has occasionally encountered these neologisms in speech.

(106) (a)   The actor was reciting Shakespeare.

(b)   ((EVENT:BOUNDED:RECITE$_{81\#1}$ (ENTITY:BOUNDED:ACTOR$_{82\#2}$) (\\\\$_{83\#3}$) $_{\#4}$)
(QUALITY:$\in_{\#5}$ (#2) (#1) $_{\#6}$)
(QUALITY:TEMPORALITY$_{\#7}$ (#4) (QUALITY:PRIOR($\bullet$0))$_{\#8\ \#9}$)
_INFO-PRESENTATION)

(107)   The actor was reciting some Shakespeare.

In this kind of example as noted in 3.3.3 above, a proper name (in this case 'Shakespeare') has to be taken as a mass term meaning 'verse by Shakespeare'. The grammar has the option of realising (106b) as either (106a) or (107). The latter provides another example of a Construal Operation resulting in a grammatically marked combination in which the proper name is accompanied by the partitive operator 'some' within the relevant frame (which, since 'Shakespeare' is a mass term here, pertains to Individuals; see Hengeveld and Mackenzie (2008: 247)).

Such examples are treated by some authors as instances of 'coercion', which is characterised by García Velasco (2009: 15-17) as 'a process in which, given a semantic incongruity between a lexical unit and a syntactic context, the need arises to apply special interpretive mechanisms to process the expression'. Coercion is a subject that has been dealt with in different ways in the context of various linguistic frameworks; see Ziegeler (2007). However, since we are here specifically concerned with Construal and the Conceptual Component of FDG, we shall focus on Ziegeler's remark (2007: 1024) upon the existence of an association between Construal and the explanation of metonymy.

In the present paper we have adopted an approach in which Construal is treated as a process that takes place in the Conceptual Component, the results of Construal Operations being encapsulated in the CLRs that represent preverbal Messages (see 3.3.1 above). In the case of metonymy, this makes it possible for the grammar to treat mass terms in the essentially the same way, whether they be concepts specified as 'ENTITY:UNBOUNDED' (cf. 2.2.4 and 3.3.1 above) or proper names that have undergone Construal in the way that 'Shakespeare' has in (106) and (107). Similarly, in the case of the Construal Operation of scale, the outcome is encapsulated in the relevant CLR (i.e. (105b) in the present case), and the grammar can carry out its work in essentially the same way, whether the inclusion of the Message Element 'QUALITY:INTENSE' depends on a Construal Operation or not.

Consequently, in our approach to Construal it seems that there is no need to postulate any further process of coercion coming into play in relation to the grammar itself. This contrasts with the situation within the framework of Construction Grammar, where Michaelis (2004: 25) is led to propose a coercive 'override principle' whereby 'if a lexical item is semantically incompatible with its morphosyntactic context, the meaning of the lexical item conforms to the meaning of the structure in which it is embedded'. Our stance here accords with the conclusion of García Velasco's study of 'innovative coinage' (2009: 21), that FDG 'offers an adequate architecture to implement the analysis proposed'.

4. Conclusion

In this paper we have explored a range of Construal Operations, taking previous work in Cognitive Linguistics as our starting point. We have then addressed the question of how Construal should be handled within the FDG framework. In terms of FDG, since Construal is an aspect of Conceptualisation (though, of course, it clearly has reflexes in linguistic expression), the natural place to handle it is within the Conceptual Component. In order to accommodate to the FDG framework, we have subdivided Construal Operations into three

waves, namely Distillation, Angulation and Classification (a subdivision that cuts across the categorisation offered by Croft and Cruse within the Cognitive Grammar tradition). In terms of Hengeveld and Mackenzie's model of the Conceptual Component, Distillation belongs to stage 1, while Angulation and Classification relate to stage 2. We have endeavoured to demonstrate how each type of Construal Operation under consideration may be accommodated and handled within the FDG framework. We have also attempted to summarise the communicative motivations behind each of the three waves, and we have found that Construal contributes in various ways to the goal of rendering the Speaker's communicative intentions expressible in an appropriate and economical fashion and in a form that supports comprehension by the Addressee. We have, in addition, shown that Construal may have reflexes at the Interpersonal Level and at the Representational Level; and in the latter case, such reflexes may affect frames, operators and/or lexemes. Lastly, we have proposed that the pairing of concepts with metaconcepts is part of the outcome of the Construal process.

Construal is too widespread a phenomenon within language, and one that is too important to the way in which we portray the world for communicative purposes, for it to be ignored in the functional approach to language. Within the FDG framework, as we have seen, it plays a pervasive role within the Conceptual Component. However, Construal also impacts upon, and is reflected in, the Grammatical Component, particularly during the process of Formulation. Of course, there is, undoubtedly, much more work to be done before FDG can claim to offer a comprehensive account of Construal.

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