Displaced adjectival focus: an LFG analysis

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1. Introduction

This paper discusses a DP-internal information-structural contrast, displaced adjectival focus (DAF). The full paper also discusses *in situ* adjectival focus (ISAF). I demonstrate, assuming Dalrymple and Nikolaeva's (2011) model of information structure in LFG (D&N), both DAF and ISAF present two analytical problems: (i) a *granularity* problem (King 1997): information-structural roles cannot be associated with the right-sized meanings; (ii) a *role-distinctness* problem: DP-internal information-structure roles 'clash' with their clausal counterparts. DAF also presents (iii) an *ordering* problem: there is no immediate way of encoding its characteristic word-order variation. I sketch an LFG analysis of DAF, in the style of D&N, which addresses these problems.

2. Describing DAF and ISAF

DAF is characterised by word-order variation of stacked attributive adjectives. These tend to be linearly ordered relative to one another, according to semantic class (e.g., Sproat and Shih 1991; Cinque 2010). In (1a), size adjectives linearly precede colour adjectives by default; the alternative ordering in (1b) reduces acceptability. However, in (1c), the adjective may be 'displaced' from its position in the linear order and still maintain acceptability, provided it receives contrastive stress and pitch accent, indicated via *ITALIC SMALL CAPS*.

In the vein of Truswell (2005), this can be described as an information-structural contrast between focus and background roles: intuitively, (1c) refers to a big car which is red (the focus), contrasted against a larger salient set of other-coloured big cars (the background). Classically, these roles are inherently clausal, being defined in terms of propositions (Rooth 1992). However, cross-linguistic evidence, including word-order variation, suggests that DP-internal equivalents may exist (Aboh, Corver, Dyakonova, and van Koppen 2010). The full paper discusses further motivation for DP-internal focus and background.

In ISAF, there is a similar contrast, but the adjective in focus is not displaced; its role is signalled via prosody alone, as in (1d). This difference in formal expression correlates with a slightly different interpretation (Szendrői 2010), also addressed in the full paper.

3. The D&N model

For D&N, i(nformation) structure is projected from s-structure, as in (2). By specifying an s-structure with a value for its DF ('discourse function') attribute, Glue Semantic (e.g., Dalrymple 2001) meaning constructors are assigned to i-structure categories via lexical rules. D&N suppose such rules, schematised in (3), are specified on all meaning-constructors introduced by lexical items. The full paper addresses how DF attributes correlate with particular p(rosodic)-structures, capturing the role of pitch and stress, via Dalrymple and Mycock's (2011) principle of interface harmony.

4. Problems for LFG

Consider standard c- and f-structures, following Dalrymple (2001:256–257), for (1c) in (5) and (6) respectively. Notably, these representations also describe (1d) at f-structure, and, given adjunct reordering, at c-structure.

4.1 Granularity

In (6), there are f-structures corresponding to *big* and *RED*, but none for *big* and *car* as a constituent distinct from *RED*. This configuration is maintained at s-structure. Accordingly, *RED* can be correctly assigned DF FOCUS, but *big car* cannot be assigned DF BACKGROUND.[1] This problem also holds for the ISAF case (1d), but here, the background does not form a continuous c-structure constituent either, presenting an additional challenge in the full paper.

4.2 Role-distinctness

D&N employ the annotation (4) on all c-structure nodes, to identify the i-structure projection from different s-structures. This is necessary to allow the percolation of i-structural information from lexical items, as per (3), to the clause as a whole. However, the annotation also identifies any i-structural categorisation between a DP and the clause containing it. It is not necessarily correct to say that DP-internal focus and background roles constitute the entire i-structure of the clause, as developed in the full paper. In keeping with this, I employ an s-structural DP-DF attribute specifically for the specification of DP-internal roles, coexisting alongside DF. In the proposed c-structure in (10), lexical rules are altered to reflect the role of DP-DF attributes.

[1] I use SMALL CAPS for formal attributes or values at f-, s- and i-structure, thereby distinguishing FOCUS, BACKGROUND and ADJUNCT from their more general, theory-neutral counterparts.

4.3 Ordering

Describing DAF requires an encoding of the linear order of attributive adjectives, and a means of capturing displacement. Consider cartographic representations (e.g., Scott 2002; Cinque 2010), which encode linear order via a series of functional heads corresponding to semantic classes (e.g., origin, colour, shape, size), and model displacement via movement operations. Given that LFG f-structures abstract away from linear order, and s-structures do not represent such semantic classes, an LFG solution is not obvious.

5. Sketching the proposal

The proposal rests on enriching f-structure such that c-structural constituency and hierarchy is still selectively visible at f-structure, following Andrews (2018). This creates appropriately sized s-structures which can be specified for DP-DF attributes, and facilitates encoding of linear order. Role-distinctness is addressed via separate means.

5.1 Employing hybrid objects

Andrews (2018) achieves enriched f-structural representations using hybrid objects: f-structures which are set-valued, but also contain an additional 'upper level' of structure for attributes of the f-structure as a whole. If a distributive attribute is specified for the f-structure as a whole, it distributes over each element of the set, and vice versa. Non-distributive attributes, when specified of the f-structure as a whole, do not distribute to set-members, and vice versa.

Hybrid object sets usually contain more than one member: e.g., in co-ordinate structures, where the person and number of the conjuncts need not match that of the whole co-ordinate structure. However, where the hybrid object contains a singleton set, a distributive attribute specified of the f-structure as a whole distributes across the set to the singleton set-member, similar to the familiar 'flattening' across levels accomplished via the $\uparrow=\downarrow$ equations. That is, if F is distributive, the f-structures in (7) have a kind of formal equivalence. If not, they are distinct.

For Andrews (2018), if the ADJUNCT attribute is non-distributive, then ADJUNCTS remain f-structurally distinct via the 'boundary' of the set, preserving their c-structural hierarchical relations. By contrast, distributive attributes distribute to set-members, flattening the f-structure as is standard. A sketch of how DAF can be captured, including this hybrid object strategy, is shown via the f- and s-structures in (8) and (9) respectively, and the c-structure in (10).[2] In (10), note the use of $\downarrow\in\uparrow$ in place of $\uparrow=\downarrow$ over key $\overline{\mathrm{N}}$ constituents, which produces the necessary hybrid objects.[3] The full paper further discusses the implications of this hybrid object strategy.

5.2 Stating ordering over semantic types

I follow Truswell (2005) in assuming a 'lean' inventory of categories for linear ordering, where gradable adjectives precede non-gradable adjectives. Although not shown here, gradable adjectives are typically assumed to have a *d(egree)*-type argument (e.g., Kennedy 1999). If s-structures are implicitly typed as per their corresponding Glue terms, f-structural statements can refer, via the σ projection, to a gradable/non-gradable distinction in terms of the presence or absence of a *d*-typed s-structure. The ordering can then be stated using f-precedence, without requiring overly rich lexical representations at f-structure.

5.3 Exploiting c-structural annotations

I account for apparent displacement in (1c) by supposing that APs in DAF can occupy the specifier of NP.[4] This position is c-structurally annotated in (10) to bestow DP-DF FOCUS on its occupant.

Displacement should also coincide with specification of DP-DF BACKGROUND for the appropriate material. We now can distinguish *RED*, *big* and *car* at f- and s-structure, given the c-structure in (10). The boxed c-structural annotation on the specifier of NP specifies DP-DF BACKGROUND for bc_{σ}, the appropriate s-structure.[5] This s-structure is the output of the proof-step that intersects the meaning-constructors for *big* and *car*, and relies on an 'intersector' meaning-constructor inspired by Dalrymple (2001:264). This is shown schematically in the tree in (10) as **[int]**.

5.4 Identifying i-structure

As above, lexical rules modelled on (3) ensure that the appropriate meaning-constructors are added to the i-structure specified via their DF attribute, or here specifically, DP-DF attribute. Abstracting away from the role-distinctness problem, the correct i-structural representation for (1c) is as in (11). In the paper, I suggest retaining clause-level i-structure identification, but permitting unique instantiation for each instance of an i-structure role. Thus, the clausal i-structure could contain e.g., a clause-level FOCUS attribute, as well as a unique DP-level FOCUS_i attribute for each DP i in the clause as needed.

[2] For reasons of space, the c-structure tree is abbreviated to omit the determiner.

[3] Where a node is not annotated with $\downarrow\in\uparrow$, $\uparrow=\downarrow$ equations are assumed, though I don't show these here.

[4] I assume here without further comment that A adjoins to $\overline{\mathrm{N}}$ in a relatively flat structure. This coheres with arguments in the full paper that stacked A nodes are non-projecting.

[5] Note that $\phi(*>)$ refers to the f-structure correspondent of the right sister of a c-structure node (Nordlinger 1998).

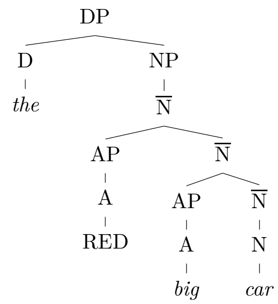
(1)
a. the big red car
b. ? the red big car
c. the *RED* big car
d. the big *RED* car

(2) $\text{c-str} \overset{\phi}{\Rightarrow} \text{f-str} \overset{\sigma}{\Rightarrow} \text{s-str} \overset{\iota}{\Rightarrow} \text{i-str}$

(3) **meaning constructor** $\in (\uparrow_{\sigma\iota}\ (\uparrow_\sigma\ \text{DF}\ ))$

(4) $\uparrow_{\sigma\iota} = \downarrow_{\sigma\iota}$

(5)



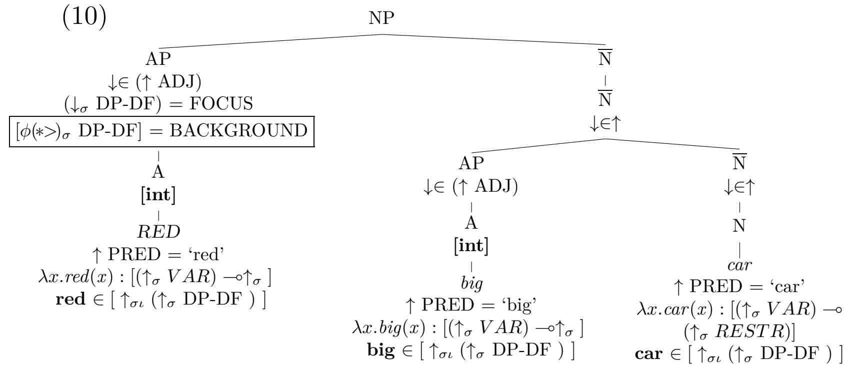
(6) $c\left[\begin{array}{ll} \text{PRED} & \text{'car'} \\ \text{ADJ} & \left\{\begin{array}{l} r\left[\text{PRED}\quad \text{'red'}\right] \\ b\left[\text{PRED}\quad \text{'big'}\right]\end{array}\right\}\end{array}\right]$

(7) (a) $\left[\left\{\left[\text{F X}\right]\right\}\right]$ (b) $\left[\begin{array}{l} \text{F}\quad \text{X} \\ \left\{\left[\text{F}\quad \text{X}\right]\right\}\end{array}\right]$

(8) $brc\left[\begin{array}{l} \text{ADJ}\quad \left\{r\left[\text{PRED}\quad \text{'red'}\right]\right\} \\ \left\{ bc\left[\begin{array}{l} \text{ADJ}\left\{r\left[\text{PRED}\quad \text{'big'}\right]\right\} \\ \left\{c\left[\text{PRED}\quad \text{'car'}\right]\right\}\end{array}\right]\right\}\end{array}\right]$

(9) $bc_\sigma\left[\begin{array}{ll} \text{VAR} & bc\text{-}v\left[\ \right] \\ \text{RESTR} & bc\text{-}r\left[\ \right] \\ \multicolumn{2}{l}{\text{DP-DF BACKGROUND}}\end{array}\right]\ rbc_\sigma\left[\ldots\right]\ \ b_\sigma\left[\ldots\right]\ \ c_\sigma\left[\ldots\right]$

(10)



(11) $rbc_{\sigma\iota} : \left[\begin{array}{ll} \text{FOCUS} & \left\{\lambda x.red(x) : rv \multimap r_\sigma\right\} \\ \text{BACKGROUND} & \left\{\begin{array}{l}\lambda x.big(x) : bcv \multimap bc, \\ \lambda x.car(x) : cv \multimap cr\end{array}\right\}\end{array}\right]$

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