

How regular a pattern  
in  
these labyrinths of constructions!

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# THE BIG MESS CONSTRUCTION

- (1) a. *How regular a pattern* it turned out to be!
- b. It's *so good a bargain* I can't resist buying it.

Contrast with *a regular pattern* and *a very good bargain*.

Bolinger (1972), Berman (1974), Zwicky (1995), Ginzburg & Sag (2000), Kennedy & Merchant (2000), Van Eynde (2007), Kim & Sells (2011), Kay & Sag (2012), Arnold & Sadler (2014)

## THE BINOMINAL NP CONSTRUCTION

- (2) a. Let us examine *this labyrinth of a construction*.  
b. She had *a skullcracker of a headache*.

Contrast with *an employee of a Japanese company*.

Napoli (1989), Aarts (1998), Bennis, Corver & Den Dikken (1998), Foolen (2004), Keizer (2007), Kim & Sells (2014)

## WHY BOTHER?

However unusual they are, idiosyncratic constructions are never entirely exceptional. Being part of the grammar, they are expected to share properties with more regular constructions as well.

The purpose of the talk is to provide an analysis of the BMC and the BNPC which captures both their regular and their exceptional properties.

For that purpose I employ the framework of constructivist HPSG.

Sag (1997), Ginzburg & Sag (2000)

# OUTLINE

1. basics of HPSG
2. the simple noun phrase
3. the adjectival phrase
4. a bidimensional hierarchy of phrases
5. the big mess construction
6. the binominal NP construction
7. conclusion

# 1. BASICS OF HPSG

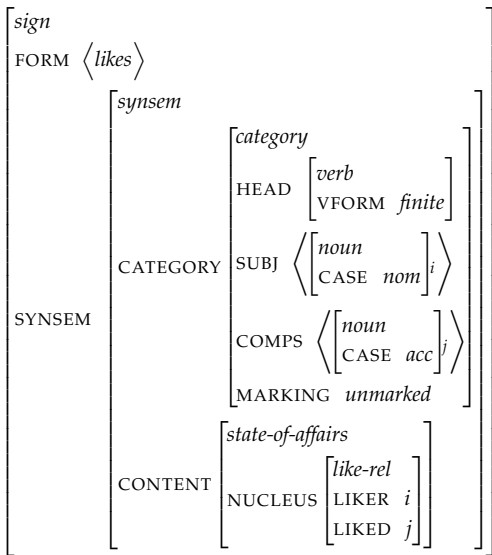
(3) *sign*:  $\left[ \begin{array}{l} \text{FORM } \textit{list(form)} \\ \text{SYNSEM } \textit{synsem} \end{array} \right]$

(4) *synsem*:  $\left[ \begin{array}{l} \text{CATEGORY } \textit{category} \\ \text{CONTENT } \textit{semantic-object} \end{array} \right]$

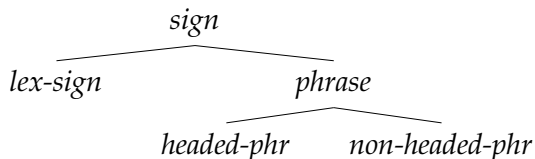
(5) *category*:  $\left[ \begin{array}{l} \text{HEAD } \textit{part-of-speech} \\ \text{SUBJ } \textit{list(synsem)} \\ \text{COMPS } \textit{list(synsem)} \\ \text{MARKING } \textit{marking} \end{array} \right]$

(6) *verb*:  $[\text{VFORM } \textit{vform}]$

(7) *noun*:  $[\text{CASE } \textit{case}]$



# PHRASES



(8) *phrase*: [DAUGHTERS *nelist(sign)*]

(9) *headed-phr*: [HEAD-DTR *sign*]

Head Feature Principle (an implicational constraint)

(10) *headed-phr*  $\Rightarrow$   $\left[ \begin{array}{l} \text{SYNSEM} \mid \text{CAT} \mid \text{HEAD} \quad \boxed{1} \text{ } \textit{part-of-speech} \\ \text{HEAD-DTR} \mid \text{SYNSEM} \mid \text{CAT} \mid \text{HEAD} \quad \boxed{1} \end{array} \right]$



## 2. THE SIMPLE NOUN PHRASE

Co-occurrence restrictions within the noun phrase

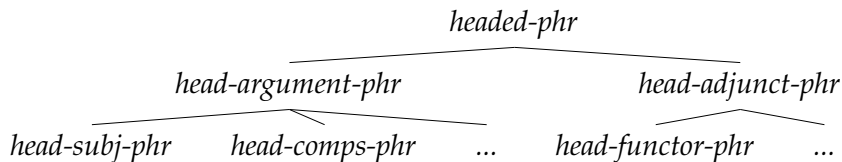
- (11) a. that/\*those woman  
b. those/\*that women

- (12) a. a house/\*houses/\*milk  
b. much beer/\*house/\*houses

- (13) una            bella                    donna  
a.SG.FEM beautiful.SG.FEM woman.SG.FEM  
'a beautiful woman'

- (14) a. old red houses, responsible young drivers  
b. \* that my car, each a bike  
c. all my papers, what a big house

## A HIERARCHY OF HEADED PHRASES



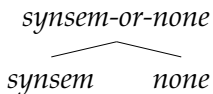
Heads lexically select their arguments, but not their adjuncts.

Functors lexically select their head sister.

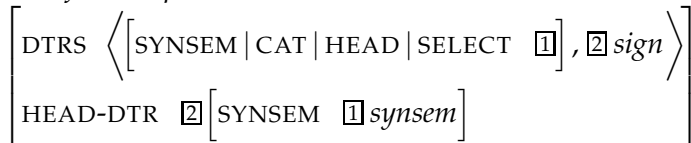
Van Eynde (1998, 2003, 2006), Allegranza (1998, 2007), Kim & Sells (2011), Sag (2012)

## FUNCTOR-DRIVEN SELECTION

(15) *part-of-speech*: [SELECT *synsem-or-none*]

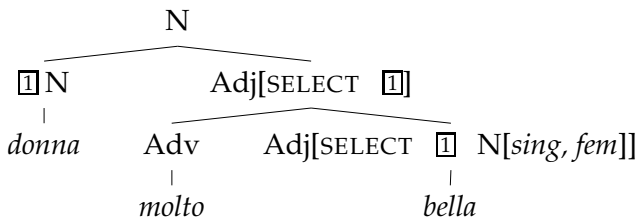


(16) *head-functor-phr*  $\Rightarrow$



## AN EXAMPLE

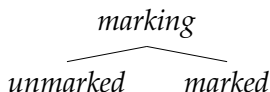
*bella* selects a singular feminine nominal, and so does *molto bella*



*that* selects a singular noun

*a* selects a singular count noun

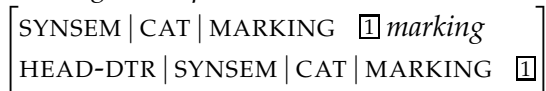
# MARKING



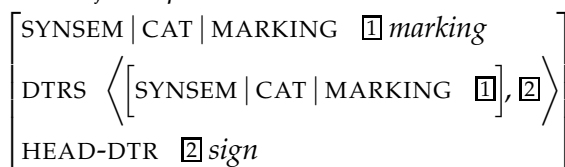
Common nouns and adjectives are unmarked.

Proper nouns, pronouns and determiners are marked.

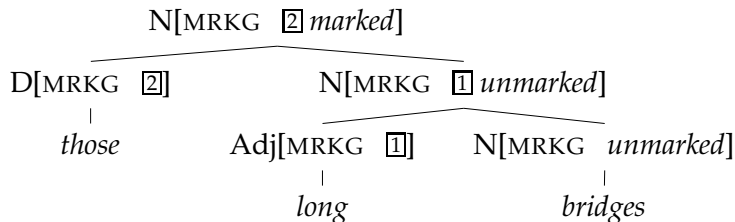
(17) *head-argument-phr* ⇒



(18) *head-adjunct-phr* ⇒



## AN EXAMPLE

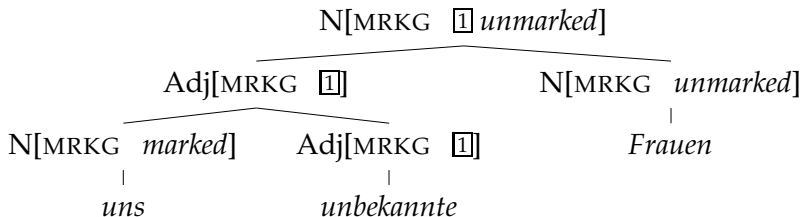


(19)  $\left[ \begin{array}{l} \text{HEAD} \mid \text{SELECT} \mid \text{CAT} \left[ \begin{array}{l} \text{HEAD} \quad \textit{noun} \\ \text{MRKG} \quad \textit{unmarked} \end{array} \right] \\ \text{MRKG} \quad \textit{unmarked} \end{array} \right]$

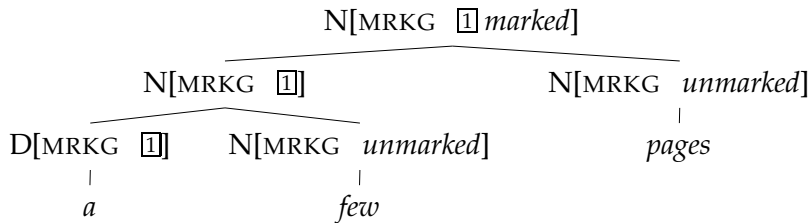
(20)  $\left[ \begin{array}{l} \text{HEAD} \mid \text{SELECT} \mid \text{CAT} \left[ \begin{array}{l} \text{HEAD} \quad \textit{noun} \\ \text{MRKG} \quad \textit{unmarked} \end{array} \right] \\ \text{MRKG} \quad \textit{marked} \end{array} \right]$

## ANOTHER EXAMPLE

- (21) die uns unbekannte Frauen  
the us unknown women  
'the women unknown to us'



# ITERATIVE PROPAGATION



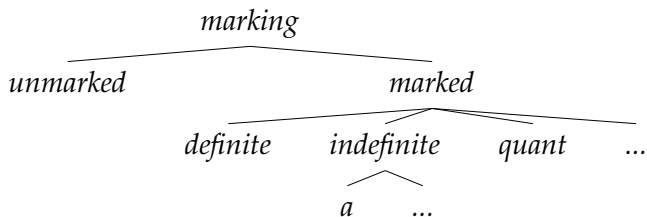
(22) \* Those a few pages

(23) A few pages are/\*is still missing.



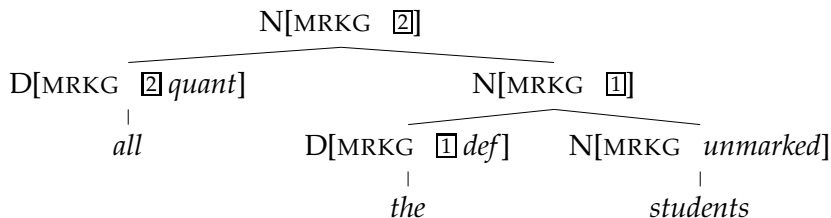
# PREDETERMINERS

- (24) a. All the/\*some foreign students left the room.  
b. What a/\*the mess it was!



## AN EXAMPLE

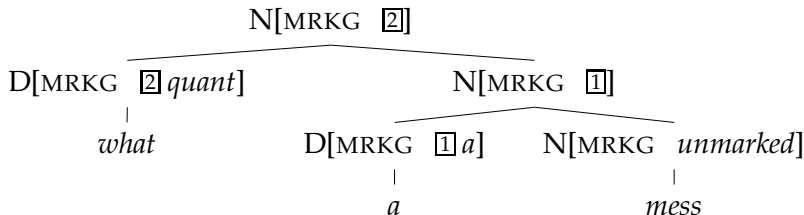
(25)  $\left[ \begin{array}{l} \text{HEAD} \mid \text{SELECT} \mid \text{CAT} \left[ \begin{array}{l} \text{HEAD} \textit{ noun} \\ \text{MRKG} \textit{ def} \vee \textit{ unmarked} \end{array} \right] \\ \text{MRKG} \textit{ quant} \end{array} \right]$



## ANOTHER EXAMPLE

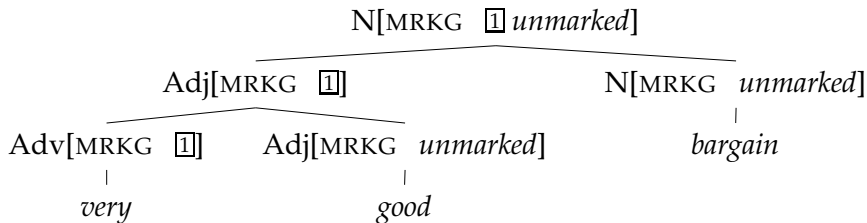
- (26) a. What a mess it was!  
b. What promise she had shown!

(27)  $\left[ \begin{array}{l} \text{HEAD} \mid \text{SELECT} \mid \text{CAT} \left[ \begin{array}{l} \text{HEAD} \textit{ noun} \\ \text{MRKG} \textit{ a} \vee \textit{ unmarked} \end{array} \right] \\ \text{MRKG} \textit{ quant} \end{array} \right]$



### 3. THE ADJECTIVAL PHRASE

(28) It's a very good bargain.

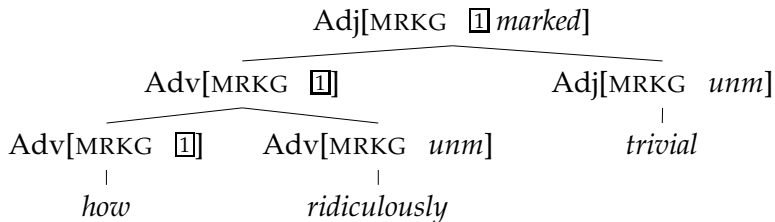


*how* has a MARKING value of type *marked*.

(29) \* A how serious problem is it?

# ITERATIVE PROPAGATION

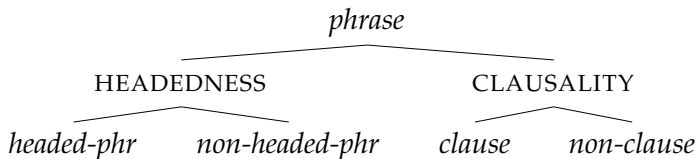
(30) How ridiculously trivial a problem it turned out to be!



# TAKING STOCK

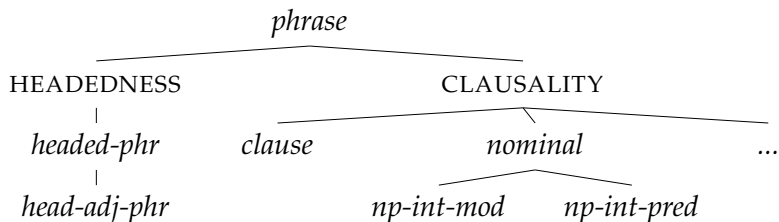
- ▶ Functors lexically select their head sister and leave a mark on the phrases to which they are adjoined.
- ▶ The lexical selection is a defining characteristic of the head-functor phrases.
- ▶ The marking is a defining characteristic of the head-adjunct phrases.
- ▶ Since *head-functor-phr* is a subtype of *head-adjunct-phr*, there may be adjuncts which do not lexically select their head sister.

## 4. A BIDIMENSIONAL HIERARCHY OF PHRASES



Multiple inheritance (Ginzburg & Sag (2000))

# NOMINALS



(31) *nominal*  $\Rightarrow$   $\left[ \text{SYNSEM} \left[ \begin{array}{l} \text{CAT} \mid \text{HEAD} \textit{noun} \\ \text{CONTENT} \textit{scope-object} \end{array} \right] \right]$

(32) *scope-object*:  $\left[ \begin{array}{l} \text{INDEX} \textit{index} \\ \text{RESTR} \textit{set(fact)} \end{array} \right]$



## NP-INTERNAL MODIFICATION

(33) red box

(34) *np-int-mod*  $\Rightarrow$

$$\left[ \begin{array}{l} \text{SYNSEM} \mid \text{CONTENT} \left[ \begin{array}{l} \text{INDEX } i \\ \text{RESTR } \Sigma_1 \cup \Sigma_2 \end{array} \right] \\ \text{DTRS} \left\langle \left[ \begin{array}{l} \text{SYNSEM} \mid \text{CONTENT} \left[ \begin{array}{l} \text{INDEX } i \\ \text{RESTR } \Sigma_1 \text{ neset}(fact) \end{array} \right] \right], \boxed{1} \right\rangle \\ \text{HEAD-DTR } \boxed{1} \left[ \begin{array}{l} \text{SYNSEM} \mid \text{CONTENT} \left[ \begin{array}{l} \text{INDEX } i \\ \text{RESTR } \Sigma_2 \end{array} \right] \end{array} \right] \end{array} \right]$$

Pollard & Sag (1994)

# NP-INTERNAL PREDICATION

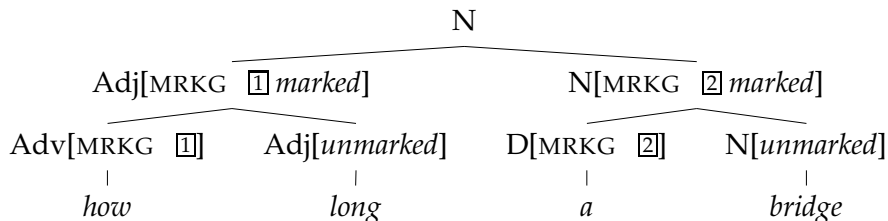
(35) the opera 'Carmen', actor James Franco

(36) *np-int-pred*  $\Rightarrow$

$$\left[ \begin{array}{l}
 \text{SYNSEM} | \text{CONTENT} \left[ \begin{array}{l} \text{INDEX } i \\ \text{RESTR } \Sigma \cup \left\{ \left[ \begin{array}{l} \text{fact} \\ \text{PROP} | \text{SOA} | \text{NUCL} \left[ \begin{array}{l} \text{attr-rel} \\ \text{THEME } i \\ \text{ATTRIBUTE } j \end{array} \right] \right\} \right\} \end{array} \right. \\
 \\
 \text{DTRS} \left\langle \left[ \begin{array}{l} \text{SYNSEM} \left[ \begin{array}{l} \text{CAT} | \text{HEAD} | \text{SELECT } \textit{none} \\ \text{CONTENT} \left[ \begin{array}{l} \text{INDEX } j \\ \text{RESTR } \textit{neset}(\textit{fact}) \end{array} \right] \end{array} \right] \right], \boxed{1} \rangle \\
 \\
 \text{HEAD-DTR } \boxed{1} \left[ \text{SYNSEM} | \text{CONTENT} | \text{INDEX } i \right]
 \end{array} \right.$$

Van Eynde (2015)

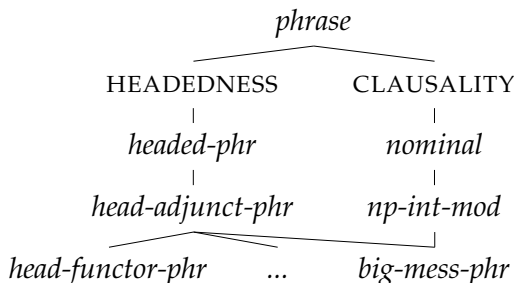
## 5. THE BIG MESS CONSTRUCTION



*how long* is subsumed by *head-functor-phr*, and so is *a bridge*, but what about *how long a bridge*?

(37) *how long a bridge* vs. \* *long a bridge*

# MULTIPLE INHERITANCE

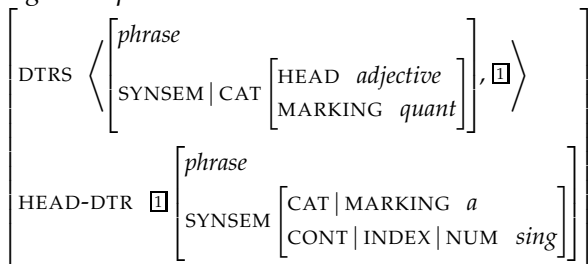


- (38) We see even so occasional a philosophical scholar as Raleigh quoting Aquinas.
- (39) She is too hard a worker to be accused of shirking.

Arnold & Sadler (2014)

# MODELING THE BIG MESS

(40) *big-mess-phr*  $\Rightarrow$



# CONSTRAINTS ON THE ADJUNCT DAUGHTER

Phrasal

(41) \* long a bridge

Adjectival

(42) \* so whopper a bridge

Marking value *quant* (a subtype of *marked*)

(43) \* very long a bridge

## UNDERSPECIFICATION

- (44) a. This is *more serious* a problem than the other.  
b. Any of these could be a sign of a *more serious* problem that needs medical attention.
- (45) a. Let's not make *too big* a deal out of it.  
b. It was always his conviction that feeling and character must take precedence over a *too literal* representation of anatomy.
- (46) a. This is not *good enough* an excuse.  
b. If that's not a *good enough* excuse, he has others.

# CONSTRAINTS ON THE HEAD DAUGHTER

## Phrasal

(47) \* so good bargains, how warm water

## Marked by *a*

(48) \* so serious the problem, how good my bargains

(49) \* how serious some problem, that intricate any issue

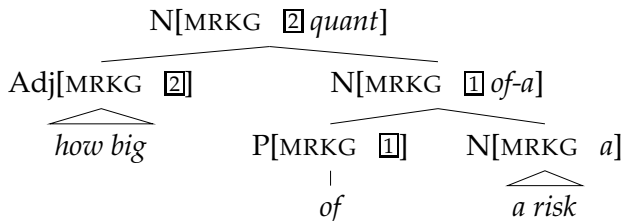
## Singular index

(50) \* that big a few houses, so dark a good many rooms

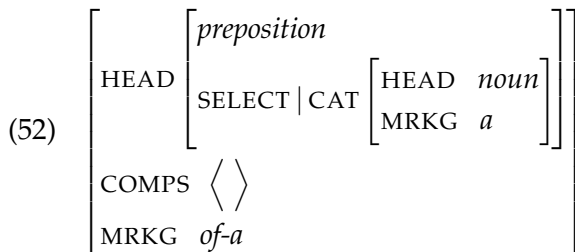
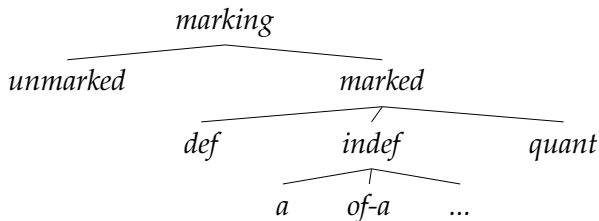


## THE VARIANT WITH *of*

- (51) a. He took *so big of a piece* that he couldn't finish it.  
b. It was a judgment question as to *how big of a risk* it was.



# FUNCTOR TREATMENT



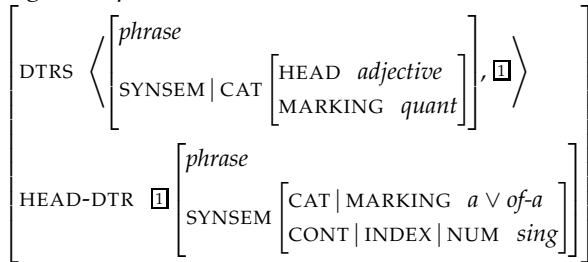
## FUNCTORS CANNOT BE STRANDED

- (53) a. What are you so afraid of \_ ?  
b. Whose uncle is she the daughter of \_ ?
- (54) a. \* What did he take so big of \_ that he couldn't finish it?  
b. \* That is a movie which I never saw that disgusting of \_ in my life.

Abeillé & Godard (2000), Van Eynde (2004)

# THE IDIOSYNCRATIC AND THE REGULAR

(55) *big-mess-phr*  $\Rightarrow$

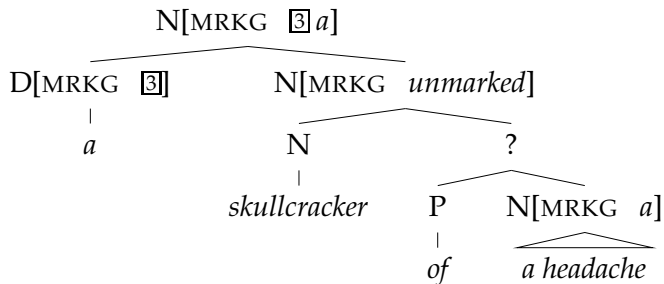


Besides, the big mess phrase inherits the constraints on

- ▶ *head-adjunct-phrase*
- ▶ *np-internal-modification*

## 6. THE BINOMINAL NP CONSTRUCTION

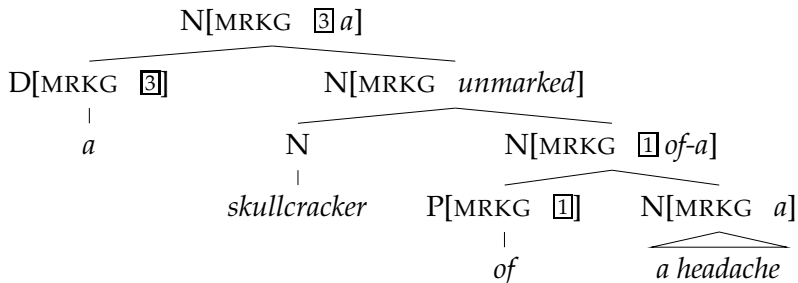
(56) a skullcracker of a headache



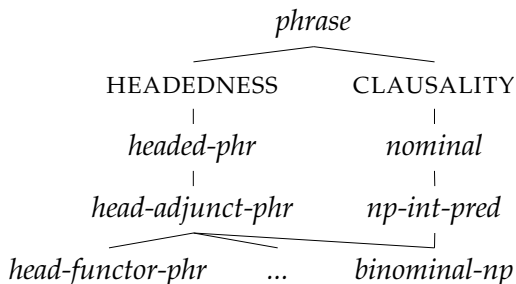
What about the combination of *of* with *a headache*?

## FUNCTOR TREATMENT

- (57) a. That company I would not like to be an employee of  
---  
b. Which club are you a supporter of \_\_\_?
- (58) a. \* What did she have a skullcracker of \_\_\_?  
b. \* What a labyrinth of \_\_\_ we are examining!



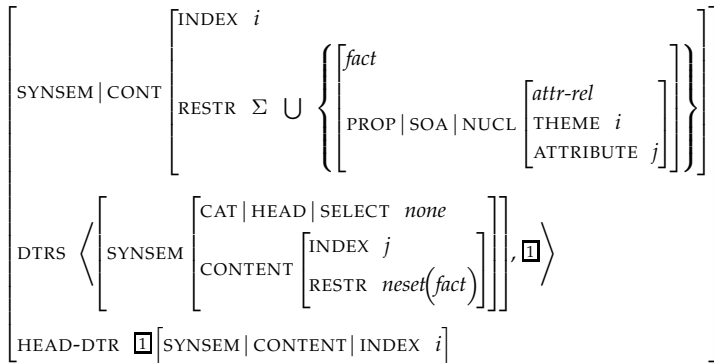
# MULTIPLE INHERITANCE



- (59) a. a skullcracker of a headache → the headache is like a skullcracker
- b. this labyrinth of a construction → this construction is like a labyrinth

# NP-INTERNAL PREDICATION

(60) *np-int-pred*  $\Rightarrow$





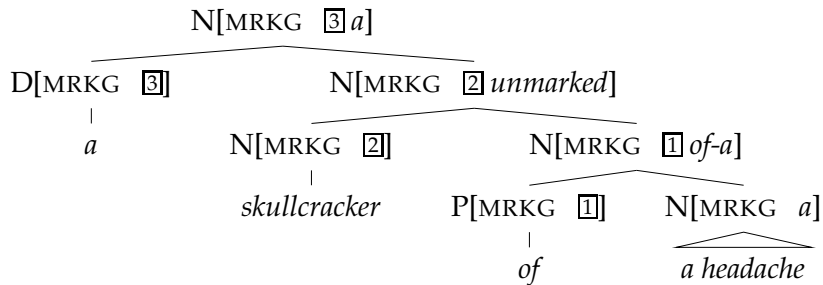
## MODELING THE BINOMINAL NP

(61) *binominal-np*  $\Rightarrow$

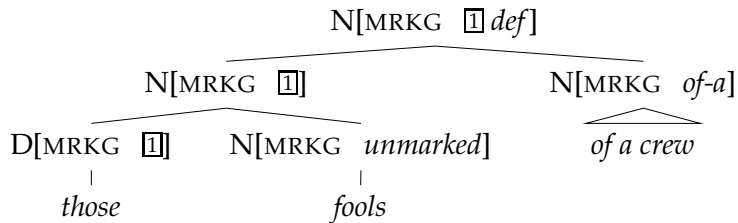
$$\left[ \begin{array}{l} \text{DTRS } \left\langle \left[ \text{SYNSEM} \mid \text{CAT} \mid \text{HEAD } \textit{noun} \right], \boxed{1} \right\rangle \\ \text{HEAD-DTR } \boxed{1} \left[ \begin{array}{l} \textit{phrase} \\ \text{SYNSEM} \mid \text{CAT} \mid \text{MRKG } \textit{of-a} \vee \textit{of-bpl} \end{array} \right] \end{array} \right]$$

- (62) a. It also has *jewels of villages* like West Burton and Askrigg ...
- b. There was a shadowy vagueness about the rest with *its hulks of desks* and clutter of baskets and papers.

# AN EXAMPLE

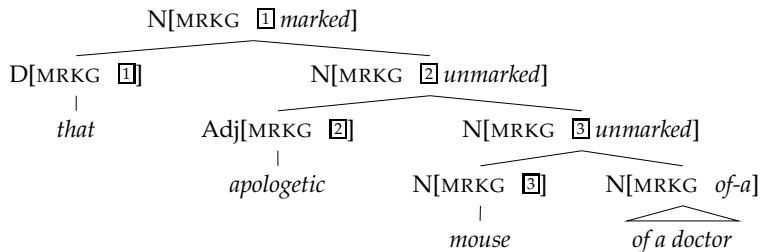


## ANOTHER EXAMPLE

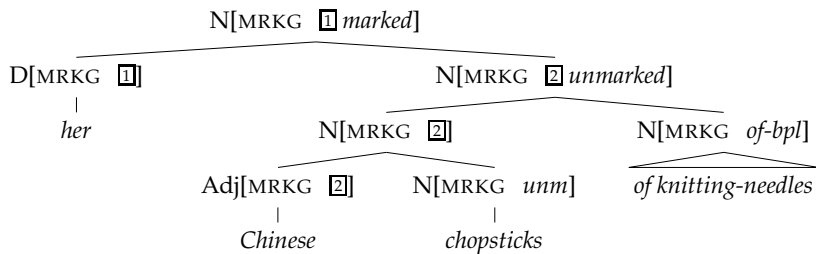


# MODIFIERS - I

(63) She was not being told the truth by *that apologetic mouse of a doctor*.



## MODIFIERS - II



## 7. CONCLUSION

- ▶ The Big Mess Construction and the Binominal NP Construction show a mixture of idiosyncratic and regular properties.
- ▶ The regular properties are inherited from higher (less specific) phrase types, such as *head-adjunct-phr* and *nominal*.
- ▶ The idiosyncratic properties are spelled out in terms of implicational constraints on more specific types, such as *big-mess-phr* and *binominal-np*.
- ▶ Constructivist HPSG provides the means to capture both what is specific about idiosyncratic phrases and what they have in common with other —less idiosyncratic— phrases.
- ▶ A comparison with other treatments is in the paper *A sign-based treatment of two idiosyncratic NPs*.

“The picture that emerges from the consideration of special constructions ... is of a grammar in which the particular and the general are knit together seamlessly.” Kay & Fillmore (1999).

Thank you !