

# How regular a pattern in these labyrinths of constructions !

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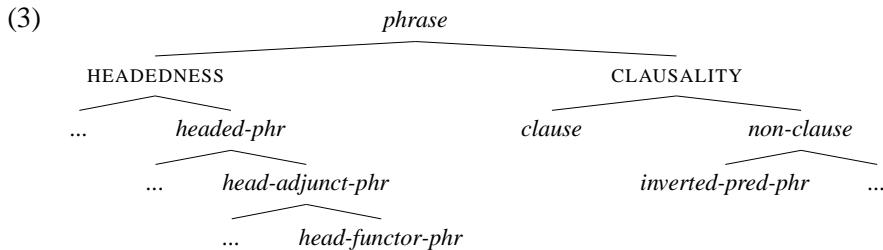
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Constructions which are considered idiosyncratic often show a mixture of regular and irregular properties. As an example let us take the Big Mess Construction (BMC) in (1) and the Binominal Noun Phrase Construction (BNPC) in (2).

- (1) a. *It's so good a bargain I can't resist buying it.*
- b. *How serious a problem is this?*
- (2) a. *She had a skullcracker of a headache.*
- b. *Into the assessment room stepped a giant of a man.*

The main idiosyncracy of the BMC is the pre-determiner position of the AP. Most of its other properties are regular: There is, for instance, nothing exceptional about the internal structure of the AP and the lower NP. The main idiosyncracy of the BNPC concerns the relation between the NPs that flank the preposition. In an ordinary [NP – *of* – NP] combination, the leftmost NP denotes the entity that the entire nominal is about (*an employee of a Japanese company* denotes a kind of employee), but in the BNPC it is the rightmost NP that does this (*a skullcracker of a headache* denotes a kind of headache). Most of its other properties are regular.

Both constructions have been studied in detail, also in HPSG and LFG. On the BMC, see a.o. Zwicky (1995), Van Eynde (2007), Kim and Sells (2011), Kay and Sag (2012) and Arnold and Sadler (2014). On the BNPC, see a.o. Aarts (1998), Foolen (2004) and Kim and Sells (2014). While clever and inspiring, these treatments focus so much on the idiosyncracies of the individual constructions that the latter's common properties are ignored. The purpose of this paper is to provide a treatment that captures these common properties and to show how this simplifies their analysis. For this purpose we employ a bidimensional phrase type hierarchy with multiple inheritance, as in Ginzburg and Sag (2000).

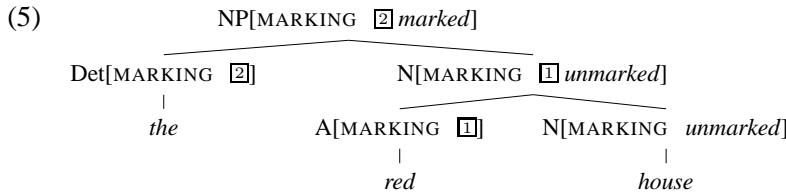


**1. Inverted predication** The common properties of the two idiosyncratic NPs can be characterized in terms of the pattern [AP/NP – (*of* –) NP], where the leftmost AP/NP denotes a property that is attributed to the rightmost NP. We call this an instance of inverted predication, since it reverses the canonical order of theme and predicate.

- (4) a. so good a bargain ~ the bargain is so good  
b. a skullcracker of a headache ~ the headache is like a skullcracker

Technically, its properties are spelled out in a constraint on phrases of type *inverted-pred(ication)-phr(ase)*, see (7). The fact that we are dealing with **predication** is captured in the RESTR(ITION) value of the mother: It is a set of facts that includes those of the daughters ( $\Sigma_1$  and  $\Sigma_2$ ) plus the extra constraint that the relation between the daughters is a predicative one.<sup>1</sup> The fact that we are dealing with **inverted predication** is captured in the FORM value of the mother: It requires the daughter with the ATTRIBUTE role ( $B$ ) to precede the daughter with the THEME role ( $A$ ). The fact that we are dealing with a **nominal** projection is captured in the HEAD value of the phrase. The identification of the head daughter with the rightmost daughter implies that that daughter is nominal too, see (8).

**2. Functors** The internal structure of the daughters can be modeled in terms of independently motivated constraints on headed phrases. Of special relevance in this context are the combinations of a noun with its prenominal dependents and of an adjective with its degree marker. We assume that both are combinations of type *head-functor*, as defined in Van Eynde (2006) and Sag (2012). The defining property of functors is that they lexically select their head sister, see (9). Prenominal dependents, for instance, select a nominal head sister and degree adverbs select an adjectival head sister.<sup>2</sup> All signs also have a MARKING value, differentiating the syntactically marked from the syntactically unmarked. Determiners, pronouns and proper nouns, for instance, are marked, while bare common nouns are unmarked. In phrases of type *head-adjunct*, a supertype of *head-functor*, the MARKING value of the mother is identical to that of the non-head daughter, see (10). An example is given in (5).



As a consequence, if we assume that prenominal dependents select an unmarked nominal sister and that determiners are marked while adjectives are unmarked, we account for the fact that adjectives can be stacked, (*big red house*), while determiners cannot (\**the my house*), as well as for the fact that *the red house* is well-formed, while \**red the house* is not.

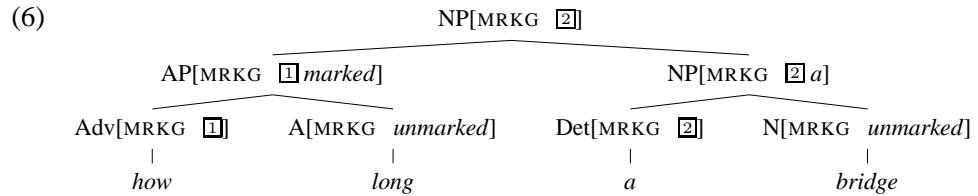
In the same vein, if we assume that the degree adverbs *so* and *how* are marked, while *very* is unmarked, we account for the fact that the latter can be stacked, as in

<sup>1</sup>The assumption that predication is a relation of type *attribute-rel* between a theme and an attribute is developed and motivated in Van Eynde (2015).

<sup>2</sup>The SELECT feature replaces the MOD and SPEC features of Pollard and Sag (1994).

*very very hard*, while the former cannot (\* *how how hard*). More interestingly, we also account for the contrast between the well-formed *a very large house* (with its unmarked AP) and the ill-formed \* *a so large house* (with its marked AP).

**3. Multiple inheritance** At this point, most of the properties of the idiosyncratic NPs can be derived by multiple inheritance. The BMC inherits from *inverted-pred-phr* and *headed-phr*. Besides, it has some properties of its own, spelled out in (11). The head daughter must contain the indefinite article (*how good a/\*any/\*the bargain*) and shares its MARKING value with the mother.<sup>3</sup> The non-head daughter must be a marked AP. This implies that the AP must contain a marked degree adverb, as in *so/how/as/that big a house*.<sup>4</sup> APs with an unmarked degree adverb are excluded (\* *very big a house*), and so are adjectives without degree adverb (\* *big a house*).



The BNPC inherits from *inverted-pred-phr* and *head-adjunct-phr*. Besides, it has some properties of its own, spelled out in (12). The head daughter must be a singular NP with an indefinite article or a bare plural (*jewels of villages*). Moreover, it must contain the preposition *of*. Since the combination is nominal, this preposition cannot be the head of a PP. Instead, we assume that it is a functor that selects a nominal head sister and that contributes its MARKING value to the combination.<sup>5</sup> The non-head daughter is an unmarked nominal. Since the non-head daughter shares its MARKING value with the mother, the latter is unmarked too. It combines with its dependents in the usual way. Determiners, for instance, are added as in *[his [hovel of a home]]*. Preminal adjectives can be added to the combination, as in *[that [apologetic [mouse of a doctor]]]*, or to the adjunct, as in *[those [[Chinese chopsticks] of needles]]*. The restriction to unmarked non-head daughters also accounts for the fact that pronouns and proper nouns cannot be used in this position (\* *somebody/Pete of a man*).

**4. Wrapping up** Employing a bidimensional phrase type hierarchy with multiple inheritance, we have shown that most of the properties of two idiosyncratic constructions can be derived from independently motivated supertypes.

<sup>3</sup>We assume that *a(n)* is a subtype of *marked*. The same holds for *of-a(n)* and *of-bpl* in (12).

<sup>4</sup>The adverb *nearly* in *nearly so big* is a functor that shares the MARKING value of its head sister. This accounts for the well-formedness of *nearly so big a failure* and the ill-formedness of \* *a nearly so big failure*.

<sup>5</sup>Treatments along these lines have been advocated for certain uses of French prepositions in Abeillé and Godard (2000) and Dutch prepositions in Van Eynde (2004). It is also relevant for a variant of the BMC, in which the AP is separated from the NP by *of*, as in *how big of a problem*. This variant is typical of colloquial American English.

(7) **NP-internal inverted predication**

$$inverted\text{-}pred\text{-}phr \Rightarrow \left[ \begin{array}{l} \text{FORM } \boxed{B} \oplus \boxed{A} \\ \text{SYNSEM} \left[ \begin{array}{l} \text{CATEGORY | HEAD } noun \\ \text{CONTENT | RESTR } \boxed{\Sigma_1} \cup \boxed{\Sigma_2} \\ \bigcup \left\{ \begin{array}{l} fact \\ \text{PROP | SOA | NUCL} \left[ \begin{array}{l} attribute\text{-}rel \\ \text{THEME } \boxed{1} \\ \text{ATTRIBUTE } \boxed{2} \end{array} \right] \end{array} \right\} \end{array} \right] \\ \text{HEAD-DTR } \boxed{3} \left[ \begin{array}{l} \text{FORM } \boxed{A} \\ \text{SYNSEM | CONTENT} \left[ \begin{array}{l} INDEX \boxed{1} \\ \text{RESTR } \boxed{\Sigma_1} \end{array} \right] \end{array} \right] \\ \text{DTRS} \left\langle \begin{array}{l} \text{FORM } \boxed{B} \\ \text{SYNSEM | CONTENT} \left[ \begin{array}{l} INDEX \boxed{2} \\ \text{RESTR } \boxed{\Sigma_2} \end{array} \right] \end{array} \right\rangle, \boxed{3} \end{array} \right]$$

(8) **Headed Phrases**

$$headed\text{-}phr \Rightarrow \left[ \begin{array}{l} \text{SYNSEM | CAT | HEAD } \boxed{1} part\text{-}of\text{-}speech \\ \text{HEAD-DTR | SYNSEM | CAT | HEAD } \boxed{1} \end{array} \right]$$

(9) **Head-Functor Phrases**

$$head\text{-functor}\text{-}phr \Rightarrow \left[ \begin{array}{l} \text{HEAD-DTR } \boxed{2} \left[ \text{SYNSEM } \boxed{1} synsem \right] \\ \text{DTRS} \left\langle \left[ \text{SYNSEM | CAT | HEAD | SELECT } \boxed{1} \right], \boxed{2} \right\rangle \end{array} \right]$$

(10) **Head-Adjunct Phrases**

$$head\text{-adjunct}\text{-}phr \Rightarrow \left[ \begin{array}{l} \text{SYNSEM | CAT | MARKING } \boxed{1} marking \\ \text{HEAD-DTR } \boxed{2} \\ \text{DTRS} \left\langle \left[ \text{SYNSEM | CAT | MARKING } \boxed{1} \right], \boxed{2} \right\rangle \end{array} \right]$$

(11) **Big Mess Phrases**

$$big\text{-}mess\text{-}phr \Rightarrow \left[ \begin{array}{l} \text{SYNSEM | CAT | MARKING } \boxed{2} \\ \text{HEAD-DTR } \boxed{1} \left[ \text{SYNSEM | CAT | MARKING } \boxed{2} a(N) \right] \\ \text{DTRS} \left\langle \left[ \text{SYNSEM | CAT} \left[ \begin{array}{l} \text{HEAD } adjective \\ \text{MARKING } marked \end{array} \right] \right], \boxed{1} \right\rangle \end{array} \right]$$

(12) **Binominal Noun Phrases**

$$binominal\text{-}phr \Rightarrow \left[ \begin{array}{l} \text{HEAD-DTR } \boxed{1} \left[ \text{SYNSEM | CAT | MARKING } of\text{-}a(N) \vee of\text{-}bp \right] \\ \text{DTRS} \left\langle \left[ \text{SYNSEM | CAT} \left[ \begin{array}{l} \text{HEAD } noun \\ \text{MARKING } unmarked \end{array} \right] \right], \boxed{1} \right\rangle \end{array} \right]$$

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