These kind of words: number agreement in the species noun phrase in international academic English

Stenton, A.J.

2 The species noun phrase

2.1 Introduction

In Chapter 1, I introduced the variant structures of the species noun phrase, e.g. *these kinds of errors*, *this kind of error*. In this chapter, I will expand the description of those variants, initially with reference to three modern reference grammars: *A Comprehensive Grammar of the English Language* (1985), by Quirk et al.; the *Longman Grammar of Spoken and Written English* (1999) by Biber et al.; and *The Cambridge Grammar of the English Language* (2002) by Huddleston and Pullum. I start by outlining the variant structures that they discuss, using examples drawn from the Hansard Corpus (§2.2), first those showing number agreement within the species noun phrase (§2.2.1), and then those showing number agreement between the species noun phrase functioning as subject within its clause and the verb of that clause (§2.2.2). Section 2.3 begins with a brief description of the corpora used as evidence by the three grammars, before moving on to how the grammars describe the species noun phrase variants, most of which show number agreement both within the species noun phrase (§2.3.1) and between the species noun phrase and the verb (§2.3.2). Section 2.3.3 addresses those variants where there seems to be a mismatch in number between the species noun and the verb. This section also introduces the concepts of the proximity principle and notional concord, which leads to a discussion of which of the two nouns in the species noun phrase functions as its head, and the implications of this headedness for number agreement with the verb. In the final section of this part of the chapter, I review the status of the one component of the species noun phrase that cannot be marked for number – the preposition *of* (§2.3.4) – and introduce an analysis which depicts *kind of* in e.g. *these kind of N2* not as a species noun followed by a prepositional phrase, but as a post-determiner, with the determiner *these* then agreeing in number with the N2.

Having reviewed the descriptions of the species noun phrase in the three reference grammars, I then introduce a number of theoretical analyses from Denison (e.g. 1998), Keizer (e.g. 2007), Davidse and colleagues (e.g. Davidse et al., 2008), and Klockmann (e.g. 2017a), all of which include the post-determiner analysis introduced in §2.3.4. These analyses describe the species noun phrase in much the same way as the grammars, but adopt a different approach to the anomalous *these kind of errors*. Denison (§2.4.1) introduces a post-determiner analysis for the species noun phrase to account for what he calls this ‘number incongruence’ between the determiner and the species noun. Keizer (§2.4.2) adopts Denison’s post-determiner analysis, but then

reconfigures it as a sub-set of the standard analysis with the prepositional phrase. Davidse and colleagues (§2.4.3) extend, in particular, Denison's post-determiner analysis, but justify it differently, and include not only number incongruence but also number agreement, by introducing a semantic and pragmatic analysis. Finally, Klockmann (§2.4.4) introduces an analysis which distinguishes between those species nouns which are marked for number, either singular or plural, and those which she characterises as 'numberless'. These analyses are then given a brief historical context from Curme (1931) (§2.4.5). The chapter concludes with a summary of these various analyses, which will be used throughout the rest of this study, and especially in the corpus analysis in Chapter 5.

2.2 Variation in the species noun phrase

I have already shown in §1.2 that usage guide writers prefer the use of some of the variant forms of the species noun phrase over others. For example, they prefer the use of *these kinds of N2* over *these kind of N2*. I present the views of the usage guide writers in detail in Chapter 3, but I start here by looking at what variation actually exists, i.e. at what variants of the species noun phrase are in use (and see the comments on this by Ilson in §1.2). To do this, I drew on the Hansard Corpus. Hansard is a printed, and more recently presented online, record of all speeches made by Members of Parliament (MPs) and peers in the UK Parliament from 1803 onwards, and I chose it for my analyses because it provides a good mix of adult native and non-native speakers, who often speak from notes or scripts, and whose speeches are edited for the record with only a very light touch (see Kelly, 2013; and see Caruso et al., 2015, on the Canadian Hansard).[1] In short, Hansard provides the language (speech / writing) habits of a large number of people in a relatively formal setting over a long period of time. In 2022, there were 650 MPs eligible to speak in the House of Commons,[2] and 771 peers in the House of Lords.[3] Hansard can thus potentially provide many examples of variant usage of predominantly British English, and can therefore either contribute to or confirm the list of the variants I searched for in the formal register of academic English that makes up the Stenton Corpus (see Chapter 5). This use of Hansard is also practised by Tieken-Boon van Ostade (2020; see especially p. 123). The Hansard Corpus is hosted at Brigham Young University in Utah, and contains 1.6 billion words, from 1803 to 2005.[4] The later examples used in this chapter were

1 And see <https://hansard.parliament.uk/about> (last accessed 12 September 2022).
2 See <https://members.parliament.uk/parties/Commons> (last accessed 2 September 2022).
3 See <https://www.statista.com/statistics/877665/house-of-lords-members-by-political-party/> (last accessed 2 September 2022).
4 See <https://corpus.byu.edu/> (last accessed 23 August 2022).

searched directly on the Hansard website.[5] In this chapter, all references to Hansard relate only to the United Kingdom.

2.2.1 Number agreement within the species noun phrase

Hansard provides examples in which number agreement within the species noun phrase is maintained throughout the phrase, with singular agreement shown in (1) and plural agreement in (2):

(1) Schools cannot release teachers for **this kind of activity**, because they cannot afford the cover required in the classroom.
(Hansard, 10 December 2013)

(2) The immigration and asylum chambers of the First-tier Tribunal and the Upper Tribunal have been set up specifically to deal with **these kinds of matters**.
(Hansard, 4 July 2012)

Typically, the species noun phrase (highlighted in bold in the examples) contains a noun (in (1) an N1/species noun (SN): *kind*) preceded by a determiner (DET: *this*) and followed by a prepositional phrase (PP: *of activity*), the PP itself consisting of a preposition (P: *of*)[6] followed by a second noun (N2: *activity*). In (2) the SN (*kinds*) is plural, as is the preceding DET (*these*), whilst the following PP (*of matters*) also includes a plural N2 (*matters*). Similar examples can be found which include the species nouns *sort* (3) and *type* (4):

(3) We should not let **these sorts of events** defeat us: France is a beautiful country that many people want – and will continue to want – to visit, and we should not be cowed by **these sorts of threats**.
(Hansard, 18 July 2016)

(4) My Lords, will the noble Earl give us an assurance that in future when **this type of event** occurs, the Government will publish what has happened so that there is no confusion?
(Hansard, 18 July 2016)

In both examples there is number agreement throughout the species noun phrase: plural in the two species noun phrases in (3) and singular in (4). Examples of the species noun phrase can also be found with the determiners *that* (5) and *those* (6):

5 See <https://hansard.parliament.uk> (last accessed 23 August 2022).
6 This analysis of *of* as a preposition will be challenged in §2.3.4 below.

(5) We do not hear that very often in this Chamber; I welcome **that kind of intervention**.
(Hansard, 4 November 2016)

(6) Too often, under the current legislation, people who get into **those sorts of difficulties** or experience **those sorts of events** do not know who to turn to – the local authority, the citizens advice bureau, a friend or even the local MP.
(Hansard, 18 January 2017)

Once again, these examples show number agreement throughout the species noun phrase: singular in (5) and plural in the two species noun phrases in (6). These six examples demonstrate the basic, or canonical, patterns of number realisation within the species noun phrase, as approved of by the usage guides quoted in Chapter 1 and described more fully in Chapter 3.

However, not all the species noun phrases found in Hansard demonstrate this kind of number agreement throughout the phrase. Examples can be found where the determiner and the species noun do not show number agreement, but where the determiner and the N2 do show such agreement, as in (7):

(7) I often hear Ministers say **these kind of things**.
(Hansard, 5 September 2013)

In (7), the DET *these* and the N2 *things* are marked for plural, whilst the SN *kind* remains singular, or unmarked for number.[7] This is the kind of example that the usage guide writers who were cited in §1.2 find "insufferable" (Baker, 1779, p. 99) or "illogical" (Garner, 2022, p. 1094). Further examples which do not show number agreement throughout the species noun phrase are shown in (8) and (9):

(8) Is not the right hon: and gallant Gentleman aware that a Government publication has drawn attention to **this kind of things**; and does he not consider that something more might have been done to prevent the swindling of the labour population?
(Hansard, 4 October 1944)

(9) However, I rather feel that in this case we might perhaps be considering some kind of way in which perhaps the senior members of the relevant committee of the European Parliament should from time to time be in dialogue with the

7 The use of the terms 'singular', 'plural' and 'unmarked' will be discussed below. Note that Klockmann (2017a, p. 298) refers to "the expression of plurality, singularity, and numberlessness on kind-words and N2s"; and see §2.4.4 below.

Select Committees of another place in order precisely to discuss **these kinds of problem**, where the competences are divided but are extremely important.
(Hansard, 27 January 1986)

In (8) the DET *this* and the SN *kind* are both singular but the N2 *things* is marked for plural. In contrast, example (9) includes a plural DET *these* and SN *kinds* with a singular N2 *problem*.

2.2.2 Number agreement beyond the species noun phrase

The potential for number agreement is not, however, restricted to within the species noun phrase. When the species noun phrase functions as the subject of a clause, then the verb in that clause can also show number marking. Example (4), repeated here as (10), and example (11) show singular and plural agreement, respectively:

(10) My Lords, will the noble Earl give us an assurance that in future when **this type of event occurs**, the Government will publish what has happened so that there is no confusion?
(Hansard, 18 July 2016)

(11) Are we quite sure, therefore, that it is safe at this stage to assume that we ourselves are free from blame for tolerating for so long a climate of opinion within which **these kinds of events** – and there are many others – **have occurred**?
(Hansard, 4 July 2000)

In both (10) and (11) the verbs can potentially show either singular or plural number: *occurs/occur* and *has occurred/have occurred*, but in both examples the number marking of the verb matches that of the species noun phrase. Also, in both examples all the words in the species noun phrase which can be marked for number are either singular (*this*, *type*, *event* in (11)) or plural (*these*, *kinds*, *events* in (12)). But the Hansard Corpus also provides examples where this number agreement is not evident, as in (12):

(12) Given that Ebola vaccines are unlikely to be ready at scale before April and that in the meantime millions could have been infected, does the Minister agree that **these kind of military contributions are** absolutely vital?
(Hansard, 20 October 2014)

In (12) there is plural marking on the DET *these*, the N2 (*military*) *contributions*, and the V *are*, but the SN *kind* remains singular. This is similar to example (7) above, but

with the addition of verb agreement with the species noun phrase subject. Precisely which part of the subject the verb agrees with is discussed below (§§2.3.2–2.3.4).

It should be noted here that there are many verb forms which are not marked for number, and so the issue of agreement with a species noun phrase subject does not always arise. For example, past tense verbs are not marked for number: *this kind of thing* ***happened*** */ these kinds of things* ***happened***. Similarly, modal verbs are not marked for number: *this kind of thing* ***can*** *happen / these kinds of things* ***can*** *happen*.

Summary

The species noun phrase has a number of variant forms. It can show: number agreement throughout, either singular or plural (examples 1–6); number agreement between the determiner and the N2, but not with the species noun (7); number agreement between the determiner and the species noun, but not with the N2 (8–9); number agreement between the species noun and a verb (10–11); and number agreement between the determiner, the N2 and the verb, but not with the species noun itself (12). In the following sections I look at how this variation is described in three modern reference grammars (§2.3) and in a small number of theoretical analyses (§2.4).

2.3 The modern reference grammars

The three reference grammars used in this study are all, at least in part, corpus-based, and a note on the corpora used will be helpful both here and in the discussion of the Stenton Corpus in Chapter 5, especially as that corpus is restricted to just one formal register: academic English. Quirk et al. (1985) "have … drawn on … several important corpora, preeminently: (a) the corpus of the Survey of English Usage (SEU) … (b) the Brown University corpus … [and] (c) the … Lancaster-Oslo / Bergen corpus (LOB)" (1985, p. 33). The SEU was compiled between 1955 and 1985 and contains one million words of "both written and spoken English … sampling them in a range of genres and contexts" (McEnery and Hardie, 2012, p. 74); the Brown Corpus contains one million words of written text from fifteen categories of American English from 1961 (2012, pp. 9, 97–98); and the LOB corpus data also dates from 1961 and is again one million words in size, from fifteen categories of written British English, and was designed to mirror the Brown Corpus (2012, pp. 9–10, 97–98).

Biber et al. (1999) used the Longman Spoken and Written English (LSWE) Corpus, which contains "over 40 million words of text … focusing on the four registers of conversation, fiction, news, and academic prose" (1999, p. 24).[8] Huddleston and Pullum (2002) made use of "the Brown corpus … the Lancaster / Oslo / Bergen (LOB)

8 These registers ate abbreviated as CONV, FICT, NEWS and ACAD in the examples; † indicates a truncated example.

corpus … the Australian Corpus of English (ACE); and the *Wall Street Journal* corpus" (2002, p. 11, ftn. 3). ACE, they explain, "matches the Brown and LOB corpora in most aspects of its structure and constituency"[9] but with data from 1986, and the *Wall Street Journal* corpus contains thirty million words from the period 1987 to 1989.[10]

2.3.1 Number agreement within the species noun phrase

The system of number in the English noun phrase presents what is essentially a very simple contrast, that between singular and plural: "The English number system constitutes a two-term contrast: SINGULAR, which denotes 'one', and PLURAL, which denotes 'more than one'. Each noun phrase is either singular or plural … ." (Quirk et al., 1985, p. 297). Quirk et al. define number agreement as "the relationship between two grammatical units such that one of them displays a particular feature (*eg* plurality) that accords with a displayed (or semantically implicit) feature in the other" (1985, p. 755), i.e. *this kind* and *these kinds* show number agreement, as seen in examples (1) and (2) above, whilst *these kind*, as seen in example (7) and *this kinds* do not.[11] However, this apparent simplicity of singular and plural agreement is immediately complicated by the fact that the species noun phrase contains two nouns, e.g. *kinds* and *matters* in (2). Examples (8) and (9) above show different number marking on the two nouns: *this kind of things* in (8) and *these kinds of problem* in (9). In both examples, the determiners and the species nouns show the same number marking, singular in (8) and plural in (9), but both examples show different number marking on the N2: plural in (8) and singular in (9). Similarly, in *these kind of things* in (7), the N2 *things* carries the same plural number marking as the determiner *these*, but the species noun *kind* is singular. For Quirk et al. it is the species noun that determines the number of the species noun phrase (and see §2.3.3 below), whilst the number of the N2 in the dependent prepositional phrase remains unaffected.

Huddleston and Pullum (2002, p. 352) note that "[r]estrictions on the combination of elements within an NP that have to do with number are of two kinds, **agreement** and **selection**" (I will not be dealing with selection, e.g. *one doctor* vs. *two doctors*, in this study), as shown in example (13):

(13) i a. this book / *this books b. these books / *these book[12]
(Huddleston and Pullum, 2002, p. 352)

9 See <http://www.hit.uib.no/icame/ace/aceman.htm#cod> (last accessed 6 August 2018).
10 See <https://catalog.ldc.upenn.edu/LDC2000T43> (last accessed 6 August 2018).
11 The only example of *this kinds* that I found in Hansard was in the phrase "pests of this kinds" (12 March 1917).
12 The asterisk denotes an ungrammatical string.

Huddleston and Pullum note that "there is agreement in [(13)] because *this* and *these* are inflectional forms of a single lexeme ***this***: the agreement rule requires the singular form *this* [i.e. with *book*] …, and the plural form *these* [i.e. with *books*]" (2002, p. 352). For Huddleston and Pullum, then, it is also the noun which determines number marking in the noun phrase. It is this agreement rule that underlies the comments expressed in the quotations from the usage guides cited in §1.2. All the Hansard examples listed above follow this number agreement rule, apart from (7) and (12). However, as noted above, this agreement rule relies on an analysis of the species noun phrase as determiner + species noun + prepositional phrase, with the N2 in the prepositional phrase thereby falling outside the scope of the number determination of the species noun, which determines number only within the noun phrase itself.

Biber et al. (1999) also present a number of examples which follow Huddleston and Pullum's agreement rule, but they extend the scope of the rule to include the N2, noting that "[s]pecies nouns combine with countable as well as uncountable nouns. With countable nouns there tends to be agreement in number between the species noun and the following noun [i.e. the N2] (e.g. *that kind of thing* v. *all kinds of things*)" (1999, p. 255). This suggests that the determiner, the species noun and the N2 tend to agree in number, as shown in examples (1) to (6) above. But Biber et al. continue: "we also find singular species nouns combining with a following plural noun [i.e. (14)] and plural species nouns combining with a following singular noun [i.e. (15)]" (1999, p. 255):

(14) I mean, do we want **these kind of people** in our team? (CONV)

(15) For **these kinds of question** it is necessary that the marked cell populations differ in the expression of the gene. (ACAD†)
(Biber at al., 1999, pp. 255–256)

Examples (14) and (15) are similar to the Hansard examples (7) and (9) above. But example (14), with its plural determiner and singular species noun, breaks Huddleston and Pullum's agreement rule in a way that (15) does not. Biber et al. explain this by saying that "[t]here is a close relationship between species nouns and determiners. Singular countable nouns appear to behave like uncountables in these expressions. The determiner preceding the species noun occasionally agrees with the noun in the *of*-phrase [i.e. the N2] rather than with the species noun (as in *these kind of people*)" (1999, p. 256). It should be noted, however, that example (14) is from the conversation part of their corpus, i.e. a less formal register than the academic, which provided example (15). Quirk et al. (1985, p. 249) also note that there tends to be number agreement between the species noun and the N2 if both are countable, but not

if the N2 is uncountable. We are not given any context for example (15), but a similar example can be found in Hansard:

(16) The hon. Lady asks the right **questions**, and the point of the debate is precisely to flush out **these kinds of question**.
(Hansard 14 May 2019)

The use of plural *questions* earlier in the sentence in (16) might suggest that we are indeed looking at a singular countable use of *question* in the species noun phrase, so (15) (and, of course, (16)) remains a problem for the analyses as given so far.

2.3.2 Number agreement beyond the species noun phrase

As I have shown in §2.2.2 above, number agreement is not restricted to within the (species) noun phrase. Quirk et al. also describe number agreement beyond the noun phrase, and note that "[t]he most important type of concord in English is concord of 3rd person number between subject and verb. The normally observed rule is very simple: [a] singular subject requires a singular verb … [a] plural subject requires a plural verb" (1985, p. 755).[13] This is the number agreement shown in examples (10), *this type of event occurs*, and (11), *these kinds of events ... have occurred*. The rule does not, however, account for example (12), *these kind of military contributions are*, unless we adopt the Biber et al. re-classification of *kind* as uncountable, in which case Quirk et al.'s rule holds. However, it is still not possible to say, on the basis of these examples, which of the two nouns in the species noun phrase determines the number of the verb.

Quirk et al. themselves (1985, pp. 764–765), however, regard examples such as (12) as both "informal" and "an idiomatic anomaly". They consider the similar example (17):

(17) These/Those sort/kind/type of parties *are* dangerous.
(Quirk et al., 1985, p. 764)

They explain this as "a discrepancy in number between the noun [i.e. the SN] and the determiner *those*, as well as with the verb. Rephrasing can avoid the anomaly" (1985, p. 765), and they list three options:

(18) Those kinds of parties *are* dangerous.

(19) That kind of party *is* dangerous.

13 Baker (2013, p. 607) points out that 'concord' is sometimes used for number agreement within the noun phrase, and 'agreement' for number agreement that shows up on verbs. As I will be discussing both aspects in this study I will use 'agreement' throughout.

(20) Parties of that kind *are* dangerous.
(Quirk et al., 1985, p. 765)

Examples (18) and (19) resolve the anomaly by adopting number agreement throughout, whilst (20) accommodates the different number marking on the N2 (here *Parties*) and the species noun by moving the species noun to a (dependent) prepositional phrase, *of that kind*, leaving the verb to agree with the only candidate for the subject noun, *Parties*. However, although Quirk et al. find example (17) anomalous, they do offer an explanation for it, and this is presented in the following section.

2.3.3 Number agreement, the proximity principle, and headedness

One of the reasons that Quirk et al. (1985, pp. 764–765) find *These/Those sort/kind/type of parties are dangerous* anomalous derives from their traditional analysis of the species noun phrase, as noted above. They regard it as a noun phrase – *These/Those sort/kind/type* – followed by a prepositional phrase *of parties*, with *sort/kind/type* accordingly being the head of the noun phrase, which importantly, as head, "dictates concord with other parts of the sentence" (1985, p. 1238), including the number of the verb (1985, p. 755). It is this approach which makes the analysis of *Parties of that kind are dangerous* straightforward, as plural *Parties* must be the head of the subject noun phrase, as it determines the plural number agreement with the verb (*are*). However, even though Quirk et al. find *These/Those sort/kind/type of parties are dangerous* anomalous, they do have an explanation for it. This involves the ancillary concept of "notional concord" as being determined by what they call the "principle of proximity" (1985, p. 757). This proximity principle can best be illustrated with an example from a language journal manuscript that I copy-edited (see §1.1), albeit one that is not included in the Stenton Corpus, as it dates from 2018:[14]

(21) Each trial consisted of a salience phase, a centering, and a naming phase (illustrated in Figure 1). In the salience phase, **a pair of target and distractor pictures were simultaneously presented** on a gray background for 3000 ms. In order to reorient the children towards the center of the screen, a flashing red star was presented thereon for 1000 ms during the centering phase. In the naming phase, **the same pair of pictures as in the salience phase was presented** again for 3000 ms and was accompanied by an auditory label.
(JCL_1800025)

In (21), there are two parallel and very similar phrases, shown in bold. The structural analysis of the second string is straightforward:

14 The manuscripts comprising the Stenton Corpus date from 2006 to 2016 (see §5.2).

(22) [$_{NP}$the same pair [of pictures] [as in the salience phase]] [$_{VP}$was presented]

In (22), singular *pair*, as head of the subject noun phrase (*the same pair of pictures as in the salience phase*), determines the singular verb in the verb phrase (*was presented*). The first string is, however, in Quirk et al.'s terms, anomalous:

(23) [$_{NP}$a pair [of target and distractor pictures]] [$_{VP}$were simultaneously presented]

In (23), singular *pair* is again head of the subject noun phrase, but this time 'determines' a plural verb: *were ... presented*. The explanation given by Quirk et al. for the type of structure in (23) is that the plural number of the verb is influenced, not by the singular subject noun *pair*, but by the plural noun (N2) *pictures* (part of the prepositional phrase *of target and distractor pictures*), because of its proximity, and that this proximity overrides the number of the head noun. There is no such issue with the other structure (22), as the proximate noun, *phase*, is itself singular.

Biber et al. (1999, p. 189) make a similar point: "[t]he regular pattern of grammatical concord may be disturbed by **proximity**, i.e. the tendency for the verb to agree with a noun which is closer to the verb (typically in a postmodifier) but which is not the head of the subject noun phrase." This then raises the issue of how to identify the head of a species noun phrase, especially one in subject position, i.e. the issue of whether the species noun itself or the N2 should be analysed as the head. On this point, Biber et al. say: "It is not always easy to identify the head of a noun phrase, particularly with quantifying nouns and species nouns" (1999, p. 257). They add: "[s]pecies nouns narrow down the reference of a noun in the same way as the semi-determiner *such*" (1999, p. 258), and they provide the following examples:

(24) To some degree **such** differences of definition may be a function of the extension of the tongue. (ACAD)

(25) **These kinds of** questions cannot be transformed into hypothesis form. (ACAD)
(Biber et al, 1999, p. 258)

The point being illustrated here is that *These kinds of* in (25) can be seen as functionally equivalent to *such* in (24), i.e. that it could be analysed as a single unit including the *of*, rather than the *of* being part of a prepositional phrase with *questions*. Biber et al. continue: "it is not clear how these structures should be analysed. There are indications that species nouns may be felt to be subordinate in much the same way as a determiner. In the following examples, the demonstrative determiner agrees with the noun following *of*. Note also that it is the noun following *of* which controls subject-verb concord in the last example [i.e. (29)]" (1999, p. 258). The examples they give are:

(26) I hate **these sort of things**. (CONV)

(27) It does not in any way cause **these sort of problems**. (NEWS†)

(28) When Giggs gets going he's a handful, particularly when he gets in **those type of crosses**. (NEWS)

(29) **These kind of decisions** are normally made by the teacher alone. (ACAD†)
(Biber et al., 1999, p. 258)

These examples come from a mix of sources, ranging from informal conversation (26), through the less formal newspapers (27) and (28), to the more formal academic (29).[15] Biber et al. also note that examples like *these sort of things*, but not with *kind* or *type*, do occur in conversation, but the "superficially more grammatical" *these kinds of* is much less frequent and tends to be restricted to academic prose (1999, p. 258). Biber et al.'s analysis of (29) mirrors Quirk et al.'s description of notional concord following the proximity principle, i.e. with the plural number of the verb *are* being determined by plural *decisions* rather than by singular *kind*. On this, Biber et al. say that "[t]he proximity principle often operates together with notional concord. For example, it may reinforce the use of plural concord with quantifying expressions containing *of* plus a plural noun phrase (…). A related case is the occasional use of plural concord with species nouns (*kind of*, *form of*, *type of*)" (1999, p. 190):

(30) All [kind of] people **were** waiting for buses or just standing around. (FICT)

(31) It remains to be seen what precise [form of] words **are** agreed by the 12 heads of government. (NEWS†)
(Biber et al., 1999, p. 190)

The authors continue: "[p]lural concord in these cases is probably due partly to proximity, and partly to the fact that expressions with species nouns behave in some respects like determiners" (1999, p. 190). This topic is considered further in the following section.

2.3.4 KIND OF *as a post-determiner*

Biber et al.'s (1999) analysis above treats the species noun + *of* combination as something other than a noun + preposition ("expressions with species nouns behave in some respects like determiners" (1999, p. 190)), and sees the N2 in the species noun phrase as the head noun ("Note also that it is the noun following *of* which controls subject-verb concord" (1999, p. 258)). What this analysis implies is that in e.g. example

15 Note that Biber et al. (1999, pp. 24–35) themselves do not identify their different registers with these levels of formality; I have added the labels.

(12) above (... *these kind of military contributions are* ...), *kind* (*of*) can be analysed not as a (species) noun, but as a post-determiner, so-called because it follows the central determiner *these* (1999, p. 259); *kind of* in *these kind of* is thus seen as a second determiner following *these*, with the whole phrase *these kind of* then pre-modifying the noun phrase *military contributions* (and see (40) below). Other examples of a post-determiner include *three* in *my three children*, *first* in *the first day*, and *number* in *a large number of people*. Quirk et al. (1985, pp. 261–264) classify *number* in the last of these as an 'open-class quantifier', and note that although *number* looks like the head of the noun phrase, "there are grounds for arguing that the whole expression [i.e. *a large number of*] functions as a determiner" (1985, p. 264). A consequence of this analysis is that the only remaining noun in the species noun phrase is the plural N2 ((*military*) *contributions*), and it is this noun which must therefore act as head of the (species) noun phrase and determine the number of the verb (*are*), as well as that of the (central) determiner *these*.

One issue remains with this analysis: What is the status of *of* in *kind of*? Is it part of the (compound) post-determiner? Huddleston and Pullum (2002) note that, in examples such as *These kind of dogs are dangerous*, "the plural number of the whole NP is determined by that of the oblique *dogs*,[16] but this … plural number carries over to the demonstrative determiner too" (2002, p. 353). They also note that "[t]he construction is very well established, and can certainly be regarded as acceptable in informal style" (2002, p. 353). In addition, commenting on another use of *kind* and *sort*, Huddleston and Pullum observe: "[i]t is worth noting that there is one place where we can argue that a reanalysis has taken place, with the result that *of* has been incorporated into a unit with a preceding noun. This is with *kind* and *sort*, as in *He kind of lost control*. Here *kind of* is omissible (*He lost control*)" (2002, p. 621). Huddleston and Pullum are here discussing the 'hedging' use of *kind*, rather than its use in the species noun phrase, but they argue that *of* has been incorporated into a unit with the preceding noun (*kind of*, *sort of*), and that support for this comes from the omissibility of *kind/sort of*. This argument will be examined in detail in the following section in the context of the species noun phrase and the treatment of e.g. *kind of* as a compound post-determiner in a process of grammaticalisation.

Summary

It would seem that there are a number of factors which may affect how number agreement is marked in the species noun phrase and in the clause of which it is a part. What is most notable about the descriptions given in the three reference grammars is that they are able to account for all the variation shown in §2.2 above, i.e. that

16 For Huddleston and Pullum the "oblique" or "partitive oblique" is the complement of *of*.

none of the variants need be considered ungrammatical or an error. This view will be contrasted with the approach of the usage guides in Chapter 3. In the following section, I investigate some further treatments of, especially, the post-determiner analysis of the species noun phrase.

2.4 The post-determiner hypothesis examined

The central notions of number agreement and headedness, plus the hypothesis that the SN + *of* constructions "behave in some respects like determiners" (Biber et al, 1999, p. 190; cf. §§2.3.3–2.3.4) and can be analysed as particles in a historical process of grammaticalisation (i.e. not a lexical noun + preposition, but as a single unit), have been investigated by a number of twenty-first-century scholars, including Keizer, Davidse and colleagues, and Klockmann (see §§2.4.2, 2.4.3, and 2.4.4, respectively). Some of these scholars are primarily interested in the diachronic analysis of the uses of the species noun phrase, but they also provide many insights into its current use. All these analyses date back to and reference the work of Denison (1998, 2002, 2005, 2011), which I will therefore present here first.

2.4.1 Denison

Denison (1998), who gives a very brief description of partitives[17] in his history of English syntax between the eighteenth and twentieth centuries, offers two analyses for the partitive construction *a majority of students*, as shown in (32) and (33):

(32) [a majority] [of students]

(33) [a majority of] [students]
(Denison, 1998, p. 121 (79a–b))

In (32) there is a head noun *majority*, pre-modified by a determiner *a* and post-modified by the prepositional phrase *of students* (cf. *a steak in breadcrumbs*); in (33) there is a head noun *students*, pre-modified by a complex determiner *a majority of* (cf. *a few students*) (Denison, 1998, p. 121). This is a similar explanation to the one given by Biber et al. using the semi-determiner *such* (1999, p. 258; and see the discussion around example (24) in §2.3.3 above). Denison notes that "[(32)] corresponds to the syntactic origin of the pattern, while there is some semantic support for [(33)], in that *a majority of students* is notionally more likely to be a partitive of *students* than a kind of *majority*" (1998, p. 121), and he offers a test for determining which is the

17 The term 'partitive' is being used here in a general sense to mean a word or phrase by which "reference is made to some part of a whole" (Matthews, 2014, p. 290; see also Quirk et al., 1972, pp. 130–133, §§4.5–4.8), e.g. Denison's *a majority of* and the species noun phrase *these kinds of*.

better analysis: "The most obvious test of structure is verbal concord: with singular *majority* or with plural *students*?" (1998, p. 121). He continues: "[i]nformal English even permits concord between a plural (notional) head noun [i.e. *ideas*, *jokes*] and a central determiner [i.e. *These*, *those*] which, historically speaking, should be the modifier of a singular noun [i.e. *sort*]",[18] and gives as examples (34) and (35):

(34) *These* sort of ideas
(1788 Betsy Sheridan, *Journal* 42 p. 131)

(35) *those* sort of jokes
(1949 Streatfeild, *Painted Garden* xxiii.256)
(Denison, 1998, pp. 121–122 (83))

Denison claims that "[s]uch examples – Quirk, Greenbaum, Leech & Svartvik have a similar one with *kind of* (1985: 10.43) – give additional support to analysis [(33)] over and above verbal concord, with *sort of* functioning syntactically as a kind of postdeterminer" (Denison, 1998, p. 122). The reference to Quirk et al. is to their analysis of *These/Those sort/kind/type of parties are dangerous* as "an idiomatic anomaly" (1985, p. 765; see §2.3.2).

Denison's analysis here highlights a feature of number agreement in the species noun phrase that initially seems to be at odds with the descriptions in the reference grammars presented in §2.3, in that the plural determiner with the singular species noun is here given as the norm, with the plural determiner and plural species noun described as "[i]nformal" (1998, p. 121). However, as will be shown in Chapter 3, some of the usage guides also recognise the early use of e.g. *these kind of* from the fourteenth century and *these sort of* from the sixteenth century (see e.g. Burchfield, 1998 [1996], pp. 433, 728; and see §3.6.2).

Denison later (2002, 2005, 2011), provides a three-way analysis of the modern use of what he calls 'SKT-nouns' (*sort/kind/type*-nouns) as binomial and qualifying constructions and as a complex post-determiner. The binomial construction, so-called because there are two nouns and therefore two candidates for head of the noun phrase (*majority* and *students* in (32) and (33)), is exemplified in (32) above, and was discussed in §2.3.4. The qualifying construction is what is often called a 'hedge' or 'downtoner' (cf. Quirk et al., 1985, p. 446, n. [c]), e.g. *He is sort of clever.* This use of the species noun does not feature in the current study, but was also mentioned by Huddleston and Pullum (see §2.3.4).[19] The complex post-determiner use is exemplified in (33) above.

18 The reasoning behind this seemingly counter-intuitive statement is explored in §2.4.5 below.

19 It is not always immediately clear whether a species noun is being used as a qualifying construction, and is therefore outside the scope of this study, but in marginal or disputed cases a useful test is to substitute *type* for *sort* or *kind*, as *type* is not used in this qualifying

Denison remains undecided whether his post-determiner construction is a sub-set of the binomial construction, or a separate construction in its own right, or is in the process of becoming so, in his diachronic analysis. Denison's analysis is made from within a Construction Grammar framework (2002, p. 1; 2011, p. 12), but remains appropriate from a more general perspective. It should also be remembered that for Denison and colleagues their so-called 'SKT-constructions' are not restricted to usage with *this/that/these/those* as determiners, as in the current study. For Denison, the SKT-construction as a whole thus looks like (36), where D signifies a determiner:

(36) D1 N1 *of* (D2) N2
(Denison, 2002, p. 2 (2))

This is a minor variant of the structure shown in examples (1) and (2) in §2.2 above, with the addition of the 'rare' D2. Denison uses this common structure to suggest how the SKT-constructions can be made up, and how the binomial and post-determiner constructions may differ from each other: "there are possible premodifiers attached to N1 and/or N2"; "a determiner is only rarely attached to N2"; and "the construction as a whole may be postmodified" (Denison, 2002, p. 1). For the binomial constructions, Denison gives example (37), with the constituent structure shown in (38):

(37) Collagen is *the sort of material* that is found already … in the dermis of the skin

(38) [DP [D the] [NP [N sort] [KP of [NP material]]]]
(Denison, 2002, p. 2 (3a–b))

Of (37/38), he says: "N1 [i.e. *sort*] functions as a noun. Either N1 or N1's determiner [i.e. *the*] or premodifier receives full stress, with secondary stress on N2. Premodification of N2 [i.e. *material*] is rare. Apparent premodification of N1 is really premodification of the whole construction. N1 and N2 typically agree in number" (2002, p. 2). There are some labelling differences between this and the examples shown in (1) and (2) in §2.2.1, but it is essentially the same structure.[20] Example (39) shows an example of the post-determiner construction, with a suggested analysis given in (40):

(39) I mean I don't associate you with uh you know one of *these sort of skills like like driving*
(ICE-GB)

---

or hedging sense: *He is kind/sort/*type of clever* (Denison, 2002, p. 2).

20 Denison (2002) labels the outermost bracket as 'DP' (determiner phrase) where I have used NP, and NP where I have used N, though he makes no use of the DP analysis, and the label makes no further appearance in his subsequent work on SKT-nouns. For Denison, KP is a case particle, i.e. it marks the phrase *of material* as being in the genitive case (see Radford, 2004, p. 439).

(40) [DP [D these] [[postD sort-of] [NP [N skills]]] [??]
(Denison, 2002, p. 2 (5a–b))

Of this post-determiner construction, Denison suggests that it is "[c]ommon only in speech, always singular N1 [i.e. *sort*] and plural N2 [*skills*]. *Sort of/kind of/type of* preceded by plural anaphoric determiners *these/those/all*; are postdeterminers and incompatible with other postdeterminers; are never focal" (Denison, 2002, p. 2). He concludes by saying that "[t]he most noticeable feature of the post-determiner pattern is the agreement mismatch" (2002, p. 3). Denison provides an array of analyses here, including the conclusion that, for example, *these kinds of skills* and *these kind of skills* are neither variant usages, nor correct or incorrect, but are different constructions reflecting different semantic and discourse (i.e. pragmatic) functions. By 2011, Denison is referring to the binomial construction as a 'referential construction', for reasons that will become clear in the discussion of Keizer's (2007) extension of his work below.

2.4.2 Keizer

Keizer's *The English Noun Phrase: The Nature of Linguistic Categorization* (2007) builds upon and extends Denison's position. It is a study in particular of "noun phrases which contain two nominal elements which are either juxtaposed or connected by the functional element *of*" (2007, p. 11). Keizer does not refer to *of* as a preposition here, and this will be discussed below (and see §2.3.4 above). As part of her study, she comments on what she too terms the 'SKT-construction', and again it must be remembered that the object of the current study, i.e. *this/these/that/those sort*(*s*)*/kind*(*s*)*/type*(*s*) *of N2*, is a small though, as will be shown, significant subset of Keizer's study. Keizer's analysis is based on "the British component of the International Corpus of English (ICE-GB) … [w]ith just over one million words (500 texts of approximately 2,000 words each) … every text unit ('sentence') in ICE-GB has been syntactically parsed" (2007, p. 4). Of the 500 texts, 300 are spoken and 200 written, and of the 200 written texts, 150 are printed texts, which include "academic writing, non-academic writing, press reportage, instructional writing, persuasive writing and creative writing" (2007, p. 4). Keizer provides a very detailed description of the species noun phrase, and makes a number of statements which are testable against the much larger, but also more register-specific, Stenton Corpus (see §5.2), so I present her findings here in some detail.

Keizer points out that SKT-constructions vary on a number of points (cf. Denison, 2002, p. 1 in §2.4.1):

> The construction as a whole may be definite or indefinite, may be preceded by an article, a demonstrative determiner, a quantifier or a possessive pronoun.
> …
> Both N1 and N2 can occur in the singular and the plural; number agreement between the elements is not required.
> …
> Both N1 and N2 may be premodified; the construction may also contain a postmodifier.
> …
> In the large majority of cases, N2 is not preceded by a determiner, not even when it is a singular count noun. In some cases, however, a determiner – usually the indefinite article [–] does occur with N2.
> (Keizer, 2007, p. 152).[21]

This is very similar to Denison's analysis given above. On the basis of these points, she identifies three distinct types of SKT-construction, which she claims differ syntactically, semantically and pragmatically. She labels these constructions 'referential', 'qualifying' and a 'third kind', relating them to Denison's binomial/referential, qualifying and post-determiner analyses, respectively. In these three functions, the species noun is viewed either as a full lexical noun (referential), as a modifier (qualifying),[22] or as a post-determiner (third kind). For this syntactic analysis to work, Keizer also has to distinguish the noun (referential) and post-determiner uses semantically and pragmatically. About the referential function, she says: "overall reference of these constructions is to a particular sort/kind/type of entity, specified by N2" (2007, p. 153). More fully:

> In the referential construction both N1 and N2 function as nouns: they have lexical content, and the content of both nouns helps to restrict the reference of the construction as a whole. Thus, logically speaking, in a construction like *that type of quality* … N2 may be said to denote a particular abstract entity (*quality*), with N1, *type*, restricting the denotation of the construction as a whole to a particular type of quality only.
> (Keizer, 2007, p. 155)

For an example of this referential construction, Keizer gives (41):

(41) whatever it is we shall not have *that kind of quality*, if we do not have uh a prosperous economy founded on a quality work-force …
(Keizer, 2007, p. 155 (5b))

21 Keizer makes a further point about stress, but that of course relates only to the spoken part of her corpus and will not feature here.

22 As in my discussion of Denison's work in §2.4.1, this qualifying or 'hedging' function will not feature in the current study.

Keizer adds that "[w]here the referential SKT-construction is used referentially it may either introduce a (potential) discourse topic or refer back to an existing discourse topic. In the latter case, the determiner used is typically a demonstrative one" (2007, p. 155), as in (42):

(42) I didn't expect to get *that sort of reaction*
(Keizer, 2007, p. 156 (6a))

Keizer notes that, in such expressions:

> the elements *sort*(-*of*)/*kind*(-*of*)/*type*(-*of*), in combination with the demonstrative determiners, indicate an anaphoric relation between N2 and an earlier use of this noun in the immediate linguistic context. This relation is not a relation between two referential expressions (or NPs), indicating a shared (sets of) entities, but between the nominal elements used to refer to these entities, indicating a shared property.
> (Keizer, 2007, p. 171)

She acknowledges that "N2 typically has more specific lexical content and that N1 depends on N2 for its reference", but that nonetheless N1 "functions as the head … [and] determines the overall reference of the construction" (2007, p. 155).

For Keizer, as for Denison, the only candidates for post-determiner status are SKT-constructions where *sort/kind/type* are singular, preceded by a plural determiner, and followed by a plural N2. Indeed, "[b]eing part of a fixed unit, the N1s *sort*, *kind* and *type* cannot occur in the plural. The resulting constructions would be grammatical, but could only be interpreted as referential constructions" (2007, p. 175). She adds that in these examples "*sort/kind/type* do not refer to any specific, identifiable sort, kind or type of entity; instead these elements serve to indicate that the predication expressed in these sentences does not (necessarily) apply to all the individual members denoted by N2, but to a subset characterized by a complex of properties present in the direct discourse situation" (2007, p. 170). She notes that, for example, *all* and *those* "do not perform their usual functions, of universal quantifier or demonstrative determiner, respectively, with regard to the first noun (*sort*, *kind*), but instead seem to take the whole *N1-of-N2* sequence in their scope" (2007, pp. 154–155). It is this referential restriction that leads to the post-determiner analysis: "One possible analysis of these constructions is therefore one in which this restriction on the set denoted by N2 is achieved by means of a postdeterminer in the form of *sort/kind/type*" (2007, p. 154). This is shown in example (43):

(43) And then we can also use the same feedback to help them to produce *those kind of pitch changes* in their speech
(Keizer, 2007, p. 154 (4b))

Keizer notes that the post-determiner SKT-constructions "do not easily allow for a modifier to precede N1; that is to say, the corpus does not contain any such cases" (2007, p. 173). She also provides some invented examples, shown in (44–47; and see §2.4.3 below, and see Appendix G5 for examples from the Stenton Corpus), which she claims would be unacceptable or questionable, as indicated by '*' and '?', respectively. The use of both markers indicates uncertainty:

(44) *?these ill-defined sort of problems

(45) *?those general kind of changes

(46) *?these common type of questions

(47) *all possible sort of aspects
(Keizer, 2007, p. 173 (53))

She explains that "we would … expect these constructions to be unacceptable, since adjectives cannot occur between two determiners" (2007, p. 173), and *sort/kind/type* are being analysed as (post-)determiners in this construction. So, for Keizer, as for Denison, *these sorts of* and *these sort of* have different functions, and different analyses. However, just as Denison was tentative in his complex post-determiner analysis (see §2.4.1), Keizer then goes on to question her post-determiner hypothesis, on the basis of some challenging examples. She notes that N2 is obligatory, in the sense that species noun phrases without an N2 are unacceptable, e.g. **these sort of*, **those kind of*, but that this unacceptability differentiates these examples from other (complex) post-determiners, which can be found without N2, for example *the other*, *those two*. But she does provide an example, (48), where both the N2 and *of* can be omitted:

(48) They won't last long, mate, *these type* never do.
(Keizer, 2007, p. 174 (56))

However, examples such as (48) are compatible with the referential SKT-construction. Keizer notes: "[a]lthough the corpus does not contain examples of constructions in which N2 is left unexpressed, the referential SKT-construction does allow for N2 to be omitted. For such constructions to be felicitous, the sort/kind/type referred to must be retrievable from the discourse setting: it may be explicitly mentioned in the text, as in [(49)]":

(49) Have you ever tried this type of dish?- No, *this type* I have never had before.
(Keizer, 1992, p. 307, cited in Keizer, 2007, p. 160 (20a))

Example (48), Keizer argues, "undermines the case for a complex determiner. After all, if *of* forms part of the postdeterminer, we would expect the element *of* to be present regardless of whether N2 is expressed" (2007, pp. 174–175). Her solution is to regard *of* in such examples not as part of a complex determiner, but as a "separate linking element, required in those cases where a postdeterminer consisting of a nominal element (*sort*, *kind*, *type*) is followed by another noun" (2007, p. 175). This would give the constituent structure for (50) as shown in (51):

(50) the way that I would approach *those sort of things*

(51) $[_{NP}\ [_{Det}$ those] $[[_{NomPostD}$ sort] $[_{LE}$ of] $[_{N}$ things]]]^{23}
(Keizer, 2007, p. 175 (58a–58a′))

This analysis would cover those cases where there is no N2, and would also explain why, in such cases, there is no *of*, because there is nothing to link. Having made this step, Keizer is then able to re-classify the 'third kind' of SKT-construction, not as a post-determiner, but as a sub-set of the referential construction:

> An alternative way of dealing with the problematic cases discussed in the previous section is to regard SKT-constructions of the third kind not as a separate category (i.e. postdeterminer constructions) but as a subset of the referential construction (see also Denison 2002, 2005; Denison and Keizer, in prep.). The constructions in question can be seen as non-prototypical representatives of the referential construction; … there is number agreement between the determiner and N2, while semantically, N2 has developed a higher degree of referentiality, at the expense of N1 – changes which have brought about a partial shift of headedness from N1 to N2.
> (Keizer, 2007, p. 181)[24]

In Keizer's analysis, then, the anomalous number of the N1 signals a change in the locus of the head of the species noun phrase from the species noun itself to the N2. This re-analysis also fits in with the diachronic approach to the SKT-construction adopted by both Keizer and Denison (and see §2.4.5 below for more on this).

As is shown in the following section, Davidse and colleagues take Denison's post-determiner hypothesis in a different direction.

2.4.3 Davidse and colleagues

Davidse and her colleagues (Brems, 2003, 2004; De Smedt, Brems and Davidse, 2007; Davidse, Brems and De Smedt, 2008; Davidse, 2009; Brems and Davidse, 2009, 2010; Brems, 2010, 2011) adopt and expand on the analyses given by Denison

23 NomPostD = post-determiner; LE = linking element.
24 Denison and Keizer's paper 'Sort-of constructions: grammar and change', referenced as in preparation here, was never completed (Evelien Keizer, p.c., 10 March 2018)

and by Keizer.[25] These studies again show an interest in a diachronic analysis, but De Smedt et al. (2007) and Davidse et al. (2008) provide an "analysis of synchronic data" (Brems and Davidse, 2010, p. 183). These two papers, as well as Brems (2011), will be the focus of this section. In what follows, 'they' and 'the authors' will be used to refer collectively to this group of scholars, with specific references given as appropriate.

The aim of these scholars is to avoid the "a posteriori or ad hoc explanations" (Brems, 2011, p. 28), as they see them, of the perceived species noun phrase variation in e.g. Quirk et al. (1985) and Biber et al. (1999), as described in §2.3 above, and to replace these ad hoc explanations with a "systematic, formally motivated classification of their different uses" (De Smedt et al., 2007, p. 226). The authors describe what they call size nouns (SNs) and type nouns (TNs), and distinguish not the three types of structure described by Denison and by Keizer, but five: head, modifier, post-determiner, qualifier and quantifier (Davidse et al., 2008, p. 141). On to this they introduce the notion of 'layering', i.e. an analysis in which the elements of the NP form an objective–subjective continuum from right to left, and "correlate[ ] subjectification[26] with leftward movement in the NP" (2008, p. 141). Again, their analyses are performed within a Construction Grammar framework. Davidse et al. use "mainly data from the Times subcorpus of the COBUILD corpus" (2008, p. 143), whilst Brems uses the Collins WordbanksOnline corpus (2011, p. 364, ftn. 6).

For the purposes of the current study, I concentrate on the type nouns and on their head and post-determiner analyses, together with a post-modifier analysis given by Davidse et al. (2008, p. 144). Davidse et al. say that "[t]he main lexical meaning of type nouns in Present-day English is their 'subtype'-meaning" (2008, p. 143), as exemplified in (52), where they see *kind* functioning as the head:

(52) I really can't stand **that kind of dog**.
(CB – UK spoken)
(Davidse et al., 2008, p. 144 (5))

The other "lexically full type noun" (2008, p. 144) functions as a post-modifier, as in example (53):

25 Keizer and Davidse and colleagues seem largely unaware of each other's work, although their work is similar in many respects. Keizer (2007) does not include any references to Davidse and colleagues, and I can find only one reference to Keizer in all of the latter's publications listed, and this is to an unpublished paper dated 2001.

26 This "subjectification … is 'from meanings situated in the described … external or internal situation' to 'meanings situated in the textual situation'" (Davidse et al., 2008, p. 162, citing Traugott, 1988, p. 409). They also note that "subjectification and grammaticalization often go hand in hand" (2008, p. 165, ftn 12, citing Traugott, 2010). I understand this to mean a move from deictic to textual referential meaning.

(53) As they were strolling along, with Towser ahead, they saw what they supposed was **another dog of a different kind,** come out of the brush …
(http://www.threeriversshms.com/bch9.htm)[27]
(Davidse et al., 2008, p. 144 (4))

Davidse et al. do not say anything further about this post-modifier use.[28] Of example (52) they say: "It contains two nouns used with their full lexical weight [i.e. *kind* and *dog*], designating subordinate and superordinate types of entities. … The reference of the construction as a whole is determined by the head [i.e. *kind*], and is thus to the subordinate subtype, e.g. the maligned variety of dog" (2008, p. 144). This "generic reference, i.e. to the whole subclass" is "the crucial semantic feature distinguishing the lexical head use of type nouns from all their pre-head uses"[29] (2008, p. 144). An additional finding of Davidse et al.'s study is the use of adjectives before the type noun used as the head of the NP. Basing their analysis on the entire COBUILD corpus (56 million words) in order to try to achieve some statistically significant measures, they found that the "qualitative adjectives" *new*, *wrong* and *special* (e.g. *a new type of drug dependant*) and the "postdeterminer adjectives" *same*, *another*, *other*, *certain* and *particular* (e.g. *Like any other kind of wave*) were strong or very strong collocates (2008, pp. 145–146; and see Appendix G5).

The other use of the type noun that I am interested in is Davidse et al.'s post-determiner construction, a term also used by Denison (1998, 2002) and by Keizer (2007). However, Davidse et al. argue that, whereas Denison's post-determiner analysis is largely based on the number incongruence in, for example, *these sort*, and that he remains uncertain as to whether the post-determiner use is distinct from the binomial use, i.e. where the species noun is the head noun, in their analysis "postdeterminer uses of type nouns can also be delineated systematically" (2008, p. 151). Davidse et al. illustrate this with two examples, (54) and (55):

(54) Proteroglyphs: … Obvious examples of **this type of snake** are the cobras, …
(http://venomous.com/physiology.html)

27 As these examples show, Davidse et al. also took some of their examples from the Internet, or from other sub-corpora of the COBUILD corpus "if they provided clearer illustrations" (2008, p. 143).

28 Note that by 'post-modifier use' they mean that the modifying phrase, in this case *of a different kind*, follows the noun it modifies, *dog*. This must be strictly differentiated from the term 'post-determiner use', adopted by, for example, Denison (and see §2.3.4 above).

29 By "pre-head uses" here, Davidse et al. mean the use of a species noun when the N2 functions as head of the noun phrase. In the area of interest to me, this means the post-determiner use.

(55) It's a very selfish thing to do erm leaving your family and everything else to cope with everything. So mm really you know it's quite a he always came across as **that sort of man** anyway I didn't like him.
(CB – UK spoken)
(Davidse et al., 2008, pp. 151–152 (24–25))

Here, Davidse et al. see *type* in (54) as a head, and *sort* in (55) as a post-determiner. A simpler structural analysis of the kind criticised by Brems as "defined almost exclusively on formal grounds, i.e. the specific incongruous concord pattern; the only functional gloss given is that of 'anaphoric discourse use'" (2011, pp. 292–293) might see *this type of snake* in an anaphoric relation with *Proteroglyphs* (in (54)), and *that sort of man* in an anaphoric relation with *selfish* (in (55)), i.e. as having a similar structure, and therefore a similar structural analysis, so it is worth looking closely at how Davidse et al. explain their distinction:

> In [(54)], the NP *this type of snake* realizes generic reference; its determiner *this* points back into the discourse to identify the species *Proteroglyphs* as its antecedent. … By contrast, in [(55)] the determiner complex *that sort of* as a whole points back to the property 'selfish' which characterizes the person referred to. The same anaphoric meaning can be expressed by other determiner complexes such as predeterminer *such + a* …; compare *he always came across as such a man.*
> (Davidse et al., 2008, p. 152)

On this use of *such*, see also the discussion around example (24) in §2.3.3. Davidse et al. continue:

> The generalization expressed by postdeterminer type nouns differs from the generic reference realized by type noun heads in that, firstly, the generalization is created in the phoric relation itself and, secondly, it is tied to specific instances, which gives it an ad hoc and local character. The referents of binominal constructions, by contrast, are subclasses and types that are part of 'the world's inherent structure' (Langacker 2002:3).[30]
> (Davidse et al., 2008, p. 152)

Brems adds, on the post-determiner use, that "the speaker includes not only the examples previously mentioned but also any other instances covered by that generalization" (2011, p. 298; see also De Smedt et al., 2007, p. 241). Here, Davidse et al. also provide two tests for the post-determiner use: the substitution of *such a*, e.g. *he always came across as such a man*; and the introduction of the determiner *a* in front of the N2, e.g. *he always came across as that sort of a man* (2008, p. 152). These two tests will be helpful in my corpus analysis in Chapter 5.

30 By 'phoric relation' here, Davidse et al. are referring to the Hallidayan concept of 'phoricity', i.e. "[reference] to something already present in the verbal or non-verbal context" (see e.g. Halliday and Matthiessen, 2014, p. 116).

2.4.4 Klockmann

In a different approach, presented within the Minimalist Program (MP), Klockmann also makes a number of statements about what she calls "periphrastic expressions of genericity (*this kind of dog*)",[31] and introduces the concept of what she terms the 'numberless' noun. In her analysis, Klockmann refers to both Denison (2002) and Keizer (2007):[32]

> Till now we have considered kind-words which are capable of morphologically expressing singular and plural. However, some kind-words seem to lack number altogether. In this section, we discuss such "numberless" kind-words. Note that the morphosyntactic pattern we discuss in this section has been termed "kind-constructions of the third kind" by Keizer (2007: 154) and categorized as a postdeterminer or complex determiner in Denison (2002).
>
> (Klockmann, 2017a, pp. 325–326)

The motivation for Klockmann's analysis, i.e. to accommodate her *kind*-words as 'semi-lexical' within the Minimalist Program, will not be my main focus here, but her analyses do produce a number of testable statements that are of interest to the current study.[33]

Klockmann's starting point is that *kind*-words, i.e. *kind*, *sort* and *type*, follow what she calls the '*kind*-generalisation': "if they and the N2 carry number, that number must match" (2017a, p. 276), again echoing the analyses of Denison, Keizer, and Davidse and colleagues. She goes on to test this hypothesis with different types of N2s: "mass nouns, singular and plural count nouns, indefinite singular nouns, and *pluralia tantum*[34] nouns" (2017a, p. 276). The *kind*-generalisation thus includes *this kind of rabbit* and *these kinds of rabbits*, and excludes *this kind of rabbits* and *these kinds of rabbit* (2017a, p. 276). Klockmann does not restrict herself to phrases with *this/that/these/those*, but also includes e.g. *what kind of idiot* and *another type of plan*. These additional phrases will not be included any further here. Klockmann's data is based primarily on the Corpus of Contemporary American English (COCA), "but judgments, examples from the literature, and examples from the Internet are also used" (2017a, p. 298). In addition to the canonical examples she lists, she also finds

31 This expression is taken from <https://heidiklockmann.wordpress.com>. In her major work she refers to "genericity or kind-reference" (2017a, p. 343).

32 I could find no references to the work of Davidse and her colleagues.

33 In Klockmann's analysis, the lexical 'core' of a word is its root in the lexicon. This is typically "not specified … for [its] category", e.g. noun, verb or adjective, which is instead "acquire[d] … in the syntax, according to the context [it is] embedded in". Semi-lexicality thus arises "when a root is also specified in the lexicon for a syntactic feature" (2017a, pp. 6–7), i.e. when a root shows both lexical and functional properties.

34 *Pluralia tantum* are "nouns, like *oats* or *trousers*, which appear only in a plural form" (Matthews, 2014, p. 307).

examples of mass nouns (i.e. N2) with a singular *kind*-word, mass nouns with a plural *kind*-word, abstract nouns (i.e. N2) with a singular *kind*-word and abstract nouns with a plural *kind*-word. On the basis of these examples she comes to the conclusion that "number matching is not enforced when the N2 is numberless" (2017a, p. 299). Klockmann does not specify how she distinguishes between mass and abstract nouns, but she did find in COCA examples of what she calls "massified" count nouns (2017a, p. 300). Massified count nouns are nouns which appear to be count, e.g. *fan*, *basket*, *investigation*,[35] but which can be "'massified' in some way" (2017a, p. 300) such that they do not match in number with the *kind*-word. These examples "are dependent on the context for their acceptability, and without the preceding context[ ] … would be judged ungrammatical" (2017a, p. 299). She gives an example with *fan* (56):

(56) The use of window and whole-house fans can minimize very effectively the heat gain from the sun, lights used in the home, appliances, etc. **Both types of fan** are very inexpensive.
(COCA: MotherEarth 1993)
(Klockmann, 2017a, p. 300 (100))

In *[b]oth types of fan*, *fan* in this analysis is not singular but massified, based on its anaphoric reference to *window and whole-house fans* in the preceding sentence. This leads Klockmann to conclude that massified nouns are numberless, and we have already seen that the *kind*-generalisation does not apply to numberless nouns.

Klockmann's third category of exceptions is the one most obviously of interest for the current study. She notes that a singular demonstrative with a singular N1 (i.e. species noun) and a plural N2 is ungrammatical:

(57) **this kind of rabbits*
(Klockmann, 2017a, p. 326 (204a))

In contrast, plural demonstratives with a singular N1 and a plural N2 are grammatical:[36]

(58) And I think there's a real mean-spiritedness in him, in which **these sort of remarks** come out.
(COCA: NPR_Weekend 1995)
(Klockmann, 2017a, p. 326 (207))

Klockmann concludes from this that "[t]he ungrammaticality of [(57)] … appears to stem from the specification of singular number on the demonstrative, and not from

35 Of these three words, *basket* and *fan* are listed as exclusively count in COBUILD; *investigation* is listed as variable, i.e. both count and uncount (s.v. *investigate*).

36 Klockmann also gives examples with the definite article, the wh-determiner, *some*, *any* and possessives, but these will not be investigated further here.

anything in the form of the kind-word itself. A simple explanation for these facts would be that the kind-word, despite appearances, is not actually singular; rather, it is numberless" (2017a, p. 327).[37] She also notes that "the kind-word seems to be invisible to [verbal] agreement" (2017a, p. 330) when the *kind*-word is numberless, and gives an example where she has added the ungrammatical variant, as in (59):

(59) But the truth is **those type of novelties are / *is** far overrated.
(COCA: LiteraryRev 2006)
(Klockmann, 2017a, p. 330 (235))

Klockmann is then able to revise her initial '*kind*-generalisation' as follows: "[w]hen both the kind-word and N2 are count, they must bear identical number features" (2017b, p. 8). She then continues with some more complex / testing examples. The first concerns *pluralia tantum* nouns. She notes that *pluralia tantum* can combine with both singular and plural *kind*-words, as in (60–61):

(60) This kind / type / sort of jeans rips easily.

(61) These kinds / types / sorts of jeans rip easily.
(Klockmann, 2017a, p. 315 (175–176, modified from 2017b, p. 11 (42–43))

Notwithstanding these invented examples, in COCA she finds the demonstratives used only with singular *kind*-words, as in (62):

(62) People are always surprised to find out that – that that kind of quality and **that type of goods** are made in southern Louisiana.[38]
(COCA: CBS_SunMorn 1995)
(Klockmann, 2017a, p. 315 (174))

What is notable about these examples is that they are the only ones Klockmann lists of *pluralia tantum* with singular *kind*-words, and that none of her examples of *pluralia tantum* with plural *kind*-words includes a demonstrative. Whether this is a feature of the examples in the corpus or an accident of selection is not made clear. In any case, Klockmann does not comment on it.

Klockmann also investigates the use of the indefinite article *a / an* in the *kind*-construction, as in example (63):

37 Schermer and Broekhuis (2021) have identified a similar distinction in Dutch, between 'two types of subject' (*twee typen subject*) and 'two types of subjects' (*twee typen subjecten*), where singular *subject* is said to be used 'anumerically' (*anumeriek*) and plural *subjecten* 'numerically' (*numeriek*). These two forms are described as having different meanings, which are determined contextually, and also permit the re-allocation of the head from N1 to N2.

38 Note that *that kind of quality* in (62) is not part of the analysis because *quality* is not a *plurale tantum*. See also the discussion of the number of *goods* in §4.4.3.

(63) It's not research, like Dr. Lantos was talking about, but it's a moral experiment for the parents in **this kind of (a) situation**.
(COCA: CNN_King 1990)
(Klockmann, 2017a, p. 317 (178))

Klockmann's model predicts that such a usage should be found with both singular and plural *kind*-words, but her invented examples suggest that this is not the case, with (64) being labelled ungrammatical:

(64) *These sorts of a rug
(Klockmann, 2017a, p. 321 (194c))

However, she again notes that this ungrammaticality can be circumvented "[g]iven […] enough context" (2017b, p. 13), as in (65) , although she also notes that "not all speakers accept this":

(65) I was interested in portraying that a sexual life for a woman isn't necessarily compartmentalized; it flows in and out of **the other kinds of a woman** that she is – a worker, a lover, a mother, a daughter, a friend – all those dimensions are woven into one another.
(COCA: America 1994)
(Klockmann, 2017a, p. 322, ftn. 33 iv)

Here, though not an example including a demonstrative, *the other kinds of a woman* has this time cataphoric reference to *a worker, a lover, a mother, a daughter, a friend*, which is presented parenthetically (and see the note on parentheticals in Appendix G6). Another example of cataphoric parenthesis is what Klockmann calls the "reverse order" (2017a, pp. 307–309), based on an analysis of what she terms "a meaningless plural" (2017a, p. 305). For an example she gives (66):

(66) **These types of bonds, Kennedy bonds**, supposedly would be issued in the '50s or '60s
(COCA: Fox_Beck 2009)
(Klockmann, 2017a, p. 305 (130))

In this example, *types* is a meaningless plural as the context shows that it refers to a single type of bond: *Kennedy bonds*. This, Klockmann says, is "in line with the claim that its plural morphology is not a true indication of plurality" (2017a, p. 305). Her analysis is supported by the reverse order variants shown in the invented example (67):

(67) **Bonds of this type / *these types**, Kennedy bonds, supposedly would be issued in the ’50s or ’60s.
(Klockmann, 2017a, p. 308 (145))

On the basis of this, example (66) is seen not as a counter-example to the semi-lexicality of the *kind*-word, but in support of it as a ‘meaningless plural’.

Klockmann concludes her analysis with a discussion of the role of *of* with the *kind*-noun. She notes that “[t]he English kind-construction requires *of* regardless of … what it combines with” (2017b, p. 14), as in examples (68–70):

(68) *This kind water, *this type soap, *this sort sand

(69) *This kind rabbit, *this type car, *this sort rug

(70) *This kind a rabbit, *this type a car, *this sort a rug
(Klockmann, 2017b, p. 14 (53–55))

This leads her to conclude that “*of* … is not a preposition mediating between DPs, but may also be a nominal marker” (2017a, p. 294).

So, for Klockmann, *kind of* in *these kind of* is not a post-determiner, as with the earlier analyses from Denison, Keizer, and Davidse et al., but a variant of *kind* in the lexicon. The lexicon is “a list of all the words in a language and their idiosyncratic linguistic properties” (Radford, 2004, p. 460). These *kind*-words are then “roots which carry functional feature(s), in this case, a [kind] feature” (Klockmann, 2017a, p. 290), which essentially makes it invisible to Agree.[39] As Agree is a process which would normally determine the number of a noun as singular or plural during a syntactic derivation, it therefore follows that the *kind*-word is indeed ‘numberless’.

2.4.5 A historical perspective

I showed in §2.4.1 above that Denison (1998, p. 121) makes the comment that, in phrases such as *these sort of ideas* and *those sort of jokes*, “historically speaking, [the central determiner: *these*, *those*] should be the modifier of a singular noun”, and not of the “(notional) [plural] head noun [*ideas*, *jokes*]”. To the modern reader, this sounds counter-intuitive. Butterfield (2015, p. 455), in his fourth edition of Fowler’s (1926) usage guide, notes that: “Beginning in the 14c., phrases of the type *these kinds of trees*, though themselves continuing in standard use, produced a strangely ungrammatical variant: *these* kind *of trees*.” Although Butterfield’s comment seems

39 ‘Agree’ is a process in Minimalism for computing congruence, used here to refer to the relation between e.g. *these* and *kinds* in terms of their realisation of number marking, i.e. they are both plural (Matthews, 2014, pp. 13, 73; and see Radford, 2004, Chapter 8, for a detailed discussion of a much broader application of this).

to be the more intuitively appealing, a little historical background can help to explain what both authors agree is a common usage.

Curme's historical description of the evolution of the phrase (1931, pp. 544–547) may shed some light on this. At the end of the Old English period (circa 1150), the equivalent phrase was:

(71) alles cynnes deor
every kind.GEN animals
'animals of every kind'

Here, *cynnes* was a genitive form which was always used before the main noun (*deor*). Later, *cynnes* lost its genitive ending, and became *kin*, but it retained the same meaning, as in (72):

(72) al kin deer
'animals of every kind'

According to Curme, in this period *kin* was replaced by *kind*, which was seen as the governing noun which was followed by a dependent *of*-genitive, as in (73):

(73) al kynde of fisshis
'every kind of fish'

Subsequently, *kind of* was treated as a compound attributive adjective, and as a consequence the number of any demonstrative used before *kind of* was governed by the following, head noun, and so we get (74):

(74) *These* kind of *men annoy* me.

Curme (1931, p. 545) also notes that "[a]t the present time this construction is still used in England in colloquial speech … [i]n America it is now largely confined to popular speech".[40]

2.5 Concluding remarks

In this chapter I have discussed how the system of number can be realised in the variants of the species noun phrase (§2.2), and how three modern reference grammars present an essentially traditional approach to number agreement in the species noun

40 For Curme (1931, p. vi), "Good English varies according to the occasion, just as our dress varies according to the occasion. … Loose colloquial English, as often described in this book, is frequently as appropriate as a loose-fitting garment in moments of relaxation. … In this book also the language of the common people is treated. It is here called 'popular speech' since the common grammatical term 'vulgar' has a disparaging meaning which arouses false conceptions."

phrase, based on the 'agreement rule', with the DET + N1/SN + *of* + N2 showing number agreement between the DET, the N1/SN and the N2, and with the N1/SN being the head of the NP (§.2.3). However, these grammars also note that the number of the DET sometimes co-varies with the N2, especially when DET and N2 are marked for plural and the N1/SN is seen as singular, possibly as the result of the N1/SN being 're-classified' as non-count. This 'anomalous' usage is generally seen as informal, or restricted to speech, and can be avoided by adopting the variant *N2 of this kind*, where *of this kind* functions as a post-modifier. Although the N1/SN, as head of the NP, would generally determine number agreement with any verb, apparent exceptions to this might be explained by 'notional concord' determined by the 'proximity principle'. Biber et al. (1999) note that species nouns can behave in some respects like determiners, and that in such cases the N2 could function as the head of the NP. Huddleston and Pullum (2002) introduce another possible re-analysis, with *of* being incorporated into a unit with the preceding N1/SN, but present this only in a hedging sense.

A number of theoretical analyses of the construction presented in this chapter were shown to distinguish between *these kinds of* and *these kind of* on the basis of a distinction between *kinds* as a species noun and *kind of* as a post-determiner. In §2.4.1, Denison analyses *these kinds of N2* in the traditional manner as a 'binomial' DET + N1/SN + PP, but *these kind of N2* as a 'post-determiner' DET + POST-DET + N2, on the basis of both its semantics and number agreement between a verb and the plural DET/N2. In the binomial construction, either the N1/SN or the N2 could function as the head of the NP, but in the post-determiner construction only the N2 could function as the head, with the post-determiner *kind of* being analysed as in a process of grammaticalisation.

Keizer, in §2.4.2, refers to SKT-constructions, which she shows do not need number agreement between N1 and N2. She also notes that, although both the N1/SN and the N2 can be pre-modified, the N2 is not usually preceded by a determiner. Keizer too describes the N1/SN as either referential (Denison's binomial) or as a post-modifier (her 'third kind'), and she identifies the referential use partly on semantic and partly on contextual grounds. In her view, the N1/SN remains the head of the NP. As with Denison, Keizer sees the post-determiner use only where the N1/SN is singular and where the DET and N2 are both plural. Indeed, in the post-determiner use the N1/SN cannot occur in the plural, as by definition that would make the species noun phrase referential. Keizer notes that, in the post-determiner construction, the N1/SN is not likely to be pre-modified (other than by the DET). Keizer extends her post-determiner analysis by suggesting that in this construction *of* is not a preposition, but an (optional) separate linking element, as noted by Huddleston and Pullum (§2.3). This then leads her to re-analyse her post-determiner construction as a sub-set of the

referential construction, albeit one in which the head of the NP can shift from the N1/SN to the N2.

Davidse and colleagues again see the main use of the species noun phrase as referential, with the N1/SN as the head of the NP, arguing that this headedness is what distinguishes the referential use from other uses (§2.4.3). They also comment on the restricted set of adjectives that collocate with this use of the N1/SN. Unlike Denison and Keizer, however, Davidse and colleagues do not restrict their post-determiner construction analysis to those examples where there is a number mismatch between the N1/SN and the DET + N2. They describe the difference in terms of different referential analyses, and introduce syntactic tests with *such a* and *a* to differentiate the referential and post-determiner analyses.

Finally, in §2.4.4, Klockmann starts from the assumption that, in a species noun phrase, if both the N1/SN and the N2 are marked for number, then they must carry the same number, a statement very much in line with the previous analyses. However, noting examples where this is not the case, she introduces a three-way number distinction between singular, plural and numberless nouns. If a noun (N1/SN) can be characterised as numberless, then it does not fail to match its number with the N2, or indeed the DET; number matching is simply irrelevant: any seeming conflict of number can generally be explained by reference to the (previous) linguistic context. Klockmann also notes that the interpretation of number on the N1/SN can be influenced by parenthetical explanations, which may be present in the following linguistic context. Klockmann introduces what she calls 'reverse order' species noun phrases (*bonds of this type*). She treats *of* not only as a preposition but also as a 'nominal marker', similar to Keizer's separate linking element. By introducing the concept of the numberless noun, Klockmann is able to avoid the two distinct referential vs. post-determiner analyses posited by Denison, Keizer, and Davidse et al.

All these analyses and insights should be helpful in my descriptions of the usage guides in Chapter 3 and of the usage survey in Chapter 4, and especially so in my corpus analysis in Chapter 5. Unfortunately, as will be shown in Chapter 5, the potential of the post-determiner hypothesis could not be followed up in the corpus analysis because of a lack of examples of this variant, with only six out of a total of 1,145 examples of the species noun phrase (cf. §5.5.2: THIS TYPE OF N2).