

‘Agreement mismatch’ between *sort/kind/type* and the determiner

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1 Introduction

A plural countable noun in English can stand on its own, without a determiner.¹ A singular countable noun, however, normally needs a determiner in order to be grammatical: **(this) book*. Moreover, the determiner should agree in number with the head noun: **these/this book*. Thus, it might be possible to make a generalisation of the following sort.

- (1) A singular countable noun in English requires a determiner and they should agree in number.

However, there is a type of noun phrase in English which does not conform to this generalisation but is acceptable at least in informal style (Hudson 2004:38).

- (2) *these sort/kind/type of skills*

We will refer to the nouns *sort*, *kind* and *type* collectively as ‘*sort-nouns*’. In (2) the *sort-noun* is preceded by the plural determiner and followed by the preposition *of*, which in turn is followed by the plural noun. We will call these constructions as ‘Plural Determiner plus *Sort-Noun* Constructions (PDSNCs)’.

The *sort-noun* in PDSNCs requires a determiner, because it is a singular countable common noun. The only possible determiner that can satisfy this requirement in (2) is the one just before it. It should be noted that there is a sort of agreement mismatch here: the *sort-noun* is singular but the determiner is plural. Rather, the determiner agrees with the NP after the preposition *of*.

In this study we will investigate the syntactic properties of *sort-nouns* and PDSNCs and show that HPSG can provide a fairly straightforward account of the facts.

Some suggest that the determiner, the *sort-noun* and preposition *of* make a group, constituting a complex determiner (See De Smedt et al. (2007) and others). The following example shows, however, it is possible to put an adjective between the determiner and the *sort-noun*. This makes the complex determiner analysis dubious.

- (3) However, **these steady-state type of organisations**, when they enter new markets, do then use executive search consultants to find people with particular skills. (BNC: CM0 W_commerce)

Others suppose that the *sort-noun* plays a role as a postdeterminer in PDNSCs. For example, Keizer (2007:175) provide the following structure for PDSNCs.

- (4) [NP [_{Det} those][[_{NomPostD} sort][_{LE} of][_N things]]] (Keizer 2007:175)

Keizer (2007:175) assumes that a *sort-noun* is a nominal postdeterminer (NomPostD) and preposition *of* is a linking element (LE), which is required when a postdeterminer is followed by another noun. It is not difficult for this approach to accommodate the example in (3): the *sort-noun* can have an adjectival modifier because it is a nominal postdeterminer.

However, the syntactic status of the postdeterminer position is not clear. For example, there is no consensus about what lexemes can occur in this position (Van de Velde 2011). Moreover, there are some who do not assume a postdeterminer as an independent syntactic position (Huddleston & Pullum 2002), and others have explicitly argued against the idea of postdeterminers in the NP configuration (Van de Velde 2009).

2 PDSNCs

In this section we will provide an analysis of PDSNCs within HPSG. In this theory determiners are often assumed to be a specifier of a head noun (Pollard & Sag 1994, Sag et al. 2003, Kim & Sells 2008). In this assumption the partial lexical description for a singular countable noun is something like the following.

- (5)
$$\left[\begin{array}{ll} \text{POS} & \text{noun} \\ \text{SPR} & \langle [\text{CONCORD } \boxed{1}] \rangle \\ \text{CONCORD} & \boxed{1} \text{ sg} \end{array} \right]$$

¹Following Huddleston & Pullum (2002:355) we assume that the term ‘determiner’ refers to the following things: determinatives (*the tie*), determiner phrases (*almost every tie*), genitive NPs (*my tie*), plain NPs (*what colour tie*), PPs (*over thirty ties*).

The SPR (SPECIFIER) shows that this expression has a specifier and indicates what kind of specifier it is. Thus, the determiner requirement of a countable singular noun is encoded as a matter of valency. The CONCORD (Wechsler & Zlatić 2003) value of (5) indicates that this word is morpho-syntactically singular. The boxed tag [1] in (5) means that the specifier has the same CONCORD value as the head noun, representing determiner-noun agreement. Overall, (5) states that a singular countable noun should have a specifier which agrees with it in number. Thus it can capture the generalisation stated in (1).

However, the *sort*-nouns in PDSNCs do not conform to the description in (5). In (2) *these sort/kind/type of skills*, the singular and countable *sort*-noun does not show number agreement with its specifier. We conclude, then, that (5) is not a satisfactory description for *sort*-nouns occurring in PDSNCs.

Before considering the lexical description of *sort*-nouns we will first consider what is the head of the PDSNCs. We will argue that in PDSNCs the noun following *of* is the head of the whole structure. Consider (6).

- (6) Well I'd actually expect that *those sort of courses* **are**/***is** very uh heavily subscribed uh, heavy just like *these sort of problems* **are**/***is** very hard to solve. (Keizer 2007: 175; adapted from ICE-GB)

Here, the PDSNCs *those sort of courses* and *these sort of problems* show plural agreement with the verb. This indicates that the head of these PDSNCs is a plural noun. The only possible heads are *courses* and *problems*, respectively, because there is no other plural nominal in these PDSNCs.

Given the above discussion about the headedness of the PDSNCs, we can say that the *sort*-noun does not function as the head. Instead, we can propose that the *sort*-noun in PDSNCs is a functor (Van Eynde 2006, Allegranza 1998), selecting the *of*-marked NP head-daughter. The partial lexical description of a functor *sort*-noun will look like the following.

- (7) *sort* (functor):

POS	<i>noun</i>
SEL	[MRK <i>of</i>]
CONCORD	[1] <i>sg</i>
INDEX	[1]
MRK	<i>incomplete</i>

The information about selection is indicated by the SEL (SELECT) feature of a non-head, and it represents the constraints which a non-head daughter imposes on the head daughter. MARKING (MKG) indicates whether the expression involves a determiner or a numeral, or whether it can stand alone without these elements (Van Eynde 2006). The MKG feature of *sort*-nouns has a value whose type is *incomplete*, which means that the word is incomplete on its own, requiring some sort of determiner. The SEL value is [MRK *of*], indicating that the *sort*-nouns select an expression which is marked with *of*. The INDEX feature represents what the expression refers to in the real world, and its value plays an important role in subject-verb agreement.

Our syntactic analysis of a PDSNC is given in (9) on the next page. We assume that the preposition *of* can be a functor. The combination of preposition *of* and *problems* is an instance of a head-functor phrase, which is subject to the following constraint (Van Eynde 2006:164,166).

$$(8) \text{ } hd\text{-}funct\text{-}ph \rightarrow \left[\begin{array}{ll} \text{MRK} & [1] \\ \text{DTRS} & \langle \left[\begin{array}{ll} \text{MRK} & [1] \\ \text{SEL} & [2] \end{array} \right], [3] \left[\text{SYNSEM} \quad [2] \right] \rangle \\ \text{H-DTR} & [3] \end{array} \right]$$

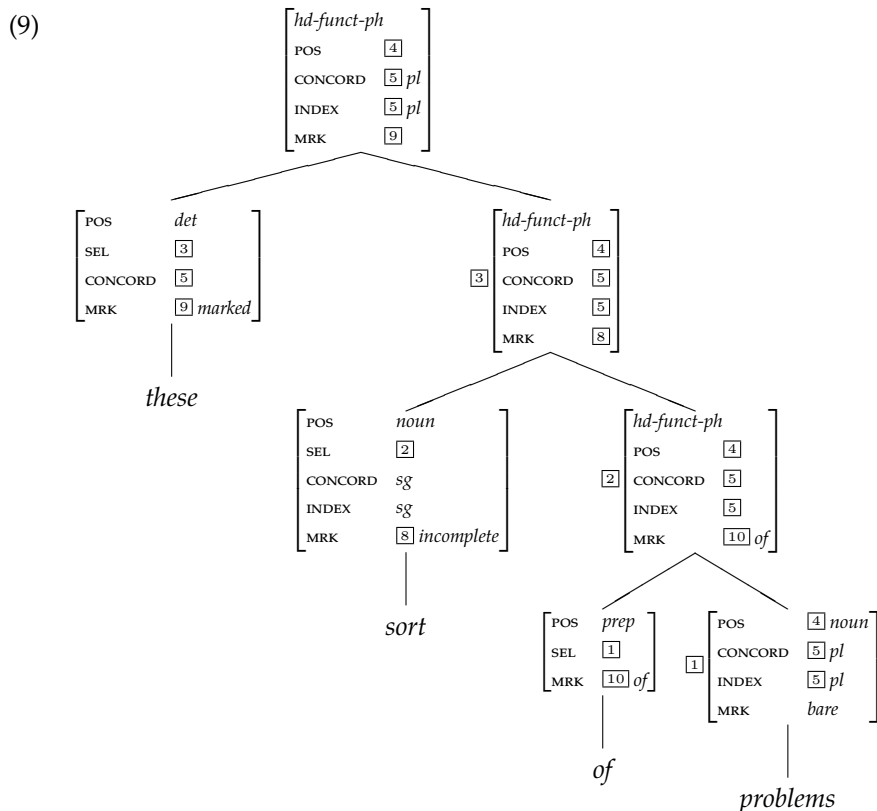
The constraint in (8) states that in a phrase of type *hd-funct-ph* the non-head daughter selects a head daughter, and the MRK value of the mother is identical to that of the non-head daughter. In (9) *of* as a functor daughter selects the head nominal *problems*, and the MRK value of this preposition (i.e. *of*), is inherited to the mother node.² We assume that the CONCORD and INDEX values are inherited from the head daughter to the mother node. Therefore, these values of *of problems* are token identical to those of *problems*, respectively.

As we discussed above, the *sort*-noun in PDSNCs is a functor with the properties in (7). In (9) *sort* selects the *of*-marked phrase *of problems* via the SEL value [2] to form a head-functor phrase. The CONCORD and INDEX values (both *pl*) are inherited from *of problems* to the mother node, *sort of problems*.

The *pl* value of CONCORD enables this phrase to combine with the plural determiner *these*. The combination of the determiner with the head nominal is an instance of a head-functor phrase too. Therefore, the MRK value *marked* is inherited from *these* to *these sort of problems*.

Because the values of CONCORD and INDEX originally come from *problems*, the whole phrase is plural both morpho-syntactically and semantically. The semantic plurality accounts for the plural agreement with the verb, shown in (6).

²See Van Eynde (2005) for an analysis along these lines



It is important to note here that the determiner requirement from the *sort*-noun as a singular countable noun is fully satisfied in (9). The plural determiner satisfies this requirement. Agreement mismatch does not occur here because the head of the whole phrase is the plural noun *problems*.

This analysis of PDSNCs accommodates the data observed in (3), which is problematic for the complex determiner analysis: the *sort*-noun is a type of common noun, so it can be modified by an adjective. Finally, it should be pointed out that this HPSG analysis does not rely on the unclear notion of postdeterminer, as the postdeterminer analysis does.

3 Other Variations

PDSNCs are 'very informal and is considered incorrect by some people' (OALD). However, they are 'very well established, and can certainly be regarded as acceptable in informal style' (Huddleston & Pullum 2002:353). They are in contrast with the less informal variants which are often found in dictionaries.

- (10) a. *This kind of question* often appears in the exam.
 b. *These kinds of questions* often appear in the exam.
 (OALD: http://www.oxfordlearnersdictionaries.com/definition/english/kind_1)

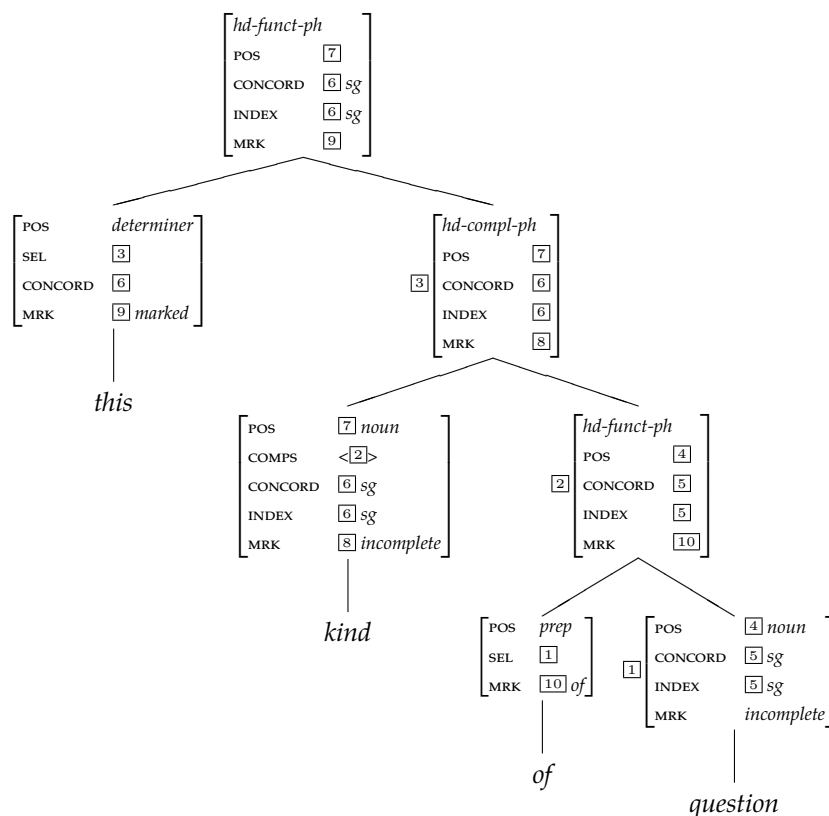
In addition, there is another variant in which the nominal after *of* is the only plural element in the phrase.

- (11) *this sort/kind/type of questions*

The variants in (10) and (11), like PDSNCs, include a determiner, a *sort*-noun and an *of*-phrase. However, the *sort*-noun in these constructions agrees in number with the preceding determiner.

The structure for (10a) is given in (12) on the next page. We assume that a *sort*-noun can also be a head. The *sort*-noun in (12) is a head, not a functor. The combination of *kind* and *of question* is a structure of a head-complement phrase. The CONCORD value *sg* is inherited from *kind* to the mother node, which enables this phrase to combine with the singular determiner *this*. The INDEX value is also inherited from the head-daughter to the mother node, so the *sg* value reaches the top node. This makes the whole phrase semantically singular, which leads to the singular agreement with the verb when the phrase is in the subject position, as illustrated by (10a). Thus, the form of both determiner-noun agreement and the subject-verb agreement are determined by the properties of the head noun *kind*. Therefore, the form of *question* is irrelevant for the both types of agreement.

(12)



In (10b) the head of the whole phrase is the plural nouns *kinds*. Therefore, the forms of determiner-noun agreement and the subject-verb agreement are determined by the CONCORD and the INDEX values of *kinds*. In this structure they are both *pl*, indicating that both types of agreement should be in plural, as shown by (10b). Again the form of *questions* is irrelevant for the purpose of agreement.

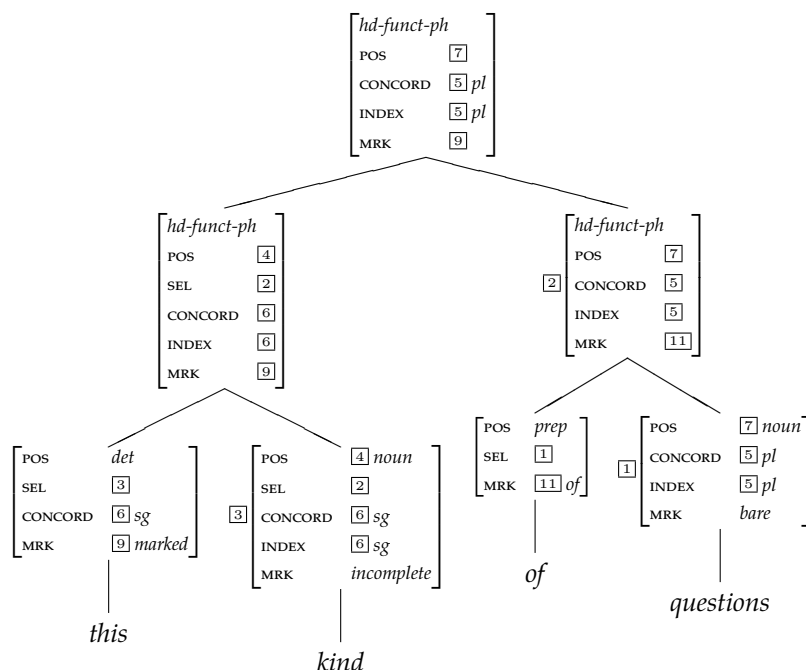
The structure in (12) also accommodates the variant observed in (11). In this example the right-most noun is plural, but as discussed above, it is irrelevant for both types of agreement because it is not the head. The head is the singular *sort*-noun, so it triggers singular agreement not just with the determiner but also with the verb.

(13) ... that this type of promoters is more frequent in *B.subtilis* than in *E.coli* (11).

(BNC: FTE W_ac_nat_science)

An interesting point about the functor analysis of *sort*-nouns given in (7) is that it also allows the following structure, in which the combination of the determiner and the *sort*-noun acts as a phrasal functor, selecting the *of* phrase.

(14)



The determiner should be singular because its head, *sort*, is [CONCORD sg]. The SEL value of *sort* is inherited to the mother node because it is not discharged until combining with the *of*-phrase. Like PDSNCs, the head of the whole phrase is the head-daughter of the *of* phrase. If it is a plural NP, then the whole phrase is plural. This accounts for plural agreement with the verb.

- (15) a. This kind of rankings have given ammunition to conservatives ... (COCA: 2001 NEWS CSMonitor)
 b. We had somebody on our air yesterday who said that this type of women like to be around rich and powerful men. (COCA: 2008 SPOK Fox_Gibson)

Now, note that this structure generates the same sequence as (11), i.e., singular D + singular *sort*-noun + *of* + plural N. Recall that our analysis of (11) assumed that the *sort*-noun was the head, which accounted for the singular agreement both with the determiner and the verb, as in (13). Thus, our dual treatment of *sort*-nouns, as common nouns and functors, accounts for the fact that the variant in (11) triggers both singular agreement (13) and plural agreement (15) with the verb.

4 Conclusion

This study started with the observation about singular countable nouns, and we made a tentative generalisation in (1). However, a *sort*-noun in PDSNCs does not seem to conform to this generalisation: it is a singular countable noun requiring a determiner, but the determiner satisfying this requirement is not in the agreement relation with it. The determiner agrees with the NP following *of*. We claimed that a *sort*-noun in PDSNCs is a functor, a non-head selecting a head. We argued that the functor treatment of *sort*-nouns, shown in (9), can provide a satisfactory account of the PDSNC data. We also suggested that the dual patterns of subject-verb agreement which the *this sort of things* variant shows, observed in (13) and (15), can be accounted for by assuming that a *sort*-noun is ambiguous: it can be either a head of the whole NP as in (12) or a functor as in (14).

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