This is a *kind of* thesis:
a unified semantic analysis for the Dutch noun *soort,* 'kind', in binominal constructions

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1. Introduction

Binominal constructions are nominal groups that consist of two nouns. The first noun can be of several classes, one of which is the class of *Kind Nouns* (Vos, 1999). In Dutch, the nouns in such constructions usually do not contain a preposition. English constructions of this type contain the preposition *of*. Instead, the nouns are juxtaposed. See (1) and (2) for examples with the noun *soort,* 'kind'. There is a difference in meaning between the phrases below.

(1) dit soort   auto   (Broekhuis & Den Dikken, 2012:631)
     this kind (of) car

(2) een soort   appel
     a   kind (of) apple

The construction in (1) simply refers to a subclass of cars, whereas the indefinite construction in (2) refers to something which resembles an apple. The object can be a non-prototypical apple (Schermer-Vermeer, 2008) or even something which is not really an apple (Broekhuis & Den Dikken, 2012), for example an apple-shaped rock. I will refer to the latter option as the *resemblance interpretation.* How can we account for the difference in interpretation between the constructions in (1) and (2)?

According to Schermer-Vermeer, there are two constructions. (1) is an example of the *soort* construction, (2) is an example of the *een soort X* construction, which is a subtype of the former (Schermer-Vermeer, 2008). The *soort* construction can occur with any Kind Noun, the *een soort X* construction only occurs with the noun *soort* and the indefinite determiner *een.* The latter construction can have the resemblance interpretation.

Broekhuis & Den Dikken (2012) on the other hand assume that the nouns *soort* in (1) and (2) are homonyms, each having distinct syntactic and semantic properties. *(Dit) soort* in (1) refers to a subkind, (*een) soort* in (3) has a resemblance interpretation. Next to these, there is a third noun *soort* they distinguish, which will be introduced in chapter 3.

Which of the authors is right? Do we assume that there are different constructions or distinct nouns, and what is the interpretation of *een soort* exactly? There is a difference between sentences (3) and (4) below, similar to the difference in interpretation between (1) and (2).

(3) Een wigwam is <u>een soort   tent</u>.
     A   wigwam is a   kind (of) tent

(4) Jan heeft <u>een soort   tent</u> gekocht.
     Jan has   a   kind (of) tent bought
     "Jan bought a kind of tent."

Sentence (3) *defines* a wigwam as a subtype of tent, but (4) *describes* a particular object as being similar to a tent. Note that both sentences are examples of the *een soort X* construction. What differs is the function of *een soort tent*, 'a kind of tent'. It is a predicate in (3), but an argument in (4). (4), but not (3), has a resemblance interpretation. From the defining use in (3), we infer that *een soort tent,* 'a kind of tent', is a (non-prototypical) subclass of tents, while from the describing use in (4), we infer that *een soort tent,* 'a kind of tent', resembles a tent in some way, but could be something else.

The goal of this thesis is to investigate whether it is possible to provide a unified semantic analysis for the Dutch noun *soort*, despite the different interpretations it can have. What the semantics look like exactly is beyond the scope of this thesis. Two subquestions are in order:

1) How many kinds of *soort* are there? Are Broekhuis & Den Dikken's arguments that there are three homonyms *soort* valid, or can we explain the differences that we see in another way? Assuming that there is only one noun *soort*, that can have different interpretations depending on the context it occurs in, is a more efficient analysis.

2) What is the interpretation of *een soort*? If the resemblance interpretation is part of the semantics of *een soort*, this needs to be accounted for. *Een soort* could broaden the extension of a concept, so that the *een soort X* construction can refer to resembling non-instances as well. Another option is that there is no semantic difference between the constructions in (1) and (2), nor between the constructions in (3) and (4), and that the resemblance interpretation arises through pragmatics.

This thesis is organized as follows. In chapter 2, I will give some background on binominal constructions in general. I will discuss quantificational binominal constructions, the *soort* construction and the *een soort X* construction. In chapter 3 I will discuss Broekhuis & Den Dikken's data. Where relevant, I will add corpus data, as well as judgements from a couple of informants. I will argue that there is only one noun *soort* that can have a referential or non-referential interpretation. *Soort* in the *soort* construction can have either interpretation, *soort* in the *een soort X* construction is always non-referential. The resemblance interpretation is a property of the *een soort X* construction and may not be part of the semantics of *soort*.

In chapter 4 I will report on a questionnaire that was aimed to investigate the second question. The hypothesis is that only the describing use of the *een soort X* constrcution, as in (4), can have the resemblance interpretation. If this interpretation is part of the semantics of *soort*, it is to be expected that *soort* can broaden all concept boundaries. Yet it turns out that this is not the case. *Soort* cannot refer to all resembling non-instances of X and sometimes, this 'describing' interpretation is possible without *soort*. *Soort* can be used to mark such a concept extension, but this is not necessary.

This fits into Horn (1984)'s division of pragmatic labour: *een soort X* is a more complex form of *een X* and thus will be associated with the complement of what *een X* typically refers to, that is a proper subclass such as a prototype. *Soort* in the *een soort X* construction does not have a special semantics. Its different interpretation comes about through pragmatics. This means that we do not need to (even should not) treat this construction or this noun as semantically different. This fits into my unified analysis: there is only one noun *soort* that can have different interpretations in different contexts (with different determiners).

Chapter 6 will conclude this thesis.

2. Binominal Constructions

Binominal constructions are constructions that consist of two nouns, N1 and N2 (this reflects the linear order of the nouns). There are several types of binominal constructions. Vos (1999) provides a grammar for what she calls *partitive constructions*. Different authors use different terminology, which can be confusing. I will follow Broekhuis & Den Dikken (2012, henceforth B&D)'s terminology, but will discuss parts of Vos's analysis as well. Therefore, I will start explaining how the terms of the authors correspond.

Vos distinguishes three types of partitive constructions: direct (DPC) and indirect (IPC) partitive constructions, the latter of which comes in a strong and weak form. Examples of each are given in sentences (5)-(7) below.

(5) een paar   grappige voorbeelden   (DPC)   (Vos, 1999:ix)
     a   couple (of) funny   examples

(6) een paar   van die   grappige voorbeelden   (Strong IPC)
     a   couple of   those funny   examples

(7) een paar   van die   grappige voorbeelden   (Weak IPC)
     a   couple of   those funny   examples
     'a couple of these funny examples'

IPCs are binominal constructions which contain the preposition *van*, 'of'. In DPCs, N1 and N2 are juxtaposed. The nouns are not separated by a preposition.

The strong IPC refers to a subset of a set of examples in the context. So (2) refers to, say, two out of five funny examples. The weak IPC on the other hand, does not refer to a subset of examples, but is a more vague expression. It refers to a couple of examples of a particular kind. The type of examples is known by both speaker and hearer, but there is no set of examples in particular that is being referred to. The sentences appear to be the same on the surface, but are different in interpretation as well as in structure.

B&D use the term *partitives* for the strong IPCs, and *pseudo-partitives* for the weak IPCs. They call Vos's DPCs *quantificational binominal constructions* (henceforth QCs). All are subclasses of binominal constructions.

The *soort* constructions of Schermer-Vermeer (2008, henceforth SV) are similar to the QCs, but differ in some ways. I will first discuss the QCs in more detail in section 2.1. In section 2.2 I will discuss the *soort* construction and in 2.3 the *een soort X* construction, which is a subtype of the *soort* construction. Section 2.4 will summarize the comparisons made between these three constructions.

Most of the examples I give contain the indefinite determiner *een,* but QCs can occur with all kinds of determiners. Examples of the *soort* construction contain demonstratives only, but can occur with other determiners as well. The *een soort X* construction only occurs with the indefinite determiner *een* and contrast in meaning with the *soort* construction.

For literature on English binominal constructions, see Keizer (2007), who provides a detailed account on partitives, pseudo-partitves and other constructions. She distinguishes three types of constructions that roughly correspond to the three nouns *soort* that B&D distinguish (see chapter 3). These are called *sort/type/kind* constructions. See Wilkinson (1995) for a semantic analysis of the English noun *kind,* based on Carlson (1977). Zamparelli (1998) also provides a theory of English *kind* constructions, which builds further on Wilkinson (1995).

2.1 Quantificational Binominal Constructions

One characteristic of QCs, as mentioned in the previous section, is that N1 and N2 are juxtaposed. See sentence (8). Note that N2 does not have a determiner. Sentence (9) shows that it is in fact impossible for QCs to be headed by a DP. But they can have a modifier, as in (10). Examples (8)-(10) are my own, example (11) is from Vos (1999:143).

(8)   een groep   dametjes
        a   group (of) ladies

(9)   *een groep   de dametjes
        a   group (of) the ladies

(10) een groep   kakelende dametjes
        a   group (of) chatty   ladies

(11)   *een boel   de dametjes   (Vos, 1999:143)
        a   lot (of) the ladies.

Vos explains the impossibility of a determiner between N1 and N2 in terms of macro-N-projections. In short, N2 may not be projected to the maximal level (Vos, 1999). N1 and N2 together form one macro-N-projection. In a well-formed projection, a lexical head can be dominated either by a functional or by a lexical node. A functional head may not be dominated by a lexical node within one projection. Since Ds are functional heads, they may not intervene between a lexical N2 and N1. Adjectives, being lexical, may do so. This is the Functional-Lexical Hierarchy (FLH), defined in (12) below.

(12)   <u>Functional-Lexical Hierarchy</u>: A functional element may not be dominated by a lexical one within one projection. (Vos, 1999)

The FLH can explain the ungrammaticality of (9). The functional determiner *de*, 'the', dominates the lexical N2 *dametjes*, 'ladies', but is in turn dominated by the lexical N1 *groep*, 'group'. This is a violation of FLH. However, further restrictions are needed to explain the ungrammaticality of (11). In Vos's system, quantifier nouns such as *boel*, 'lot', but not *groep*, 'group', (we will see different noun classes in the next section) are functional nouns. A functional N such as *boel*, 'lot' is marked [+F], a lexical N such as *groep*, 'group' is marked [-F]. The theory so far predicts that the sentence in (11) is well formed. The lexical N2 *dametjes*, 'ladies', is headed by a functional D *de*, 'the', headed by the functional N1 *boel*, 'lot'. It does not violate the FLH, yet is ungrammatical. To account for the ungrammaticality of (11), we need a further restriction. This is the Feature Hierarchy, defined in (13) below.

(13)   <u>Feature Hierarchy</u>: the node dominating the element that is specified for definiteness closes off the projection. (Vos, 1999:144).

Determiners and demonstratives are specified for definiteness. The node dominating *de*, 'the', closes off the projection. The N2 [de dametjes], 'the ladies', now counts as a maximal projection. It is dominated by the non-maximal *een boel*, 'a lot'. This is not a well-formed macro-N-projection. N2 cannot be maximally projected within a macro-N-projection.

2.1.1 Properties of N1 and N2

The N2 of a QC can be either a mass or plural count noun. A property shared by these two categories is *cumulativity* or *divisibility* (B&D). This means that the union of two sets results in a larger set of the same entities, and the union of two quantities of a substance results in a larger quantity of the same substance. The division of such a set results in a set of the same entities or a smaller quantity of the same substance (B&D: 576). The N2 of a QC can never be a singular count noun. Singular nouns refer to entities. The union of two entities forms a set, so cumulativity does not hold (B&D). See (14) below for an example. The mass noun *zand*, 'sand', is an acceptable N2, as is the plural noun *boeken*, 'books'. The singular count noun *wolk*, 'cloud', is unacceptable.

(14)	een stapel	zand/boeken/*wolk	(Vos, 1999:6)
	a	pile (of) sand/ books/ cloud	

The N1 of QCs can be of several classes. See table 2.1 for an overview of the different types.

Noun type	Examples	Descriptive content
Quantifier noun (QN)	*aantal* 'number', *boel* 'lot', *hoop* 'lot', *paar* 'couple'	No
Measure noun (MN)	*kilo* 'kilo', *liter* 'liter, *meter* 'meter', *dozijn* 'dozen'	Ambiguous
Container noun (ConN)	*doos* 'box', *emmer* 'bucket', *krat* 'crate'	Yes
Part noun (PartN)	*brok*, 'piece', *klontje* 'lump', *reep* 'bar', *stuk* 'piece'	Yes
Collective noun (ColN)	*dozijn* 'dozen', *groep* 'group', *kudde* 'flock', *paar* 'pair'	Yes
Table 2.1: different semantic types of N1s that can occur in quantificational binominal constructions. The table is adapted from B&D (p. 575).		

PartNs, ConNs and ColNs form one group within these classes. They all have *descriptive content.* They refer to more or less 'tangible' things, such as buckets or groups of people, as opposed to QNs, which refer to amounts only. MNs show ambiguous behaviour. We will see how exactly in the following sections. According to B&D, it is on first sight unclear which of the nouns is the head of the binomial construction. The head of the construction is in fact dependent on the distinction between the classes of N1 as sketched above. B&D make the distinction between referential nouns (that have descriptive content) and quantificational nouns (that have no descriptive content). Vos makes a similar distinction between lexical and functional nouns. QNs and MNs are functional, whereas PartNs, ConNs and ColNs are lexical.

Many nouns are ambiguous and may belong to more than one category. For example, *paar* is both a QN and a ColN. *Een paar schoenen* refers to a couple (arbitrary small number) of shoes (that do not have to belong together) on its QN interpretation, but to a pair of shoes (two of the same kind) on its ColN reading.

MNs have a referential and non-referential reading. For example, *een kilo kaas*, 'a kilo of cheese', can refer to an amount of cheese (quantificational, non-referential) or to a single piece of cheese that weighs a kilo (referential).

2.1.2 Syntactic head

The syntactic head of the construction can be determined by verb agreement. A singular subject triggers singular agreement, whereas a plural subject triggers plural agreement. See sentence (15) and (16).

(15) Er   demonstreren/*demonstreert <u>een boel   studenten</u>.   (QN)   (B&D, 2012:578)
There demonstrate/ demonstrates   a   lot (of) students.

(16) Er   *demonstreren/demonstreert <u>een groep   studenten</u>.   (ColN)
There demonstrate/ demonstrates a   group (of) students.

The verb in (14) agrees in number with the plural N2 of the QC. It cannot agree with the QN *boel,* 'lot', which is the N1 of the construction. In (15), the verb agrees with the ColN *groep,* 'group', and cannot agree with the plural N2 of the QC.

Vos assumes that QNs and MNs are transparent N1s. This means that the verb can see through them to agree with the number features of N2. Furthermore, she assumes that QNs lack a number feature (Vos, 1999). In practice this means that the verb will always agree with N2, if N1 is a QN. MNs are ambiguous, as seen in (17) and (18) below.

(17) Er   ligt <u>een kilo   appels</u> op   tafel.   (B&D, 2012:579)
There lies a kilo (of) apples on (the) table.

(18) Er   liggen <u>een kilo   appels</u> op   tafel.
There lie   a   kilo (of) apples on (the) table.

The verb *liggen*, 'to lie', may agree either with the singular N1, as in (17), or with the plural N2, as in (18). According to B&D, the syntactic head of the construction is dependent on the interpretation of N1. If N1 has a referential meaning, it triggers agreement. If it has a quantificational meaning, it is N2 that triggers agreement. The N1 *kilo*, 'kilo', in (17) is referential and *een kilo appels*, 'a kilo of apples', refers to a specific amount of apples. In (18), the N1 *kilo* is non-referential and the QC *een kilo appels,* 'a kilo of apples', refers to a bunch of apples that together weigh a kilo. QNs are by definition purely quantificational. PartNs, ConNs and ColNs are referential. MNs are ambiguous in this manner.

Note that in Vos's view, the projection of N1 is dominating N2. When N1 is transparent, V may agree with N2 in number. However, this analysis does not explain when one or the other will happen, or even why. Vos assumes that QNs lack a number feature, so V can never agree with QNs. But MNs do have a number feature. It makes sense to assume that V will in this case always agree with N1, since it has the first number feature it encounters. There is no reason for V to ignore a number feature, just in case it may encounter another one. Thus Vos cannot explain the ambiguity of MNs in a satisfying manner. B&D are better at doing so. In their view, V agrees with the first noun it encounters that has a referential reading. This reading is optional for some nouns. I assume that a noun with descriptive content is 'stronger' in a sense, than one without. If N1 has no descriptive content, but N2 has, N2 may be stronger in attracting the verb, making V agree with N2 instead of N1. If both N1 and N2 are referential, they are equally attractive for V. V will in that case agree with N1, since it is the first noun it encounters.

2.1.3 Semantic head

The semantic head can be determined by semantic restrictions of the verb. The verb *verzamelen,* 'to collect', can only take plural or mass nouns as its internal argument. See sentences (19) to (21). Collecting is incompatible with *doos,* 'box' in (20), but compatible with *een doos postzegels,* 'a box of stamps' in (21). The N2 *postzegels,* 'stamps' in (21) is accessible by the verb and may function as

semantic head. We get the interpretation that Jan collected a box full of stamps, not one box in particular. *Doos*, 'box', is not referential here, but quantificational. It refers to an amount that typically fits into a box.

(19) Jan verzamelde <u>postzegels</u>.   (B&D, 2012:583)
        Jan collected   stamps

(20) #Jan verzamelde <u>een doos</u>.
        Jan   collected   a   box

(21) Jan verzamelde <u>een doos   postzegels</u>.
        Jan collected   a   box (full of) stamps

Similarly, the verb *sluiten,* 'to close', is not compatible with *sigaren*, 'cigars', in (22), but it is with *doos*, 'box', in (23). In (24), N1 functions as semantic head and we get the interpretation that there was one particular box filled with cigars and Jan closed this box. Now *doos*, 'box', has a referential reading.

(22) #Jan sloot <u>sigaren</u>.   (B&D, 2012:584)
        Jan closed cigars

(23) Jan sloot   <u>een doos</u>.
        Jan closed a   box

(24) Jan sloot   <u>een doos   sigaren</u>.
        Jan closed a   box (of) cigars

If N1 is referential, it can act as semantic head of the QC. If N1 is quantificational, N2 is the semantic head. Note that this explanation is very similar to B&D's explanation of the syntactic head. If N1 has a referential reading, it is the head of the construction.

2.2 The *soort* construction

SV discusses the *soort* construction and its properties in relation to other binominal constructions. This construction, which is a rather recent development in the Dutch language (SV), is considered a subtype of binominal constructions, taxonomically a sister of quantificational binominal constructions. It is treated as such both by SV and B&D. Vos discusses Kinds Nouns (KindNs) on the same level as the types of N1 we have seen in section 2.1.1.

The N2 of the *soort* construction can – which is unique for a binominal construction – be a singular count noun, as in (25) below. The N1 of QCs cannot be a singular count noun. This is illustrated in (26).

(25) <u>Die kleur trui</u>   staat je   geweldig.   (SV, 2008:2)
        That colour pullover stands you great.
        "That colour of pullover looks great on you."

(26) *een stapel   wolk   (Vos, 1999:6)
         a   pile (of) cloud

The N1 of the construction is a noun from a rather restricted class, which SV names *soort-substantieven*. These correspond to Vos's KindNs and I will use this term instead. KindNs are nouns that refer to a quality, a property which is often physically noticeable (SV, 2008:14). Some examples are listed in (27). Properties such as colour and size are physically noticeable. Other properties are more abstract, such as quality. *Soort* is the most frequent noun among the KindNs, followed by *type* (SV). *Soort* was the first noun to be used in such a manner (SV), explaining the differences in frequencies between *soort* and the other nouns in (27). It is likely that the category will be extended in due time.

(27) *formaat* 'size', *kaliber* 'calibre', *kleur* 'colour', *kwaliteit* 'quality', *maat* 'size', *merk* 'brand', *model* 'model', *soort* 'kind', *type* 'type', *genre* 'genre'.

I will only discuss examples with *soort*. The properties that hold for the *soort* construction, hold for the other KindNs as well.

SV assumes that N2 is the head of the construction. She does not make a distinction between syntactic and semantic heads, nor does she give many grammaticality judgements. As for the structure of the construction, she assumes that the N2 is the head of the NP, and that N1 is its 'specificator', or part of it.

SV argues that it is 'premature' to determine the syntactic structure of the construction, because it is a fairly recent one and thus may still change. A possible structure she provides is given in (28).

(28) [NP [NP een soort/die kleur/dat model] [NP auto]]   (SV, 2008:17)

SV assumes that N2 is the head of the construction and that N1 is (part of) its specificator, though she defined the construction as consisting of two juxtaposed NPs, of which the second does not have a specificator (SV, 2008:2). SV is not in favour of Vos's more complicated analysis (see section 2.1). Vos's analysis for QCs can be applied to constructions with *soort* as well. *Soort* is a KindN, a class which is treated similar to MNs. They are functional and transparent nouns, that do not have descriptive content (thus they are non-referential). *Soort* itself can be either functional or lexical (Vos, 1999). SV writes that it is most often lexical. Vos does not make this explicit, but based on the examples in (29) and (30), I assume that the lexical *soort* occurs with a definite (demonstrative) determiner, while the functional *soort* occurs with the indefinite determiner *een* only (see section 2.3).

(29) Hij verzamelt deze soort   postzegels.   (lexical)   (Vos, 1999:70)
      He collects   this kind (of) stamps.

(30) Hij heeft een soort   kunstwerken verzameld.   (functional)
      He has   a   kind (of) work-of-arts   collected.

2.2.1 Syntactic head

The syntactic head can be determined by number agreement between the verb and the subject. See (31) below for an example. The example is taken from B&D and the judgement is theirs, but is shared by Vos (1999). The verb *zijn,* 'to be', agrees in number with the singular N1 *soort*, but cannot agree with the plural N2 *vogels,* 'birds'. N1 is the syntactic head of the construction.

(31) <u>Deze/die soort</u>   <u>vogels</u> is/*zijn moeilijk te observeren.   (B&D, 2012:636)
      This/that species (of) birds   is/are   hard   to observe.

SV does not agree with Vos's and B&D's judgements. According to her, both options in (31) are fine. It appears that both N1 and N2 can be the syntactic head, but judgements differ.

As seen in the previous section, the syntactic head of a QC is dependent on the descriptive content of N1. If N1 is referential, it acts as syntactic head. If N1 is quantificational, N2 is the syntactic head. For the *soort* construction, a similar analysis may be adopted. Vos treats the noun *soort* as ambiguous between lexical and functional (Vos, 1999). Based on the observation from the sentence pair in (29) and (30) in the previous section, *soort* in (31) should be a lexical noun. Recall that functional nouns do not have descriptive content, but lexical nouns do. If *soort* is lexical, the verb will agree with it. Apparently this is where the judgements differ. Vos and B&D take *soort* to be a referential expression, but for SV it need not be. See chapter 3.1. for more on this matter.

2.2.2 Semantic head

Example (32) shows that for the *soort* construction, N2 may be the semantic head (B&D). The verb *verzamelen,* 'to collect', requires a plural or count noun. When N2 is a singular count noun, the result is ungrammatical. N1 is a singular count noun, so N1 is not the semantic head.

(32) Jan verzamelt <u>deze/dit soort   postzegels/*postzegel/wijn</u>.   (B&D, 2012:637)
      Jan collects   this   kind (of) stamps /   stamp /   wine

Saying that N2 *may* be the semantic head suggests that N1 can be the semantic head in some cases. In order to test this, we can adapt the sentence in (32), so that N1 is plural and N2 is singular, as in (33). If the sentence is acceptable, the verb *verzamelen*, 'to collect', successfully selects the plural N1 *verschillende soorten*, 'different kinds'. (33) is unacceptable, but for another reason. The construction in (34) is unacceptable as well: N2 cannot be singular, when N1 is plural. This makes it hard to test whether N1 can be the semantic head of the *soort* construction.

(33) *Jan verzamelt <u>verschillende soorten   postzegel</u>.
      Jan collects   different   kinds (of) stamp

(34) *<u>verschillende soorten   postzegel</u>
      different   kinds (of) stamp

2.3 The *een soort X* construction

In the previous section we have seen how the *soort* construction is a special case of quantificational binominal constructions. The N1 belongs to a class of KindNs (Vos) or *soort substantieven* (SV) and the N2 can be a singular count noun. So far, we have only seen examples with demonstratives *deze,* 'this', and *die,* 'that'. *Soort* constructions can also occur with the indefinite determiner *een*. SV treats these cases as a subtype of the *soort* construction. She names these *een soort X* constructions.

The first difference between the *soort* construction and the *een soort X* construction is that the latter can only occur with the noun *soort* and not with any of the other KindNs. So we can have the sentence in (35), but not (36).

(35) Janna draagt <u>die kleur/ dat   model trui/truien</u> graag.
      Janna wears that colour/ that model pullover(s) gladly

(36) *Janna draagt <u>een kleur/ model trui</u>.
      Janna wears a   colour/ model pullover

The other, more important difference is that there appears to be a difference in interpretation between the constructions. See the sentence pair in (37) and (38) below.

(37) Janna draagt <u>dat soort   trui/truien   graag</u>.
      Janna wears that kind (of) pullover(s) gladly

(38) Janna draagt <u>een soort   trui</u>.
      Janna wears a   kind (of) pullover

Sentence (37) refers to a specific type of pullover that Janna likes to wear. Sentence (38) describes the kind of pullover that she was wearing. Crucially, (38) does not necessarily entail that she wore a pullover. Rather, it means that she wore something which resembled a pullover. This meaning can only be obtained by use of the indefinite determiner *een*. The other determiners cannot have this interpretation. See section 2.3.3 for a discussion about the interpretational difference.

2.3.1 Syntactic head

The verb agreement test shows that only N2 can be the syntactic head of the *een soort X* construction. In (39), the verb *liggen*, 'to lie', agrees with the plural N2 in number. Agreement with N1 is not possible: the third person singular form *ligt*, 'lies', is ungrammatical in (39).

> (39) Er   liggen/*ligt <u>een soort   appels</u> op de tafel.   (B&D, 2012:579)
>   There lie   / lies a   kind (of) apples on the table

2.3.2 Semantic head

This is the same as for the *soort* construction, as can be seen in (40) below. N2 is the semantic head of the construction.

> (40) Jan verzamelt <u>een soort   postzegels/*postzegel/wijn</u>.   (B&D, 2012:637)
>   Jan collects   a   kind (of) stamps /   stamp /   wine

2.3.3 Semantic difference

The main difference between the *soort* construction and the *een soort X* construction is their interpretation. Recall sentences (37) and (38), repeated below as (41) and (42).

> (41) Janna draagt <u>dat soort   trui/truien</u> graag.
>   Janna wears that kind (of) pullover(s) gladly

> (42) Janna droeg <u>een soort   trui</u>.
>   Janna wears a   kind (of) pullover

Een soort trui, 'a kind of pullover', in (42) refers to an object which resembles a pullover in some way. This meaning cannot be obtained by use of the *soort* construction. The resemblance interpretation is typically assigned to the *een soort X* construction (Vos, 1999, as well as dictionaries, such as Van Dale). B&D translate *een soort* as 'N-like entity' (see chapter 3). The object described as *een soort X* can be something else in nature. *Een soort trui,* 'a kind of pullover', in (42) could be a sack with extra holes for the head and arms. This is clearly not a pullover, but can be described as a kind of pullover.

These constructions can have a negative interpretation (SV). The sentence in (42) can be used to express that Janna was wearing a very ugly pullover. Whatever she was wearing, if it was a pullover, it was a bad example of one (so the construction can be used ironically). The *een soort X* construction refers to a non-prototypical, 'less successful' instance of the concept named (SV).

According to SV, only the latter interpretation is possible in (42). Furthermore, the negative connotation is something which came about through use of the expression (SV). So the non-prototypical aspect of its meaning is part of the semantics of *een soort*, but the negative connotation is a pragmatic aspect. To refer to certain instances as a subclass of a concept, the implication is made that the object or objects referred to are not good examples of the concept. SV shows with examples (43) and (44) that the construction does not need to have the negative connotation.

> (43) Een wigwam is <u>een soort   tent</u>.   (SV, 2008:21)
>   A   wigwam is a   kind (of) tent

> (44) De stoep   was besmeurd met <u>een soort   teer</u>.
>   The sidewalk was covered   with a   kind (of) tar

There is nothing negative about the sentences. (43) defines a wigwam as a tent, so here the construction refers to a subclass of tents. We can conclude that a wigwam is a non-prototypical tent.

In (44), SV says that the construction refers to a non-prototypical subclass of tar. The substance on the sidewalk shares certain properties with tar, making the speaker think that it is a kind of tar. But here I disagree. It could be real tar, it could be something merely resembling tar. All we know is that the speaker is unsure about the nature of the substance.

There is a difference between a defining use of the construction (as in (43)) and a describing use (as in (44)). (43) defines a wigwam as a tent. This will lead people to conclude that a wigwam is in fact a subclass of tents. The sentence in (44) on the other hand, describes an unknown substance which resembles tar. This kind of phrasing may lead people to conclude that the substance is in fact *not* an instance of tar. At least, people may be more careful concluding that the substance *is* tar.

I propose that there is a difference between a describing and defining use of the *een soort X* construction. The defining use comes about in predicate position. The describing use comes about in argument position. There is one construction that can have either interpretation in different contexts. This will be tested in a questionnaire (see chapter 5).

2.4 Summary

Table 2.2 below summarizes the major differences between the three types of binominal constructions discussed above. Both of the *soort* constructions differ from the quantificational constructions, because their N2 can be a singular count noun. The QCs show ambiguous behaviour with respect to the semantic and syntactic head of the construction. These depend on the interpretation of N1. In the *soort* construction, N1 is the syntactic head and in the *een soort X* construction, N2 is the syntactic head. But recall that for SV, either can be the syntactic head of the *soort* construction. I propose that this can be explained similarly to B&D's analysis of QCs. If N1 has a referential reading, it is the syntactic head of the construction. If N1 is not referential, N2 is the syntactic head. Assuming that *soort* in the *een soort X* construction, due to its special meaning, can never be referential, it follows that N2 is always the syntactic head in this construction. One theory can explain all three constructions. See chapter 3 for more on this.

	Quantificational binominal constructions	*Soort* construction	*Een soort X* construction
Properties of N2	Cannot be a singular count noun	Can be a singular count noun	Can be a singular count noun
Semantic head	N1 if N1 referential, N2 if N1 quantificational	N2	N2
Syntactic head	N1 if N1 referential, N2 if N1 quantificational	N1(unless N1 is not referential)	N2
Interpretation	Subset of X	Subclass of X	Resembles X (describing) / non-prototypical X (defining)

Table 2.2: The major differences between QCs, *soort* constructions and *een soort X* constructions.

The 'interpretation' row was added, because this is the major distinction between the *soort* construction on the one hand, and the *een soort X* construction on the other. The *soort* construction always refers to a subclass of X, while *een soort X*, 'a kind of X', refers to something which resembles X, but may be something else in nature (B&D), or to a non-prototypical instance of X (SV). QCs denote a subset of X, whether it is a proportion of a substance or a number of entities. The resemblance meaning is unique for the *een soort X* construction. But there is some discussion about the exact

interpretation of this construction. I propose that the 'resemblance' interpretation corresponds to a describing use, and that the 'non-prototypical' interpretation corresponds to a defining use of the *een soort X* construction. The questionnaire reported in chapter 5 explores this further.

3. How many kinds of *soort* are there?

The Dutch noun *soort,* 'kind', can be of neuter or non-neuter gender. It is not clear on first sight which of these *een soort,* 'a kind', is derived from. See the examples in (45)-(47), adapted from B&D.

(45) deze/die soort   aap   (non-neuter)   (B&D 2012:631)
      this/that species (of) monkey

(46) dit/dat   soort   auto   (neuter)
      this/that kind (of) car

(47) een soort   appel   (gender unknown)
      a   kind (of) apple
      'an apple-like thing'

B&D present data to show that the neuter and non-neuter noun *soort* in (45) and (46) respectively, as well as *soort* in (47) (which can only occur with the indefinite determiner), behave very differently and should be treated as three homonyms. Note that they give different translations for each of the nouns *soort* in (45) to (47). The non-neuter *soort* in (45) is translated as 'species', the neuter *soort* in (46) as 'kind of' and *een soort* in (47) as 'N-like entity.'

My aim is the opposite: I want to investigate whether it is possible to provide a unified semantic analysis for the nouns *soort*, despite their different behaviour in some cases. In the following sections, I will go through B&D's arguments step by step and present my own view alongside theirs.

First, it must be noted that the translations B&D give are merely labels for the nouns. We will see later that the non-neuter noun can also occur with N2s that do not refer to biological species, and that the neuter noun can refer to biological species as well. And as we have seen in chapter 2, there is some discussion about the interpretation of *een soort*. For this reason, I think that these labels can be misleading. I will refer to the N1s in (45)-(47) as soort1, soort2 and soort3 respectively.

Second, the 'species' interpretation may behave differently independent of gender. The differences that B&D note may depend on the main difference between 'species' and 'kind of'. And since these interpretations do not correspond to the neuter and non-neuter nouns exactly, making this strict distinction may lead to a conflated picture. I will try to replicate their data using N2s that do not refer to biological species, whenever soort1 and soort2 show different behaviour.

Third, B&D show that the other KindNs behave similar to the non-neuter noun soort1, but they only look at non-neuter nouns (save a few examples where "giving judgements is somewhat complicated..."). I will give some extra data with neuter N1s.

The judgements are copied from B&D, unless mentioned otherwise. My own judgements are always supported by those of two or three informants.

Where relevant, corpus data will be presented. The corpus used is the Corpus Hedendaags Nederlands (henceforth CHN), the Corpus Contemporary Dutch. This is a collection of different kinds of texts, such as newspapers, legal texts and books. Most texts are from 1980 onwards.

In the following sections, I will discuss B&D's data for the properties of the three kinds of *soort* that they distinguish. In sections 3.6 to 3.8 I will present some data and arguments of my own. Section 3.9 will conclude this chapter. I will summarize my findings there.

3.1 Gender of N1 and N2

As mentioned in the previous section, the noun *soort* can be either neuter or non-neuter. Since the indefinite *soort* does not allow a definite or demonstrative determiner (it will lose its resemblance interpretation - recall from chapter 2 that the *een soort X* construction only occurs with the indefinite determiner *een,* 'a'), it is hard to tell its gender. See (48)-(50) below.

(48) deze/die soort   aap   (non-neuter)   (B&D 2012:631)
       this / that species (of) monkey

(49) dit/dat   soort   auto   (neuter)
       this/that kind (of) car

(50) een soort   appel   (gender unknown)
       a   kind (of) apple
       'an apple-like thing'

That soort1 and soort2 have different gender does not mean that they are really different words. There are more nouns in Dutch that can have either gender, such as *krat,* 'crate', or *idee,* 'idea'. There is no semantic difference between *de krat* (non-neuter) and *het krat* (neuter). Different gender is no evidence that soort1 and soort2 are different nouns.

Soort1 imposes gender restrictions on its N2. It can be followed by other non-neuter nouns, but not by neuter nouns, as shown in (51). Soort2 and soort3 do not impose gender restrictions on their N2, as can be seen in (52) and (53) respectively.

(51) *deze/die$_{[-neuter]}$ soort$_{[-neuter]}$ paard$_{[+neuter]}$ (B&D 2012:632)
       this/that   species (of) horse

(52) dit/dat$_{[+neuter]}$ soort$_{[+neuter]}$ hond$_{[-neuter]}$
       this/that   kind (of)   dog

(53) een soort   paard$_{[+neuter]}$ / hond$_{[-neuter]}$.
       a   kind (of) horse /   dog
       'a dog/horse-like animal'

N2s that do not refer to biological species, such as *huis,* 'house', and *auto,* 'car', show the same restrictions. See (54)-(56).

(54) *deze/die soort$_{[-neuter]}$ huis$_{[+neuter]}$
       this/that   kind (of)   house

(55) dit/dat   soort$_{[+neuter]}$ auto$_{[-neuter]}$
       this/that kind (of)   car

(56) een soort   huis$_{[+neuter]}$ / auto$_{[-neuter]}$
       a   kind (of) house /   car

Other KindNs show the same restrictions. Non-neuter N1s such as *kleur,* 'colour', and *maat,* 'size', are not very acceptable with neuter N2s. See (57) and (58) below.

(57) ??deze/die kleur$_{[-neuter]}$ hemd$_{[+neuter]}$ (B&D 2012:633)
       this/that   colour (of) shirt

(58) ??deze/die maat$_{[-neuter]}$ hemd$_{[+neuter]}$
       this/that   size (of)   shirt

B&D give two examples of neuter KindNs that, according to them, do not show such a restriction (as expected, if this difference is gender based. Neuter N1s do not require their N2 to be of the same gender). These are listed in (59) and (60) below. However, the noun *boek,* 'book', the N2 in (59), is really a neuter noun, so this is a bad example. What B&D wanted to show was that the neuter N1 *formaat,* 'size', can have a non-neuter N2. This is illustrated in (61). I find the example in (60) unacceptable and my informants agree with me. A genre is not something that can be applied to readers. The alternative in (62) is fine, although it would be more natural to make a compound, such as *muziekgenre,* 'genre of music'.

(59) dit/dat   formaat $_{[+neuter]}$ boek$_{[+neuter]}$
     this/that size (of)   book

(60) ??dit/dat genre$_{[+neuter]}$ lezer$_{[-neuter]}$
     this/that genre (of) reader

(61) dit/dat   formaat$_{[+neuter]}$ auto$_{[-neuter]}$
     this/that size (of)   car

(62) dit/dat   genre$_{[+neuter]}$ muziek$_{[-neuter]}$
     this/that genre (of)   music

To conclude, non-neuter N1s need their N2s to have the same gender. The N2s following neuter N1s can have either gender. Soort1 and soort2 show different behaviour in this respect, but this does not mean that they are really different nouns. It is merely a difference between neuter and non-neuter words. A similar effect is seen with the other KindNs, and it is not impossible for a noun to have both genders. Other such cases do not lead to semantic differences, for example *krat*, 'crate'. I see no reason to assume that there is a neuter, non-neuter and genderless noun *soort,* based on the facts above.

3.2 Articles and modification

The *soort* constructions do not allow a definite article, unless they are modified by a relative clause (B&D). This is true for both soort1 and soort2, see (63) and (64). B&D wrote that soort3 is acceptable with a definite article, but only with a meaning similar to soort1 and soort2. However, (65) is really just an instance of soort1 or soort2 with the N2 *appel,* 'apple'. Recall from chapter 2 that SV's *een soort X* construction can only appear with the indefinite determiner *een*. The special resemblance interpretation of soort3 is unavailable when a definite article is used.

(63) de soort   vogels *(die Jan bestudeert)   (B&D, 2012:635)
     the species (of) birds   that Jan studies

(64) het soort   auto *(dat Jan graag wil   bezitten)
     the kind (of) car   that Jan gladly wants possess
     'the kind of car that Jan wants to have'

(65) #het/de soort   appel (dat/die Jan lekker vindt)
     the/the kind (of) apple that   Jan tasty   considers
     'the kind of apple that Jan likes'

The other KindNs cannot occur with the definite article either, unless they are modified by a relative clause. See (66) and (67). This is a property shared by all instances of the *soort* construction.

(66) <u>De kleur   behang</u> *(die ik zoek)   is niet verkrijgbaar.   (B&D, 2012:635)
     The colour wallpaper that I look for is not available

(67) <u>Het formaat theekist</u> *(dat ik zoek)   is niet verkrijgbaar.
     The size (of) tea box   that I look for is not available.

Attribute adjectives can license the indefinite article *een* on soort1 and soort2 when they precede N1 (B&D). The sentences in (68) and (70) below do not have the resemblance interpretation associated with soort3. Modification of N1 triggers a referential reading of the noun (B&D). When N2 is modified, as in (69) and (71), the meaning is similar to soort3 (B&D).

(68) een mooie   soort   aap   (B&D, 2012:635)
     a   beautiful species (of) monkey

(69) #een soort   mooie   aap
      a   kind (of) beautiful monkey

(70) ?een duur   soort   auto
      an   expensive kind (of) car

(71) #een soort   dure   auto
      a   kind (of) expensive car

B&D mark (70) with a question mark, indicating that it sounds a little odd, but is not impossible. Other KindNs are unacceptable with modification of N2, as can be seen in (73) and (75).

(72) een mooie   kleur   behang
     a   beautiful colour (of) wallpaper

(73) *een kleur   mooi   behang
     a   colour (of) beautiful wallpaper

(74) een groot formaat auto
     a   big   size (of) car

(75) *een formaat grote auto
      a   size (of) big   car

It seems that modification of N2 in indefinite binominal constructions is only possible for the *een soort X* construction ((69) and (71) have an 'N-like' interpretation, which B&D mark with #). Since this construction can only occur with *soort* as N1, it follows that examples like (73) and (75) above are unacceptable.
The use of modifiers shows that soort1 and soort2 should not be distinguished, but soort3 is clearly different.

3.3 Insertion of *van*, 'of'

Insertion of the preposition *van,* 'of', is possible for soort3, as seen in (78). For soort1 and soort2, B&D report that constructions with the preposition do occur, but the number of cases is relatively small. See (76) and (77) for examples. They are not completely unacceptable, but somewhat marginal. Soort2 occurs more often with *van* than soort1 (B&D, 2012:635). SV notes that these instances occur less often in northern Dutch (SV 2008:20).

(76) ??deze soort   van aap   (B&D, 2012:635)
        that species of   monkey

(77) %dit soort van auto
        this kind of   car

(78) een soort van appel
        a   kind of apple
      'an apple-like thing'

Insertion of *van,* 'of', with the indefinite article is fine, but only for soort3. Addition of the attributive adjective triggers a referential reading of the noun (B&D). This makes the examples in (79)-(81) unacceptable. Unmodified versions of soort1 and soort2 get a reading similar to soort3 (B&D). This is obvious, since the unmodified examples are instances of the *een soort X* construction.

(79) een #(*mooie) soort   van aap   (B&D, 2012:635)
        a   beautiful   species of   monkey

(80) een #(*duur) soort van auto's
        an expensive kind of   cars

(81) een (*lekkere) soort van appel
        a   tasty   kind of   apple
      'an apple-like thing'

Other KindNs do not go well with the preposition *van* either, as seen in (82) and (83) below. But some instances do occur, as (84), which I found in the CHN corpus.

(82) *die kleur   van behang
        that colour of   wallpaper

(83) *dat formaat van auto
        that size   of   car

(84) dit   genre van films
        this genre of   movies

3.4 Syntactic head

B&D show that constructions with soort1, soort2 and soort3 have different syntactic heads. See (85)-(87). For soort1, it is N1 that triggers agreement on the verb. For soort2, either N1 or N2 may trigger agreement. For soort3, only N2 can be the syntactic head of the construction.

(85) Deze/die soort   vogels is/*zijn moeilijk te observeren.   (B&D, 2012:636)
        This/that species (of) birds   is/are   hard   to observe

(86) Dit/dat   soort   vragen   is/zijn moeilijk te beantwoorden.
        This/that kind (of) questions is/are hard   to answer

(87) Er   liggen/*ligt een soort   appels op de tafel.
        There lie/lies   a kind (of) apples on the table

Other KindNs are always the syntactic head, as seen in (88) and (89) below.

(88) Dit   type   auto's rijdt/*rijden snel.
        This type (of) cars   drives/drive fast

(89) Deze kleur   bloemen is/*zijn erg mooi.
        This colour (of) flowers   is/are very beautiful

As mentioned in chapter 2, SV does not agree with B&D's judgements for soort1. She thinks that plural agreement with N2 in (85) is fine, and I agree. But judgements can differ greatly between people. One of my informants disliked plural agreement with N2 in both (85) and (86). For him, only N1 can be the syntactic head.

Another informant found both options acceptable. Either N1 or N2 can be syntactic head, both in (85) and (86). She said that it depends on whether you want to talk about the kind itself, or about the things that belong to the kind. This is exactly the difference between referential and non-referential nouns made in chapter 2 and it reflects B&D's theory for QCs (see chapter 2.1). I will come back to this in section 3.8. For now I want to stress that for both of my informants, there is no difference between soort1 and soort2 in this respect.

Corpus data shows that for soort2, singular agreement with N1 is dominant, but plural agreement with N2 occurred as well. For soort1, there is little data, but both singular and plural agreement occur. See table 3.1. I searched for sequences of *soort* followed by a plural N2, followed by a verb. For soort1, there were 22 results in total and for soort2, there were over 9000 results. These included a lot of noise data, where the *soort* construction was not in subject position. If the construction was in subject position, I checked which of the nouns N1 or N2 the verb agreed with. It seems that for soort2, N1 is most often the syntactic head. For soort1, there were too little results to tell.

	N1 singular agreement	**N2 plural agreement**
Soort1	3	4
Soort2	40	3
Table 3.1 verb agreement for the *soort* constructions with singular N1 and plural N2		

Soort1, soort2 and soort3 seemed to show different behaviour with regard to the syntactic head of the construction. However, there is some variation among speakers. For one of my informants, only N1 can be the syntactic head. For another informant, both N1 and N2 can be the syntactic head. This held for both soort1 and soort2. While their judgements differed, both did not perceive any difference between soort1 and soort2.

3.5 Semantic head

B&D show that soort1, soort2 and soort3 do not behave differently with respect to the semantic head. N2 is the semantic head in all cases. See (90)-(92).

(90) Jan verzamelt <u>die soort *postzegel/postzegels/wijn</u>.   (B&D, 2012:637)
      Jan collects   this kind (of) stamp /   stamps /   wine

(91) Jan verzamelt <u>deze soort *postzegel/postzegels/wijn</u>.
      Jan collects   this kind (of) stamp /   stamps /   wine

(92) Jan verzamelt <u>een soort postzegels/*postzegel/wijn</u>.
      Jan collects   a   kind (of) stamp /   stamps /   wine

3.6 Existential and generic

Bare plurals in English can have a generic or an existential reading. Generic readings are like a universal quantifier (Carlson, 1977). Examples are given in (93) and (94). They occur in characterizing sentences, expressing a generalisation that holds for all individuals of a kind (Krifka et al., 1995; Oosterhof, 2008). However, exceptions are allowed in some cases, for example in (94) below. Kangaroos live in Australia, but some live in European zoos. So not all, but most kangaroos live in

Australia. The generalization still holds for most of the kind. Sentence (93) contains the *kind predicate* 'to be extinct'. Kind predicates can only apply to kind-referring noun phrases (Krifka et al., 1995; Oosterhof, 2008). (93) applies to the kind *dinosaurs* as a whole and no exceptions are allowed.

Existential readings on the other hand are more like the existential quantifier *some* (Carlson, 1977). See (95) below for an example. (95) clearly does not hold for the whole kind, but for a few individuals only. Carlson (1977) made this distinction for bare plurals, but similar facts hold for *kind of* constructions. See Wilkinson (1995) for a semantic analysis of English *kind of* constructions.

(93)   Dinosaurs are extinct.   (generic)   (Wilkinson, 1995:383)

(94)   Kangaroos live in Australia.   (generic)

(95)   Kangaroos ruined my garden.   (existential)

Perhaps we can make a similar distinction for Dutch soort1, soort2 and soort3. Suppose that one type of *soort* can have a generic reading only and another type an existential reading only. If so, we will see that one type is acceptable in sentences (96)-(101) only, or in (102)-(107) only. The first sentences are generic, the latter are existential.

Recall from the introduction to this chapter that I suggested that there may be a difference in interpretation between soort1 and soort2, rather than gender. If this is the case, we may find a difference here between sentences (96)-(98) and (102)-(104), and between (99)-(101) and (105)-(107) respectively. The first groups of sentences refer to biological species (*hond*, 'dog') and the latter to a non-biological kind (*tuinkabouter*, 'garden gnome').

The sentences below were judged by myself and at least two informants. I have asked up to four people for their judgements, not every informant judged all sentences.

Generic + biological species:

(96)   Soort1   *Die soort   hond verhaart heel erg.
                   that kind (of) dog   sheds   very badly
                   "That kind of dog sheds a lot of hair."

(97)   Soort2   Dat soort   hond verhaart heel erg.
                   that kind (of) dog   sheds   very badly
                   "That kind of dog sheds a lot of hair."

(98)   Soort3   %Een soort   hond verhaart heel erg.
                      a   kind (of) dog   sheds   very badly
                   "A kind of dog sheds a lot of hair."

Generic + non-biological species:

(99)   Soort1   *Die soort   tuinkabouter   kijkt eng.
                   That kind (of) garden gnome looks scary

(100) Soort2   Dat soort   tuinkabouter   kijkt eng.
                   That kind (of) garden gnome looks scary

(101) Soort3   *Een soort   tuinkabouter   kijkt eng.
                   A   kind (of) garden gnome looks scary

Existential + biological species:

  (102) Soort1   *Ik zag <u>die soort   hond</u> in de stad.
                         I   saw that kind (of) dog   in the city

  (103) Soort2   %Ik zag <u>dat soort   hond</u> in de stad.
                          I saw that kind (of) dog   in the city

  (104) Soort3   Ik zag <u>een soort   hond</u> in de stad.
                         I saw a   kind (of) dog in the city

Existential + non-biological species:

  (105) Soort1   *Ik zag <u>die soort   tuinkabouter</u>   in de stad.
                         I saw that kind (of) garden gnome in the city

  (106) Soort2   ?Ik zag <u>dat soort   tuinkabouter</u>   in de stad.
                         I saw that kind (of) garden gnome in the city

  (107) Soort3   Ik zag <u>een soort   tuinkabouter</u>   in de stad.
                         I saw a   kind (of) garden gnome in the city

Surprisingly, soort1 was judged unacceptable in all cases. I only have judgements from two or three informants, but they all disliked the sentences with soort1. For one of my informants, *die soort* is unacceptable in general. She corrected me: "*Die soort* sounds weird. I would say *dat soort*." This does not mean that *die soort* really is ungrammatical. Perhaps it does not occur in certain dialects. It may be acceptable for other speakers. The examples that B&D give for soort1 sound fine, but most of their examples are NPs only that occur without any context.

Soort2 is acceptable in the generic sentences, but less so in the existential ones. Sentences (100) and (103) were fine for one informant. Another informant found (100) unacceptable and was unsure about (103). This shows that there is a potential difference between the *soort* constructions that refer to biological species and those that do not. Soort2 can, at least for some people, have both an existential and a generic reading.

Soort3 cannot have a generic reading. However, there may be a small difference between the 'species' and 'kind of' interpretations. One of my informants found the sentence in (95) acceptable, but the one in (98) not. My other informant found (95) and (98) equally unacceptable. For some people, the *een soort X* construction can have a generic reading, when N2 refers to a biological species.

The data above do not show that soort1 and soort2 are different nouns. Soort1 is unacceptable for some speakers. Soort1 and soort2 convey exactly the same meaning – *soort* can refer to biological as well as non-biological species, and can have a generic and (sometimes) an existential reading. For my informants, soort2 is the preferred form in generic sentences. Soort3 is preferred in existential sentences.

3.7 Frequency

One of my informants disliked the sequence *die soort* in all cases. And indeed, the corpus data shows that soort1 occurs very infrequently. While soort2 and soort3 occurred about 22350 times each, soort1 occurred only 84 times. Table 3.2. shows the frequencies found in the CHN corpus for unmodified, as well as modified constructions.

	Soort1	**Soort2**	**Soort3**
Soort N2	81	22354	22350
Soort Adj. N2	12	2663	5375
Adj. *soort* N2	35	26	3483
Adj. *soort* Adj. N2	0	3	313

Table 3.2. Frequency of binominal constructions with soort1, soort2 (preceded by a demonstrative) and soort3 (preceded by the indefinite determiner *een*) and their modifications.

The difference in frequency between soort1 on the one hand and soort2 and soort3 on the other is surprisingly large. Soort2 and soort3 occur equally frequent, while soort1 occurs very little. Next to that, the data shows that modification of the *soort* construction occurs more often with soort3.

B&D translate soort1 as 'species', suggesting that the non-neuter *soort* can only refer to biological species. This could be an explanation of its infrequent use. However, they note that the construction with soort1 as N1 is not impossible with a 'kind of' interpretation, see (108) and (109) below.

(108) deze/die soort   postzegels   (B&D, 2012:634)
        this/that kind (of) stamps

(109) deze/die soort   koffie
        this/that kind (of) coffee

And indeed, in the corpus data, N2s were found that do not refer to biological species, such as *bier*, 'beer', *dossier*, 'file', *bouwmateriaal*, 'building material' and many others. So the assumption that people do not talk about biological species very often (whether this is correct or not) is no explanation for the difference in frequency that the data show.

Soort2 can also refer to biological species. It occurs very little in the corpus, but see (111) below. It is fully acceptable. Besides, as mentioned at the start of this section, the non-neuter *die soort* (soort1) is unacceptable for some people. It would be odd to assume that some people simply never talk about biological species. Both soort1 and soort2 can refer to biological species.

A possible explanation for the infrequency of soort1 is that the non-neuter noun can only be followed by a non-neuter N2, while the neuter noun does not impose gender restrictions on N2 (see section 3.1). In other words, the neuter noun can be used in a larger number of cases. This makes it the preferred option. The relevant data is repeated below in (110) and (111).

(110) *deze/die$_{[-neuter]}$ soort$_{[-neuter]}$ paard$_{[+neuter]}$ (B&D 2012:632)
        this/that   species (of) horse

(111) dit/dat$_{[+neuter]}$ soort$_{[+neuter]}$ hond$_{[-neuter]}$
        this/that   kind (of)   dog

However, it is not clear if this can fully explain the difference in frequencies, since it is so large.

I have also looked at the N2s of the first two pages of results. There were roughly 50 results per page, but these include some noise data and for some constructions, there were less results overall. I have sorted the N2s into singular, plural and uncountable nouns. Sometimes, it is hard to tell whether a noun is countable or uncountable. In case of doubt I classified the nouns as uncountable. The results are given in table 3.3 below.

	Total	Singular N2s	Plural N2s	Uncountable N2s
Soort1 N2	81	6	24	15
Soort1 Adj. N2	12	1	6	5
Adj. soort1 N2	35	8	16	9
Adj. soort1 Adj. N2	0	0	0	0
Soort2 N2	22354	4	79	16
Soort2 Adj. N2	2663	2	71	24
Adj. soort2 N2	26	4	15	7
Adj. soort2 Adj. N2	3	1	0	2
Soort3 N2	22350	30	1	12
Soort3 Adj. N2	5375	65	4	29
Adj. soort3 N2	3483	39	15	43
Adj. soort3 Adj. N2	313	15	12	20

Table 3.3. Singular, plural and uncountable N2s for soort1, soort2 and soort3 and their modifications (among the first 100 results).

It is striking that soort1 occurs so little, as opposed to soort2. Another interesting observation is that singular N2s occur relatively little with soort1 and soort2, and occur a lot more with soort3. I have only looked at the first hundred or so examples per category, out of thousands of results for the unmodified constructions. This may be too little to draw conclusions from, but it is still an interesting observation. At the moment I do not have a satisfying explanation for these observations.

3.8 Referential and non-referential *soort*

In chapter 2.1.2 I discussed B&D's analysis of the syntactic head of quantificational binominal constructions. This was dependent on the descriptive content of N1. Recall that the N1 of a QC can be of several classes. QNs have no descriptive content (they are not referential) and can never be the syntactic head of the construction. PartNs, ConNs and ColNs are referential and thus are the syntactic head. MNs are ambiguous. Either N1 or N2 can be the syntactic head when N1 is an MN, depending on whether it has a referential reading or not.

Vos (1999) made a similar distinction between functional and lexical nouns. According to Vos, KindNs refer to a quality and have descriptive content, except for noun *soort,* which can be either functional or lexical (Vos, 1999). Based on my argumentation in the previous sections, I conclude that there is only one noun *soort.* It can have a referential or non-referential interpretation. Recall sentences (85)-(87), repeated here as (112)-(114).

(112) <u>Deze/die soort   vogels</u>   is/*zijn moeilijk te observeren.   (B&D, 2012:636)
      This/that species (of) birds is/are   hard   to observe

(113) <u>Dit/dat   soort   vragen</u>   is/zijn moeilijk te beantwoorden.
      This/that kind (of) question is/are hard   to answer

(114) Er   liggen/*ligt <u>een soort   appels</u> op de tafel.
      There lie/lies   a   kind (of) apples on the table

B&D show in (112) that soort1, which they translated as 'species', must be the syntactic head of the construction. B&D note that for soort1, "the noun *soort* is clearly used as a referential expression (…) This is less clear in the other two uses." (B&D 2012:631). The construction in (112) refers to a contextually determined species. Sentence (112) is a characterizing sentence, which expresses a generalization (Oosterhof, 2008). *Deze soort vogels,* 'this species of birds', is a kind-referring NP. (112) is about a particular species of birds, for which it is generally true that they are hard to observe. The N1 *soort* is referential in (112), thus N1 is the syntactic head.

For other N2s that do not refer to biological species, this is not necessarily the case. These may put emphasis on either the kind or the instantiations of the kind, resulting in either N1 or N2 being the syntactic head. This is illustrated in (113). But recall from section 3.4 that some people find (112) acceptable when N2 is the semantic head. They can interpret *deze soort vogels,* 'this kind of birds', as referring to a particular set of birds, instead of to a kind. I assume that *soort* constructions of which the N2 refers to a biological species are kind-referring by default. This is because biological species can be applied to kind predicates more easily than for example artefacts. Kind predicates can only apply to kind-referring noun phrases (Krifka et al., 1995; Oosterhof, 2008). Examples of such predicates are 'to be extinct' or 'to be widespread', properties which can be easily applied to animals, but not so much to artefacts or abstract concepts such as questions.

The *een soort X* construction is non-referential. See chapter 2.2: *een soort* is functional according to Vos (1999). *Een soort appels* in (114) does not refer to a kind of apples, but to a set of objects that resemble apples in some way. Naturally, (114) is about the apple-like things and not about the kind they resemble. *Soort* does not have descriptive content here and cannot be the syntactic head of the construction. The resemblance interpretation of the *een soort X* construction is not compatible with N1 having descriptive content. It is always about the entities you refer to, not about the kind they resemble.

The differences that we see with regard to the syntactic head of the constructions correspond to the interpretation of *soort*. The difference between (112) and (113) corresponds to biological and non-biological species, not to the gender of the nouns. The difference between (112) and (113) on the one hand, and (114) on the other hand corresponds to the difference in interpretation between SV's *soort* and *een soort X* constructions. If we assume that there is one noun *soort* that is ambiguous between a referential and non-referential interpretation (just like MNs are), we can simply apply B&D's own analysis of QCs to the *soort* constructions.

3.9 Summary and conclusion

According to B&D, there are three nouns *soort* in Dutch: a neuter and non-neuter one, and one that only occurs with the indefinite article *een*. In the previous sections, I have discussed their data and arguments, and presented some of my own. I will summarize my findings here and see what we can conclude.

Soort1 and soort2 have different genders. Soort3 can be derived from either. The gender difference is no argument to treat soort1, soort2 and soort3 as three homonyms. There are more nouns in Dutch that can have either gender and this does not lead to a semantic difference. There are some minor differences – non-neuter N1s need their N2 to be non-neuter as well, neuter N1s do not have such restrictions – but these do not lead to semantic differences.

Soort constructions can only occur with a definite determiner when they are modified by a relative clause. Soort1 and soort2 are not different in this respect.

Soort3 (SV's *een soort X* construction) does behave somewhat differently. In the *een soort X* construction, N2 can be modified, but modification of N1 triggers a referential reading (B&D). Insertion

of the preposition *van*, 'of', is only possible with soort3.

Binominal constructions with soort1, soort2 and soort3 all have N2 as semantic head. The syntactic head of the construction depends on the interpretation of N1, similar to B&D's analysis of QCs (see chapter 2.1.2). I propose that there is only one noun *soort*. When it refers to biological species, N1 is referential by default and thus is the semantic head. When N1 refers to a non-biological kind, *soort* is ambiguous between a referential and non-referential reading. Either N1 or N2 may be the syntactic head, depending on the descriptive content of N1. In the *een soort X* construction, N1 has no descriptive content. It is not about the kind (N1), but about the objects that resemble the kind in some way (N2). N2 is always the syntactic head.

For my informants, soort1 was unacceptable with either an existential or a generic interpretation. This can be explained by the corpus data. Soort1 is very infrequent, making it sound odd. This is compatible with the idea that soort1 and soort2 are one and the same noun that can have either gender. For some reason, the neuter form is preferred over the non-neuter form.

Soort2 (the *soort* construction) is possible with both an existential and generic reading, though less so for existential. Soort3 (the *een soort X* construction) is possible with both, but less so for generic. The difference in generic and existential corresponds to the determiners *een,* 'a', and *dat,* 'that'.

I think there is enough evidence to assume that there is only one noun *soort*. The differences that we see exist mainly between the *soort* construction and the *een soort X* construction, though it can be argued that both constructions contain a different noun *soort*. There are also some differences between the 'species' and 'kind of' interpretations, but these do not correspond to the gender of the nouns. The noun *soort* can have either gender and both genders can have either interpretation. The neuter gender is the preferred one.

I have now answered the first research question: How many kinds of *soort* are there? I propose that there is only one noun *soort* in Dutch. However, soort3 / the *een soort X* construction has a very special interpretation, which is as of yet unexplained. In the next chapter I will try to answer the second research question: What is the interpretation of *een soort?*

4. Questionnaire

In the previous chapter I argued that there is only one noun *soort* in Dutch. It is ambiguous between a referential and a non-referential reading. When the N2 of the *soort* construction refers to a biological species, N1 is usually referential. In the *een soort X* construction, N1 is not referential.

Something which still needs to be accounted for is what the exact interpretation of the constructions is. The *soort* construction refers to a subcategory of X. The *een soort X* construction refers to a non-prototypical instantiation of X (according to SV) or even to a resembling non-instance of X (according to B&D). In the latter case, we can say that the boundaries of the concept X are extended, so the extension of X includes resembling non-instances as well. This questionnaire was administered to answer the second research question: what is the interpretation of *een soort*? This question in turn consist of two subquestions.

1) Is there a difference between a describing and defining use of *een soort*? Recall that there is a difference in interpretation between the sentences in (115) and (116) below. (115) is an example of the defining use of *een soort*, (116) is an example of the describing use.

> (115) Een wigwam is <u>een soort   tent</u>.   (defining)
> A   wigwam is a   kind (of) tent

> (116) Jan heeft <u>een soort   tent</u> gekocht.   (describing)
> Jan has   a   kind (of) tent bought
> "Jan bought a kind of tent."

When an object is defined as 'a kind of X', one will be more likely to draw the conclusion that the object is indeed a subclass of X. From (115), we can infer that a wigwam belongs to a subcategory of tents. If on the other hand an object X is described as a sort of Y, one will be more likely to draw the conclusion that X is similar to Y, but does not necessarily belong to a subclass of Y. This is because a definition has more assertive power than a description. You come across more certain when you say something *is* a kind of X, than when you describe something as 'a kind of X.' From (116), we can infer that Jan bought something which resembles a tent, but we cannot be sure that it really is a tent. It could be a long tablecloth that reaches to the ground, so that when put on a table, it can function as an imaginary tent. My hypothesis is that the *een soort X* construction has a defining use in predicate position, and a describing use in argument position. The describing use, but not the defining use, has a resemblance interpretation.

To test this hypothesis, a questionnaire was constructed with pictures and accompanying descriptions. The objects were presented on their own for the predicate condition, and in interaction with a character for the argument condition. Participants were asked to judge the descriptions on a five point scale. Do they think the sentences are good descriptions of the pictures? A score of five means that the sentence is a good description of the picture: they would use this sentence to describe the picture themselves. A score of one means that the sentence is a bad description of the picture: they would never use this sentence to describe the picture. A middle score would mean that they would not use this sentence themselves, but they can imagine someone else describing the picture as such. The sentence is an acceptable description of the picture presented.

2) Is the resemblance interpretation part of the semantics of *een soort*? Suppose that *een soort* is used to extend the boundaries of a concept from, say, X to resembles_X. This suggests that *een soort X*, 'a kind of X', can refer to a resembling non-instance of X, while *een X,* 'an X'*,* cannot. There appears to be a scale involved. A decorative goose resembles a bird and belongs to the resembles_bird

concept. But a real goose resembles a bird too, in fact much better than an artificial one. And a little song bird resembles the concept 'bird' so well, that it is considered a prototype. If *soort* can refer to resembling non-instances, it can refer to real examples as well. If it can refer to prototypes, it may refer to non-instances as well. This is not ruled out if it does not occur. If *soort* cannot refer to resemblance objects, we can rule out that the noun can extend the concept boundaries.

To test this, pictures were included of three types of objects: prototypical objects, non-prototypical objects and objects which resemble the concept named. The latter are conceptually related to the other objects. For example, for the concept 'guitar' a prototypical guitar is an acoustic guitar, a non-prototypical one is a somewhat odd-shaped electric guitar, and a resembling non-instance of a guitar may be a cello. It is a string instrument of similar shape, so it is similar in form and function and thus may be described as 'a guitar of a sort.' The resembling objects should have a similar form and/or function as the concept named.

Many people argue that function is more basic than form for naming artefacts (Miller & Johnson-Laird (1976), among others). Artefacts are made for a specific purpose, and in general, form follows function. Form is said to be a superficial or secondary aspect of an artefact, while function is the deeper or primary one. An example of function-based extension is *fan*, which is a term used for devices that move air to cool people. These include electric fans with metal blades, as well as paper fans that have a very different form. However, Malt (2010) gives many examples of form-based extension of artefact names. In fact, it seems that form-based extension is more common than function-based extension. An example of form-based extension is *fork*, a name for objects that bring food to the mouth, that scoop and move manure, or that make a musical note. Malt argues that both form and function are important. Sometimes a single name can be used to refer to some objects that are similar in form, and other objects that are similar in function. The word *fan* is also used for other bladed objects (similar in form to the electric cooling fans) that are used to suck smoke or odour out of an area. Malt also gives examples of names that can be extended to objects that resemble the concept in both form and function. Spoons typically have a closed bowl and are used to bring liquids to the mouth, but they can also have openings in the bowl and they can be used for preparing food, rather than eating it. Form and function can never be fully dissociated (Malt, 2010).

In section 4.1, I will discuss my predictions based on the hypotheses stated above. In section 4.2 I will discuss the stimuli I used, followed by some general information about the administration of the questionnaire in section 4.3. In section 4.4 I will turn to the analysis and discussion of the results. Section 4.5 will conclude this chapter.

4.1 Predictions

Table 4.1 below shows an overview of the different categories used (excluding the filler items). Each category is labelled with a code which will be used later on when discussing the results.

	Argument			Predicate		
	Prototypical	Non-prototypical	Resembling	Prototypical	Non-prototypical	Resembling
Een X	XA1	XA2	XA3	XP1	XP2	XP3
Een soort X	SA1	SA2	SA3	SP1	SP2	SP3
Table 4.1: category codes for the different conditions						

X stands for items without the noun *soort*. *A* stands for argument, *P* stands for predicate. 1 refers to a prototypical instance of X, 2 to a non-prototypical instance, and 3 to a resembling non-instance of X. Thus, the code XA1 stands for a prototypical instance of X, in argument position, without use of the *een*

soort X construction (for example: "Chris has a guitar," describing a picture of Chris holding an acoustic guitar). SP1 stands for a prototypical instance of X in predicative position, with use of the *een soort X* construction (for example: "This is a kind of guitar," showing a picture of an acoustic guitar). The objects used are listed in Table 4.2 in section 4.2.

My hypothesis is that the *een soort X* construction in predicative position has a 'defining' interpretation (where *een soort X,* 'a kind of X', refers to a proper subclass of X), whereas the *een soort X* construction in argument position has a 'describing' interpretation (where *een soort X,* 'a kind of X', may refer to something which merely resembles X). The predictions that follow from this hypothesis are listed in 1-3 below.

1) The SP3 condition will get a score equal to the XP3 condition. If 'a kind of X' refers to a proper subset of X, then 'a kind of X' *is* an X. From a logical point of view, there is no difference between the statements "this is a kind of X" and "this is an X." A cello cannot be defined as a guitar, therefore it cannot be defined as a kind of guitar either.

2) The SA3 condition will get a score higher than the XA3 condition. If 'a kind of X' refers to an object which merely resembles X, then 'a kind of X' may be a non-instance of X. Therefore, there is a difference between the statements 'she has an X' and 'she has a kind of X.' The former can only apply to proper subsets of X (whether they are prototypical or not), thus the XA3 category is expected to get a score near to 1. The latter may be applied to a larger set of objects. 'A kind of X' in argument position may refer to non-instances of X as well. A cello may not be referred to as a guitar, but it may be described as a kind of guitar, due to its similarity in form and function. Thus, the SA3 category is expected to get a higher score than the XA3 category, though I do not expect a score close to 5. From a logical perspective, a cello does not belong to a subclass of guitars, thus it is not a kind of guitar. Some people are more inclined to think logically than others and their supposedly lower judgements may lead to a lower mean score.

3) The SA3 condition will get a score higher than the SP3 condition. If my predictions in 1 and 2 are borne out, then this one follows automatically. The defining use may not be applied to non-instances of X, thus the SP3 category will get a low score. The describing use may apply to non-instances of X, as long as they are similar in form and function, thus the SA3 category will get a higher score.

These are my main predictions, but there are some additional predictions and assumptions that I make, listed in 4 and 5 below.

4) It may be odd to classify a prototypical instance of X as 'a kind of X.' I expect that the SA1 and SP1 sentences are slightly less acceptable than their non-prototypical counterparts. I do not expect a difference between the argument and predicative conditions here. Thus, SA1 and SP1 will get a lower score than SA2 and SP2.

5) The XA1, XA2, XP1 and XP2 conditions will get equal scores. The assumption made in point 4 will not hold for the conditions without the *een soort X* construction. A non-prototypical instance of X is still an instance of X, and may be named as such. Lower scores for the non-prototypical objects may occur when the respondent is not familiar with the object depicted, but in principle I do not expect any difference between these conditions.

4.2 Stimuli

The stimuli are presented as single sentences that describe pictures. See table 4.2 below for an overview of the objects used. An overview of the pictures I used can be found in Appendix A. For the argument condition, each object was combined with a character. For the sake of variation, I used four characters: two male and two female. The green apple was excluded since the pictures were not coloured. The sheep was placed near a fence rather than near a person, to ensure that the sheep was in focus. Otherwise, people may judge a sentence like 'Lisa is sitting next to a kind of sheep' badly because they prefer 'a kind of sheep is sitting next to Lisa.'

Concept	Prototypical	Non-prototypical	Resembling
Apple	Apple	(Green apple)	Peach
Clock	Clock	Watch	Sundial
Guitar	Acoustic guitar	Electric guitar	Cello
Hat	Hat	Witches' hat	Knitted hat*
Newspaper	Newspaper	Newsletter	Magazine
Pen	Ballpoint pen	Fountain pen	Pencil
Sheep	Sheep	Sheep with horns	Big curly haired dog
Tent	Triangular tent	Wigwam	Cloth on table

Table 4.2: Objects used in the questionnaire.
*a knitted hat is called a *muts* in Dutch, while a regular hat is called a *hoed*. One is not a subclass of the other.

The 'resembling' objects were chosen based on their similarity to the concept named. The question I had in mind while picking the objects was: can this object be described as belonging to a different category? I paid less attention to finding artefacts only, and to similarity of both form and function. Perhaps it would be better if all resembling objects are artefacts that have the same form and function as the concept named. However, finding usable objects was quite hard. Drawing non-existing artefacts that resemble a concept was not an option, as the resembling objects needed to belong to a different category already. The aim is to find out if the noun *soort* can extend a concept to include non-instances as well. This made the number of possible objects quite limited. Malt (2010) does not discuss naming for non-artefacts, but I assume this is not at all different. It will occur less frequently that a new non-artefact needs to be named (for example, when a new biological species is discovered), while new artefacts can be made any time. That makes artefacts more suitable to study how concepts are named, but this does not mean that naming other types of concepts will be very different. Therefore, I see no problem including the 'apple/peach' and 'sheep/dog' objects as well. Still, it may be the case that some objects are better than others. The dog depicted may resemble a sheep and thus have a similar form, but they have a very different function. A dog is nowadays primarily a companion animal, while a sheep is a utility animal. This may be an unfortunate example and other objects may be less perfect as well. But since the number of objects is quite limited, I decided to include all of them in the questionnaire. If I include only the 'perfect' examples, I may have too little variation among the stimuli. I will take the aforementioned into account in the analysis, by looking at the individual objects as well and not just at the conditions.

4.3 Questionnaire administration

The questionnaire consisted of 100 questions. See table 4.3 below for the distribution of test, control and filler items. The items were all selected randomly from a set of 106 pictures, each of which were combined with four sentences. This yielded 424 combinations.

	Argument	Predicate
Een X	15	15
Een soort X	23	23
Filler	12	12
Table 4.3: distribution of categories in the questionnaire		

I am mainly interested in the *een soort X* sentences, hence their larger proportion. I primarily want to see how the prototypical and resembling objects behave compared to one another, both within and across argument and predicate conditions. The filler items are of either type (*een X* or *een soort X*) and will always yield the lowest score (1). The filler items give a wrong description, for example a sheep may be described as being a kind of newspaper.

The questionnaire was constructed via the website kwiksurveys.com. This service did not allow for the answers to be presented next to each other. The scores 1 to 5 were presented not as a horizontal scale, but as options in a multiple choice question. The scores were not labelled (for example, "1: bad" and "5: good"), but the meaning of the scores were mentioned in the instruction, which was repeated on top of every page. See Appendix B for an example of the questionnaire.

The questionnaire was administered through internet. Only native speakers of Dutch participated. There was no additional personal information collected, such as age or educational level.

4.4 Results

In total, 53 respondents filled in the questionnaire. Of those, 37 answered all questions. Some participants skipped one or two questions, but 9 filled in only the first page, one answered only 32 questions and one only 40 out of 100 questions. Two respondents answered the questionnaire in a wrong way. They gave the filler items a score of 5, while all other participants gave these a score of 1. It is unlikely that anyone would mistake a cello for a newspaper, therefore I assume they misinterpreted the scales. Their results were discarded from the analysis. This leaves a total of 51 responses, 41 of which were complete or nearly complete. Only those 41 responses were analysed.

I looked at the mean and mode of responses per category, as well as for the individual questions. See table 4.5 below for an overview per category.

	XA1	XA2	XA3	XP1	XP2	XP3
Mean	4,86	4,5	2,36	4,98	4,21	2,19
Mode	5	5	1	5	5	1
	SA1	SA2	SA3	SP1	SP2	SP3
Mean	3,99	4,31	3,14	4,22	4,29	2,83
Mode	5	5	3	5	5	1

Table 4.5: mean and mode of the results per question category (complete or nearly complete responses only)

My hypothesis was that the *een soort X* construction in predicative position has a defining interpretation (where 'a kind of X' refers to a proper subclass of X), whereas the *een soort X* construction in argument position has a describing interpretation (where 'a kind of X' refers to something which resembles X). The predictions that follow from this hypothesis are:

1) The SP3 condition will get a score equal to the XP3 condition;

2) The SA3 condition will get a score higher than the XA3 condition;

3) The SA3 condition will get a score higher than the SP3 condition.

See section 4.2 for elaboration on these predictions. Further predictions made were:

4) The SA1 and SP1 conditions will get a score lower than the SA2 and SP2 conditions.

5) The XA1, XA2, XP1 and XP2 condition will get equal scores.

Another thing to keep in mind is that responses may vary per depicted object. Some pictures may be less clear than others and some objects may be better test items than others. This may have an influence on the overall score per category. In addition, due to a random selection of 100 items, from an item pool of 424, naturally not all options are included. One category may contain a different amount and different objects than the other category. Furthermore, the argument conditions may contain duplicates, since each object was combined with four different characters. This may lead to an unfair comparison between two categories. Keeping this in mind, I will discuss the results more elaborately below. I will go through my predictions step by step.

I treated a mean score of approximately 3 or higher as 'acceptable'. A difference in mean between 1 and 2 may be significant, but an average score of 2 is still rather low.

<u>1) The SP3 condition will get a score equal to the XP3 condition.</u>

From Table 4.5, we learn that both the SP3 and XP3 category have a mode of 1. This means that the score of 1 was the most frequent response in this category. The mean score differs a little: 2,83 for the SP3 category and 2,19 for the XP3 category. A two sample t-test shows that this difference is significant ($p = 0,000 < \alpha = 0,05$). This means that we can reject the null hypothesis that the means of SP3 and XP3 are equal. Though both categories have the same mode, their means differ significantly and thus they did not receive equal scores. This means that for an object which merely resembles concept X, it is slightly more acceptable to define it as 'a kind of X' than to define it as 'an X.'

When we look at the individual questions, we see that responses vary greatly between objects. The SP3 category contained eight different objects. The XP3 category contained seven different objects, which were all shared with the SP3 category. The objects that both categories have in common are: the peach (apple), the cello (guitar), the cloth on the table (tent), the pencil (pen), the knitted hat (hat), the

dog (sheep) and the magazine (newspaper). See table 4.6 for an overview of the data for only the objects that both categories have in common.

SP3	Magazine (newspaper)	Cello (guitar)	Dog (sheep)	Knitted hat (hat)	Cloth on table (tent)	Pencil (pen)	Peach (apple)	All
Mean	2,76	1,61	1,15	3,71	4,20	2,93	2,17	2,64
Mode	3	1	1	3	5	1	1	1
XP3	Magazine (newspaper)	Cello (guitar)	Dog (sheep)	Knitted hat (hat)	Cloth on table (tent)	Pencil (pen)	Peach (apple)	All
Mean	1,85	1,15	1,00	3,39	3,90	2,10	1,98	2,19
Mode	1	1	1	3	4	1	1	1
P-value	0,00*	0,00*	0,03*	0,22	0,14	0,01*	0,50	0,00*

Table 4.6: means, modes and P-values of the shared objects in the SP3 and XP3 conditions

Now we can see that the difference between the categories is not that big. Overall, the means within the SP3 category are higher than those within the XP3 category, but not by much. A cello is neither a guitar, nor a kind of guitar. A big white dog is nor a sheep, nor a kind of sheep. A cloth on a table is to a large extent 'a kind of tent' (mean: 4,2; mode: 5), but the scores for the item without the binominal construction are high as well (mean: 3,9; mode: 4). A cloth on a table can easily be imagined to be a tent. What may play a role here, is that this particular object does not have a name of its own. It is similar to a tent, though not a tent precisely, but it is nothing else. The only concept it belongs to is that of imaginary tents.

Knitted hats can be defined as 'a hat' and 'a kind of hat' to almost the same degree. Both sentences got a score of 3 from most respondents. Note that a knitted hat and a hat bear a different name in Dutch; the former is a 'muts' and the latter is a 'hoed'. I find it surprising that the knitted hat received such a (relatively) high score in the XP3 condition. The difference between the SP3 and XP3 conditions for this particular object is not significant (p = 0,22 > α = 0,05).

Magazines are an interesting case. In the XP3 condition, the magazine scored badly (mean: 1,85; mode: 1). In the SP3 condition, it scored much better (mean: 2,76; mode: 3). A magazine is not a newspaper, but to define it as 'a kind of newspaper' is quite acceptable. This difference is what I expected to find between the SP3 and SA3 conditions. I did not expect to find it here.

A second two sample t-test based on only the objects that both conditions have in common, showed that the means of the conditions differ significantly (p = 0,001 < α = 0,05). This means that for an object which merely resembles concept X, it is slightly more acceptable to define it as 'a kind of X' than to define it as 'an X,' contrary to my expectation.

2) The SA3 condition will get a score higher than the XA3 condition.

From Table 4.5, we learn that the SA3 category has a mode of 3. This means that 3 was the most frequent response within this category. The XA3 category has a mode of 1. The means of the two categories are different as well: the SA3 category has a mean of 3,14 and the XA3 category has a mean of 2,36. A two sample t-test shows that this difference is significant (p = 0,000 < α = 0,05). This means that we can reject the null hypothesis that the means of SA3 and XA3 are equal. This means that for an object which merely resembles concept X, it is more acceptable to describe it as 'a kind of X' than to describe it as 'an X.'

Now I will turn to the individual questions. The SA3 condition contains nine questions and six different objects. The XA3 condition contains six questions and five different objects. See table 4.7 for an overview of the data for only the objects that both categories have in common.

SA3	Peach (apple)	Cello (guitar)	Cloth on table (tent)	Pencil (pen)	All
Mean	2,61	1,66	4,18	3,27	2,93
Mode	3	1	5	3	1
XA3	Peach (apple)	Cello (guitar)	Cloth on table (tent)	Pencil (pen)	All
Mean	2,12	1,39	3,80	2,39	2,42
Mode	1	1	3	1	1
P-value	0,04*	0,02*	0,05*	0,01*	0,00*

Table 4.7: means, modes and P-values of the shared objects in the SA3 and XA3 conditions

All objects received a higher mean score in the SA3 condition. However, there is a large difference between objects. A peach can be more easily described as 'a kind of apple' than as 'an apple.' Pencils show a similar result. A cloth on a table is very easily recognized as 'a kind of tent,' but also appears to be an acceptable 'tent.' Cellos however, may not be described as 'a guitar' (mean: 1,39; mode: 1), but to describe a cello as 'a kind of guitar' is also unacceptable for many people (mean: 1,66; mode: 1). This difference is significant ($p = 0,02 < \alpha = 0,05$), but can be ignored since the object received low sores in both conditions.

A second two sample t-test based on only the objects that both conditions have in common, showed that the means of the conditions differ significantly ($p = 0,000 < \alpha = 0,05$). This means that for an object which merely resembles concept X, it is more acceptable to describe it as 'a kind of X' than to describe it as 'an X.' This is what I expected.

3) The SA3 condition will get a score higher than the SP3 condition.

From Table 4.5, we learn that the SA3 category has a mode of 3. The SP3 category has a mode of 1. The SA3 category has a mean of 3,14 and the SP3 has a mean of 2,83. A two sample t-test shows that this difference is significant ($p = 0,006 < \alpha = 0,05$). This mean that we can reject the null hypothesis that the means of SP3 and XP3 are equal. This means that for an object which merely resembles concept X, it is more acceptable to describe it as 'a kind of X' (in argument position) than to define it as such (in predicate position).

Now for the individual questions. The SA3 condition contains nine questions and six different objects. The SP3 category contains eight questions and eight different objects. See table 4.8 for an overview of the data for only the objects that both categories have in common.

SA3	Sundial (clock)	Pencil (pen)	Peach (apple)	Cello (guitar)	Cloth on table (tent)	Knitted hat (hat)	All
Mean	3,98	3,27	2,61	1,66	4,18	3,76	3,06
Mode	5	3	3	1	5	4	3
SP3	Sundial (clock)	Pencil (pen)	Peach (apple)	Cello (guitar)	Cloth on table (tent)	Knitted hat (hat)	All
Mean	4,12	2,93	2,17	1,61	4,20	3,71	3,12
Mode	5	1	1	1	5	3	1
P-value	0,52	0,28	0,06	0,29	0,94	0,84	0,91

Table 4.8: means, modes and P-values of the shared objects in the SA3 and SP3 conditions

We can observe that a cloth on a table can be just as easily described as defined as 'a kind of tent,' see the discussion above under prediction 1. A cello can neither be described or defined as 'a kind of guitar.' Despite their similarities (both are string instruments of roughly equal shape), the objects are perceived too differently from one another.

The sundial may be defined as a clock, since it has the same function (telling the time). Moreover, sundials are not used any more for that purpose. Their function has been taken over by clocks, whether they are mechanical or digital clocks. 'Clock' is the general name for all time-telling devices and sundials, though out of use, apparently form a subclass of clocks.

Interestingly, the sundial in argument position seems to be slightly less acceptable than in predicate position, the former having a mean of 3,98 and the latter of 4,12 (this difference is not significant: $p = 0,52 > \alpha = 0,05$). This could be due to the picture itself. See Figure 4.1 for the picture in question. Perhaps the sundial is not as easily recognized as it is in isolation, due to the odd placement. I did not draw a pedestal so it appears to be floating in the air. For one of the clock-and-character pictures, I received the comment that 'she is not really looking at it.' I do not remember which picture this comment was based upon, but this could also be a cause for lower judgements.
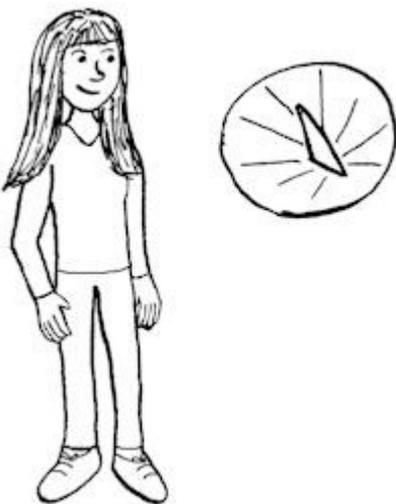
Figure 4.1: a picture from the questionnaire, showing a character and a sundial. Its accompanying sentence was; Lisa kijkt op een soort klok, "Lisa is looking at a kind of clock."

A second two sample t-test based on only the objects that both conditions have in common, showed that there is no significant difference between the conditions (p = 0,91 > α = 0,05). The pencil and the peach received a score of 1 most often in predicate position, while 3 was the most frequent response for both in argument position. However, their means do not differ that much and indeed do not differ significantly (p = 0,28 for the pencil and p = 0,06 for the peach). This means that the null hypothesis cannot be rejected after all. The initial significant difference (based on all items per condition) was due to the dog, which got very low scores for 'this is a kind of sheep' (mean: 1,15; mode:1), but was not included in the argument condition.

From this we can conclude that there is in fact, no difference between a 'defining' and 'describing' use of the *een soort X* construction. It cannot be concluded that the use of this construction in either argument or predicate position leads to a difference in interpretation. What the data does show is that the reference of *een soort X* can be extended to non-instances of X for some objects better than for others. A cello is not a kind of guitar, but a knitted hat is a kind of hat and a pencil is a moderately good example of 'a kind of pen.'

4) The SA1 and SP1 conditions will get a score lower than the SA2 and SP2 conditions.

Since 'a kind of X' (according to SV) refers to a non-prototypical instance of X and (according to B&D) can refer to other entities that resemble X, it may be odd to describe a prototypical example of X as such. This would be reflected in lower scores for the prototypical objects in a context where they are either defined or described as 'a kind of X.' Thus, the SA1 condition may get a slightly lower score than the SA2 condition, and likewise for the SP1 and SP2 conditions.

Table 4.5 shows that this does not seem to be the case. The SA1 condition has a mean of 3,99 and a mode of 5, the SA2 condition has a mean of 4,31 and a mode of 5. A score of 5 was most frequent for both conditions. The difference between their means is significant (p = 0,00 < α = 0,05).

The SP1 condition has a mode of 4,22 and a mode of 5, the SP2 condition has a mean of 4,29 and a mode of 5. The difference between their means is not significant (p = 0,35 > α = 0,05).

Before drawing any conclusions, see table 4.9 and 4.10 below for the data for only the objects that the relevant conditions have common.

SA1	Tent	Newspaper	All
Mean	4,20	3,95	4,11
Mode	5	5	5
SA2	Wigwam (tent)	Newsletter (newspaper)	All
Mean	4,59	3,68	4,13
Mode	5	5	5
P-value	0,02*	0,31	0,90

Table 4.9: means, modes and P-values of the shared objects in the SA1 and SA2 conditions

The SA1 and SA2 conditions had very little items in common. The prototypical tent received a lower mean score than the wigwam (4,20 versus 4,59). This is a significant difference (p = 0,02 < α = 0,05). The newspaper on the other hand, received a higher score than the newsletter. This is not a significant difference (p = 0,31 > α = 0,05). It is possible that for some people, a newsletter is simply not a kind of

newspaper. The newsletter received five times a score of 1 and once a score of 2, while the lowest score for the wigwam in this condition was a 3. Overall, the difference between the SA1 and SA2 conditions is not significant (p = 0,90 > α = 0,05), though with so few items it is impossible to draw conclusions, especially since the two items show very different behaviour.

I will now turn to the SP1 and SP2 conditions. The SP1 condition consisted of eight items, the SP2 condition included seven items. Table 4.10 shows the relevant data for the objects that the two conditions have in common.

SP1	Newspaper	Hat	Acoustic guitar	Ballpoint pen	Clock	Tent	Sheep	All
Mean	4,07	4,59	4,29	4,33	4,12	4,22	4,17	4,25
Mode	5	5	5	5	5	5	5	5
SP2	Newsletter (newspaper)	Witches' hat (hat)	Electric guitar (guitar)	Fountain pen (pen)	Watch (clock)	Wigwam (tent)	Horned sheep (sheep)	All
Mean	3,85	4,61	4,51	4,54	4,10	4,66	3,78	4,30
Mode	5	5	5	5	5	5	3	5
P-value	0,40	0,87	0,29	0,28	0,92	0,03*	0,09	0,65
Table 4.10: means, modes and P-values of the shared objects in the SP1 and SP2 conditions								

The scores for the individual objects do not differ greatly from one another, except for the sheep. The non-prototypical sheep had horns. It is possible that some people thought it was a goat, and thus gave a lower score to the sentence. The horned sheep got a very low score as well in the XP2 condition (mean: 3,1; mode: 2). The picture is shown in Figure 4.2.

Figure 4.2: a non-prototypical horned sheep. The description Dit is een soort schaap, *'this is a kind of sheep', received a mean score of 3,78; the description* Dit is een schaap, *'this is a sheep', received a mean score of 3,1. This difference was not significant.*

A second two sample t-test on the shared items only shows that the means of the SP1 and SP2 conditions do not differ significantly (p = 0,65 > α = 0,05). This means that both a prototypical and non-prototypical object can be defined as 'a kind of X'. Even though *een soort X,* 'a kind of X', refers predominantly to non-prototypical subclasses (SV), it is not odd to describe prototypical instances as 'a kind of X.'

<u>5) The XA1, XA2, XP1 and XP2 conditions will get equal scores.</u>

The XA1 condition has a mean of 4,86 and a mode of 5, the XA2 has a mean of 4,5 and a mode of 5 (see table 4.5). This seems a small difference, but is highly significant (p = 0,000 < α = 0,05). A second analysis based on only the objects both conditions have in common (the hat, the tent and the clock) is still highly significant (p = 0,000 < α = 0,05). Table 4.11 shows the means and modes of these objects. Note that the means of the clock in the two conditions differ greatly: almost a full point. Perhaps some people find a watch not a very acceptable clock, but recall my comment about Image 4.1: one respondent said that 'she is not really looking at it.' If this was the unclear picture, it may have had an influence on the scores. Judgements for the hat and tent in the two conditions do not differ significantly (0,13 > α = 0,05).

XA1	Hat	Tent	Clock	All
Mean	4,78	4,83	4,9	4,84
Mode	5	5	5	5
XA2	Witches' hat (hat)	Wigwam (tent)	Watch (clock)	All
Mean	4,78	4,54	3,98	4,43
Mode	5	5	5	5
P-value	1,00	0,03*	0,00*	0,00*
Table 4.11: means, modes and P-values of the shared objects in the XA1 and XA2 conditions				

The XP1 and XP2 conditions contain a small number of items and have only one object in common: the guitar. The means and modes are shown in table 4.12 below. The difference between the two conditions (all items) is highly significant (p = 0,00 < α = 0,05), but the difference in means between the two guitar items is not (p = 0,16 > α = 0,05). An electric guitar is as good an example of a guitar as an acoustic one.

XP1	Acoustic guitar (guitar)
Mean	5
Mode	5
XP2	Electric guitar (guitar)
Mean	4,85
Mode	5
P-value	0,16
Table 4.12: means, modes and P-values of the shared object in the XP1 and XP2 conditions	

4.5 Conclusion

Before drawing conclusions, some caution is needed. First and most important, comparing two conditions may lead to 'wrong' results, when it is not taken into consideration that both conditions actually contain the same objects. Due to random selection of items for the questionnaire, some conditions had very little items in common with the condition they were compared to, making it hard to draw any conclusions. I should have controlled for this better while selecting the items.

Second, as mentioned in section 4.2, some objects may be more suitable as test items than others. Most resemblance objects had a similar form and function as the concepts named, but perhaps more of such objects can be found.

Third, some pictures may not be so clear. Recall the comment for one of the clock pictures, and the sheep which may look more like a goat. Perhaps some improvements can be made here.

Fourth, some descriptions may lead to lower scores for reasons other than what I wanted to test. For example, the picture of someone holding a guitar had the description 'Chris has a guitar.' Prior to constructing the questionnaire, I asked my informants to describe the picture. I received some interesting responses, from 'someone with a guitar' to 'shall I play a song for you?' After filling in the questionnaire, one of the participants suggested that 'Chris is holding a guitar' would have been a better description, since there's no way to know that the guitar he is holding is actually his. Such small things may cause some people to give lower scores to the sentences.

I had expected to find a difference between argument and predicate position. My hypothesis was that *een soort X* in argument position may refer to a larger set of objects than in predicate position. More specifically, *een soort X* in argument position may refer to the non-instances of X as well, as long as they are similar in form and/or function. It turns out that there is no evidence for such a difference between these conditions. The results from the questionnaire do show that *een soort X* can be extended to non-instances of X better for some objects than for others. There is a difference in interpretation, if we may call it so, but this is related to the objects/concepts in question.

Some concepts may be extended without the use of *soort*, some concepts may not be extended at all. The most interesting cases are where the use of *soort* results in a significant improvement of judgements for the resembling objects, such that describing an object Y as 'an X' is unacceptable, but describing the same object Y as 'a kind of X' becomes acceptable. If this is part of the semantics of *soort*, I would expect to find such a difference for all resembling objects (provided they are 'good examples' of having a similar form and function as the concepts they are compared with). This was not found. However, if *soort* does not play a role in extending the concept boundaries, such a difference would not be found at all. In the questionnaire, two objects showed such an effect: the pencil, which is not a pen (2,10 and 2,39) but is a kind of pen (2,93 and 3,27) and the magazine, which is not a newspaper (1,85) but is a kind of newspaper (2,76). There may be a combination of factors needed to extend a concept so far to include non-instances as well. Using the *een soort X* construction can play a role, but the concept must be 'willing' as well. *Soort* may be used to mark such an extension of a concept, but this is not necessary. A knitted hat (*muts* in Dutch) has shown to be an acceptable 'hat' (3,71) as well as 'a kind of hat' (3,39; the difference in means was not significant), despite not really belonging to the 'hat category'. The concept of hats may be extended to non-instances like knitted hats, even without the use of the *een soort X* construction. The same was true for the tent objects (the cloth on the table received a mean score of 4,2 for 'this is a kind of tent' and a mean of 3,9 for 'this is a tent.' The difference in means was not significant). However it may be argued that a cloth on a table really is a tent, since it does not have a name of its own.

This questionnaire was administered to answer the second research question: what is the interpretation of *een soort*? This consisted of two subquestions.

First: is there a difference between a describing and defining use of *een soort*? I conclude that there is no such difference, at least it does not lead to a difference in interpretation. It may do so in a different setting, since the defining use has more assertive power than the describing use. This effect may be undermined by the use of pictures.

Second: is the resemblance interpretation part of the semantics of *een soort*? I conclude that it is not. *Soort* itself does not extend the boundaries of a concept, but it can be used to mark such an extension.

5. Conclusion

In this thesis I investigated the possibility of a unified semantics for the Dutch noun *soort*. What the semantics look like exactly is left for future research. There were two questions that I have tried to answer.

<u>1) How many kinds of *soort* are there?</u>

According to Schermer-Vermeer (2008), there are two binominal constructions in which *soort* can appear: the *soort* construction (which can have other KindNs as N1 as well), and the *een soort X* construction (which can only contain the N1 *soort* with the indefinite article *een*). Broekhuis & Den Dikken (2012) argue that there are three homonyms *soort*: a neuter, non-neuter and indefinite one, each supposedly having a distinct meaning and distinct properties.

In chapter 3 I have shown that the differences we see can be explained in another way. The differences in interpretation do not correspond to the different genders. There is no objection to treat the noun as having both neuter and non-neuter gender, without any difference in meaning. There are more nouns for which this holds. There is one noun *soort* which is ambiguous between a referential and non-referential reading, similar to B&D's analysis of Measure Nouns. If we make this assumption, we can explain the differences with respect to the syntactic head of the construction by applying B&D's analysis of QCs to the *soort* constructions as well. If N1 is referential, it is the syntactic head. If N1 is non-referential, N2 is the syntactic head.

I assume that *soort* constructions that refer to biological species are N1 referential by default, though exceptions are allowed for some speakers. Constructions that do not refer to biological species can be either. SV's *een soort X* construction has a non-referential N1. For the resemblance interpretation, N2 is in focus. It is about the object(s) that resemble(s) a specific kind, not about the kind itself.

The neuter and non-neuter noun differ with respect to the selection restrictions on N2, but this is something that we see in general between neuter and non-neuter nouns. The other KindNs show the same restrictions. Non-neuter N1s need their N2 to be non-neuter as well. The neuter version of *soort* is the preferred form in the *soort* construction, possibly because it does not put such restrictions on the gender of N2.

I concluded that there is only one noun *soort*. I assume, following SV, that there are two constructions, rather than three nouns. Though it can be argued that *soort* in the *een soort X* construction (soort3 from chapter 3) may be distinct due to its special interpretation. This leads to the second question.

<u>2) What is the interpretation of *een soort*?</u>

Een soort can refer to non-prototypical instances of X (SV) or even to things which merely resemble X (B&D). In the latter case, the concept boundaries of X can be said to be extended, so that resembling non-instances are included in the extension of the concept as well. Is this part of the semantics of *soort,* and if so, how can we account for it? The questionnaire was aimed to answer the first of these questions. It turned out that *een soort* can refer to prototypical and non-prototypical instances of X. Calling a prototype X 'a kind of X' did not lead to a lower score. The resemblance interpretation is not due to *soort*. It can be obtained for some concepts, but not for others, even though almost all test objects resembled the concept in form as well as function. Some concepts can include non-instances of X even without the help of *soort*. Only in two cases did *soort* improve the result significantly, leading to an acceptable result.

There are too little results to draw very strong conclusions, but there are some possibilities.

The first possibility is that *soort* has the same semantics in both the *soort* construction and the *een soort X* construction. *Een soort X* refers to an instance of X, whether it is prototypical or not. It is the concept itself that can extend its boundaries to include non-instances of X. It is a property of certain concepts, not part of the semantics of *soort*. *Een soort* can be used as a marker for such use, but this is not necessary. This idea fits neatly into a unified analysis for the semantics of *soort*. *Soort* can be referential or non-referential and can have different interpretations, depending on the determiner it occurs with.

A second possibility is that *soort* in the *een soort X* construction has a special semantics. It can refer to anything that resembles the concept X. This includes prototypical and non-prototypical instances of X, as well as resembling non-instances of X. However, this was not possible for all concepts and objects used in the questionnaire. Perhaps not all concepts are 'willing' to extend their boundaries. Perhaps some of the objects used did not qualify. Most did resemble the concept in form and function, but there may be other factors playing a role.

Suppose that the resemblance interpretation is part of the semantics of *een soort*. How can we determine whether this is the same noun *soort* that is used in the *soort* construction, or a different noun, as B&D suggest? If it is the same noun, the resemblance interpretation may correspond to the non-referential meaning. The N1 in the *een soort X* construction is not referential (N2 is the syntactic head of the construction). If so, the *soort* construction potentially has this interpretation as well, whenever N1 is non-referential. This is not what we learn from the literature.

I do not think this is a very likely option, mainly because I would expect to find a greater influence of *soort* in the results of the questionnaire, if this were the case. I do think the questionnaire design can be improved on, but for now I think option one is the most likely conclusion.

Option one also fits neatly into Horn's division of pragmatic labour. See the definition in (117) from Horn (1984).

(117) "The use of a marked (relatively complex and/or prolix) expression when a corresponding unmarked (simpler, less 'effortful') alternate expression is available, tends to be interpreted as conveying a marked message (one which the unmarked alternative would not or could not have conveyed)." (Horn, 1984:22)

The unmarked expression tends to become associated with unmarked situations or a salient member of the expression's extension. The marked expression becomes associated with the complement of this extension (Horn, 1984). This follows from the principle of informativeness (Atlas and Levinson, 1981). In short, if a speaker uses a more complex form, when he could have used a simpler form, he probably didn't mean to say what the simpler form commonly refers to. Thus the complex form gets associated with the somewhat unusual, 'marked' situations. Important is that the marked and unmarked expression are equivalent in meaning, but not in form.

Suppose that the concept 'pen' includes not only pens, but all objects that are similar in form and function to the prototypical ballpoint pen. Only ballpoints and fountain pens bear the name 'pen', but quills and pencils also belong to the concept. Thus any of these can be referred to by the noun *pen*.

The noun *soort*, 'kind', is ambiguous between a referential and non-referential reading. When *soort* is referential, as in the *soort* construction, it refers to a specific kind given in the context. *Soort* is needed to distinguish between the kind and the instantiation of the kind. Suppose that the speaker is holding a ballpoint pen. In this situation, there is a difference between uttering 'this pen' and 'this kind of pen'. In the first case, the specific ballpoint pen that the speaker is holding is meant. In the latter case,

ballpoints in general are being referred to. 'This pen' and 'this kind of pen' are not equivalent in meaning, thus one is not a marked form of the other.

When *soort* is non-referential, as in the *een soort X* construction, it refers to an instantiation of the kind. *Een soort pen*, 'a kind of pen', refers to an instantiation of a subclass of pens, that is, to a pen-like object. This can be the prototypical ballpoint, or the resembling pencil. The phrase *een pen*, 'a pen', refers to a realization of the concept *pen*. Since this concept may include what I have been calling 'resembling non-instances' as well, the phrase *een pen*, 'a pen', may refer to a prototypical ballpoint as well as to a pencil. Note that in this case, there is no real difference in meaning between *een pen* and *een soort pen*: both may refer to any pen-like object.

Een pen, 'a pen', and *een soort pen,* 'a kind of pen', are equivalent in meaning. The binominal construction is a more complex form of saying the other. Following the division of pragmatic labour, the unmarked form *een pen* is associated with the more typical examples, such as ballpoints. The marked form *een soort pen,* 'a kind of pen', in turn is associated with the complement of *een pen*, 'a pen', in this case the 'non-instances', such as quills and pencils. In this way we can explain why a pencil is not thought of as 'a pen', while it can be described as 'a kind of pen', without assuming that *een soort* has a concept extending mechanism as part of its semantics. It is no surprise that this did not hold for all objects from the questionnaire. These associations are a tendency, not a solid rule, thus exceptions are allowed.

To conclude, there is only one noun *soort* that is ambiguous between a referential and non-referential reading. It can have different interpretations, depending on the determiner it occurs with. The *soort* construction can refer to biological and non-biological species. The former are N1 referential by default, the latter can more readily have a non-referential N1. A binominal construction of the *een soort X* type has a non-referential N1 and can be used as a pragmatic marker to refer to non-prototypes or resembling non-instances of X. Extending the boundaries of a concept to include these non-instances is not part of the semantics of *soort,* but depends on the concept itself.

6. References

Atlas, J., and S. Levinson. 1981. It-clefts, informativeness, and logical form. In: Cole, ed.(1981:1-61).

Broekhuis, H., and M. Dikken. 2012. *Syntax of Dutch. Nouns and Noun Phrases Volume 2*. Amsterdam University Press.

Carlson, Greg N. 1977. A unified analysis of the English bare plural. *Linguistics and philosophy 1.3*: 413-457.

Horn, L. 1984. Toward a new taxonomy for pragmatic inference: Q-based and R-based implicature. *Meaning, form, and use in context*, 42.

Keizer, Evelien. 2007. *The English noun phrase: The nature of linguistic categorization*. Cambridge University Press.

Krifka, M. et al. 1995. Genericity: An introduction. In: Carlson and Pelletier, *The Generic Book*. Chicago, IL: University of Chicago Press. Chapter 1, pp. 1–124.

Malt, Barbara C. 2010. Naming artifacts: Patterns and processes. *Psychology of learning and motivation* 52: 1-38.

Miller, G. A., & Johnson-Laird, P. N. 1976. *Language and perception*. Cambridge, MA: Harvard University Press.

Oosterhof, Albert. 2008. *The semantics of generics in Dutch and related languages.* Amsterdam/Philadephia: John Benjamins Publishing Company.

Schermer-Vermeer, Ina. 2008. De *soort*-constructie. een nieuw patroon in het Nederlands. *Nederlandse Taalkunde* 13:2-33.

Vos, Riet. 1999. A grammar of partitive constructions, University of Tilburg: PhD thesis.

Wilkinson, K. 1995. The semantics of the common noun *kind*. In: Carlson and Pelletier, *The Generic Book*. Chicago, IL: University of Chicago Press. Chapter 10, pp. 383–397.

Zamparelli, Roberto. 1998. A Theory of Kinds, Partitives and oflz Possessives. *Possessors, predicates and movement in the determiner phrase* 22 (1998): 259.

Appendix A: Pictures used in the questionnaire

Apple	Prototype	Non-prototype	Resemblance
Predicate			
Argument			
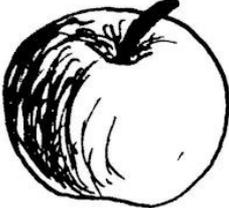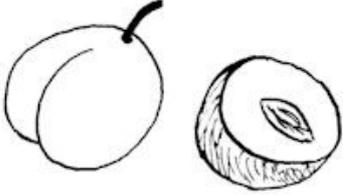
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Predicate			
Argument			
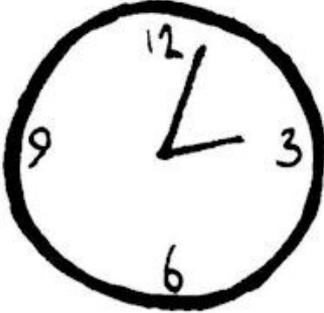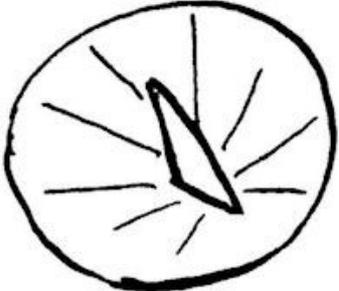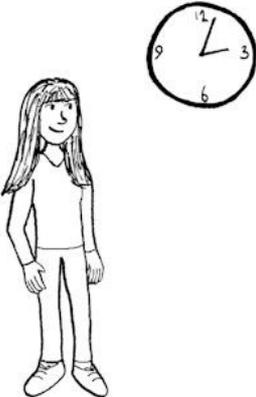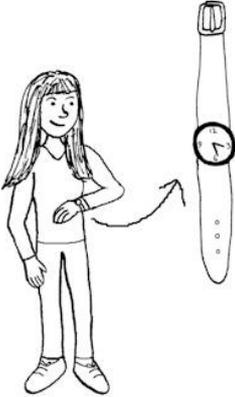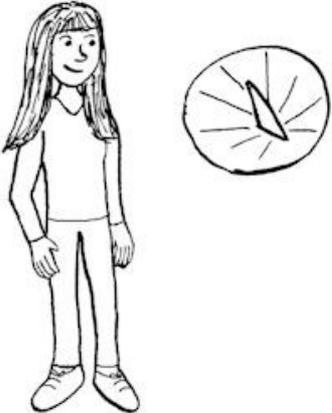
Guitar	Prototype	Non-prototype	Resemblance
Predicate			
Argument			
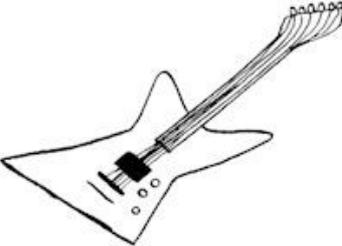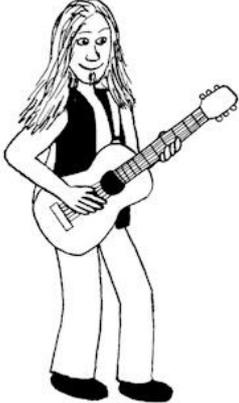
Hat	Prototype	Non-prototype	Resemblance
Predicate			
Argument			
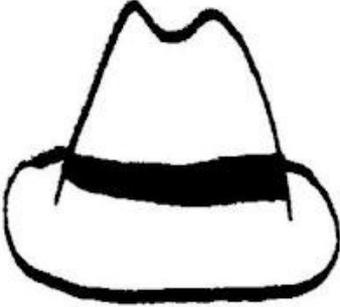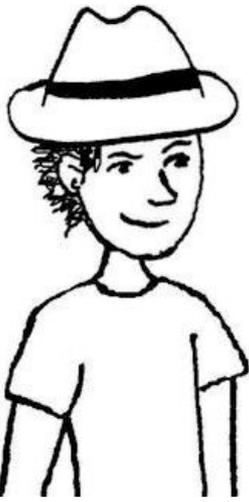
Newspaper	Prototype	Non-prototype	Resemblance
Predicate			
Argument			

Pen	Prototype	Non-prototype	Resemblance
Predicate			
Argument			
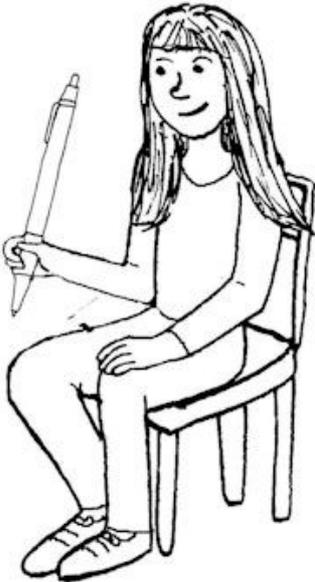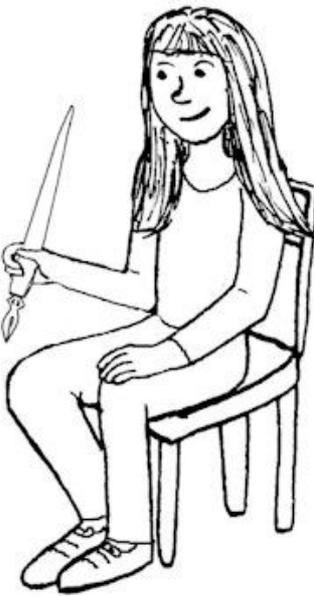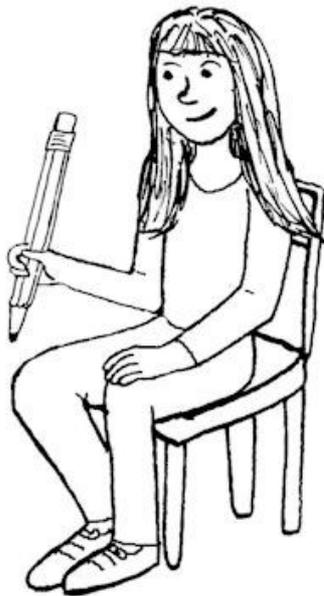
Sheep	Prototype	Non-prototype	Resemblance
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Argument			
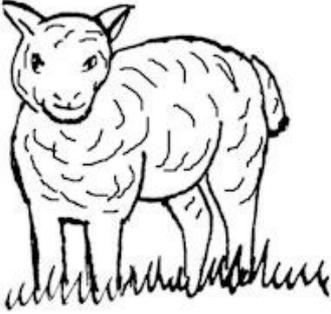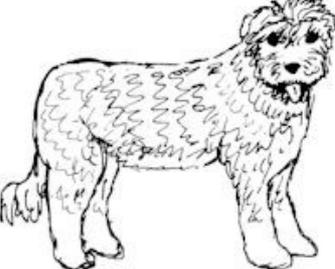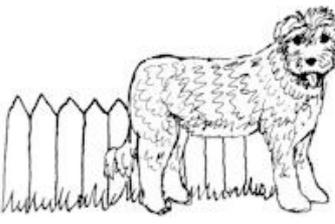
Tent	Prototype	Non-prototype	Resemblance
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Argument			
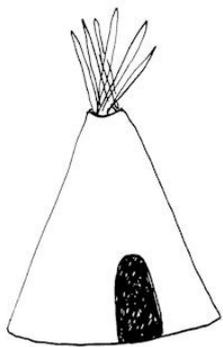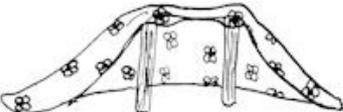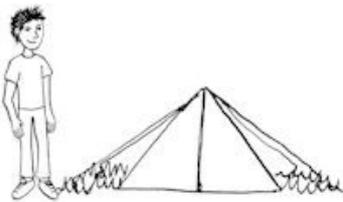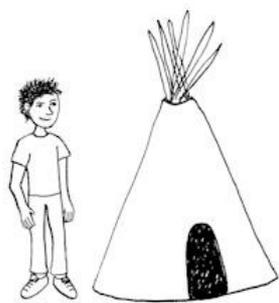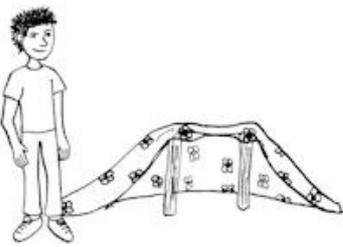
Appendix B: Example of the questionnaire

Deze vragenlijst bestaat uit een aantal afbeeldingen. Elk plaatje is voorzien van één zin die de afbeelding beschrijft. De vraag aan u is om deze zinnen te beoordelen op een schaal van 1 tot 4. Geven ze een goede beschrijving van de plaatjes? Hierbij staat 1 voor "dit is geen goede beschrijving; ik zou dit zelf nooit zo omschrijven" en 5 voor "dit is een goede beschrijving; ik zou dit zelf ook zo omschrijven." Markeer de score die u de zin geeft. U bent ongeveer 10 min. bezig. Bedankt voor uw tijd!

	1.	Dit is een soort schaap. 1 2 3 4 5
	2.	Chris heeft een soort appel. 1 2 3 4 5
	3.	Dit is een soort krant. 1 2 3 4 5
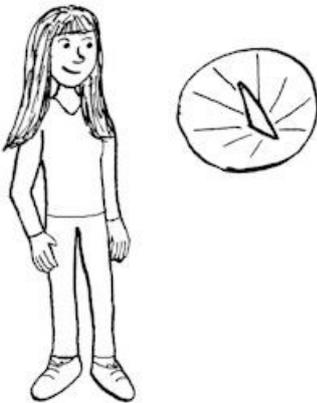
	4.	Chris heeft een soort hoed. 1 2 3 4 5
	5.	Lisa kijkt op een soort klok. 1 2 3 4 5
	6.	Dit is een schaap. 1 2 3 4 5
	7.	Dit is een appel. 1 2 3 4 5
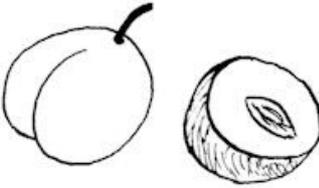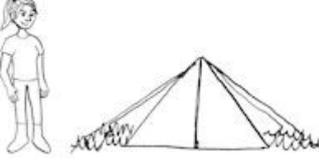
	8.	Dit is een appel. 1 2 3 4 5
	9.	Sanne staat naast een soort tent. 1 2 3 4 5
	10.	Tom heeft een appel. 1 2 3 4 5
	11.	Tom heeft een soort pen. 1 2 3 4 5
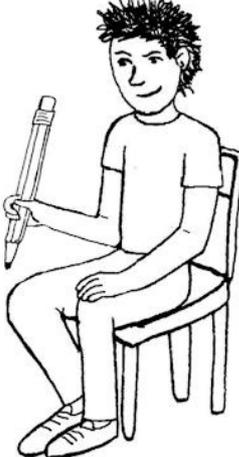
	12.	Sanne heeft een hoed op. 1 2 3 4 5
	13.	Chris heeft een soort appel. 1 2 3 4 5
	14.	Tom staat naast een tent. 1 2 3 4 5
	15.	Sanne heeft een pen. 1 2 3 4 5
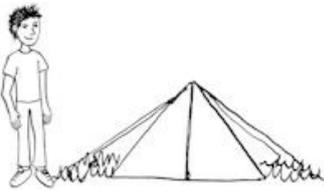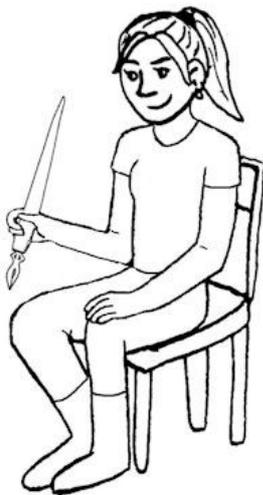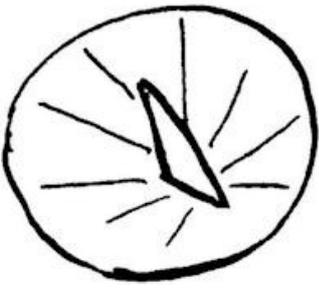
	16.	Dit is een soort krant. 1 2 3 4 5
	17.	Dit is een soort klok. 1 2 3 4 5
	18.	Tom heeft een soort pen. 1 2 3 4 5
	19.	Dit is een soort appel. 1 2 3 4 5

	20.	Tom heeft een soort gitaar. 1 2 3 4 5
	21.	Dit is een gitaar. 1 2 3 4 5
	22.	Sanne heeft een hoed op. 1 2 3 4 5
	23.	Dit is een soort krant. 1 2 3 4 5
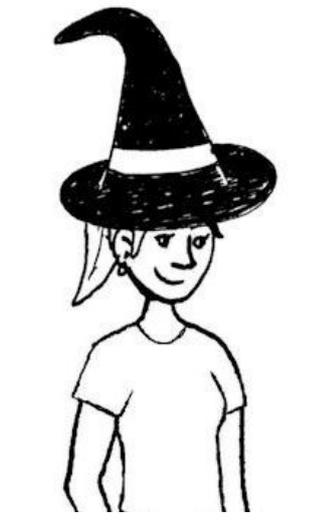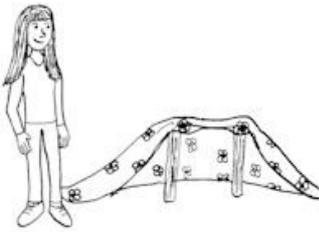
	24.	Lisa staat naast een soort tent. 1 2 3 4 5
	25.	Dit is een soort tent. 1 2 3 4 5
	26.	Dit is een soort krant. 1 2 3 4 5
	27.	Sanne staat naast een soort tent. 1 2 3 4 5
	28.	Dit is een soort pen. 1 2 3 4 5
	29.	Chris heeft een schaap. 1 2 3 4 5
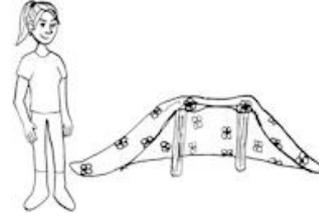
	30.	Chris heeft een soortement gitaar. 1 2 3 4 5
	31.	Dit is een appel. 1 2 3 4 5
	32.	Sanne heeft een soort hoed. 1 2 3 4 5
	33.	Dit is een tent. 1 2 3 4 5
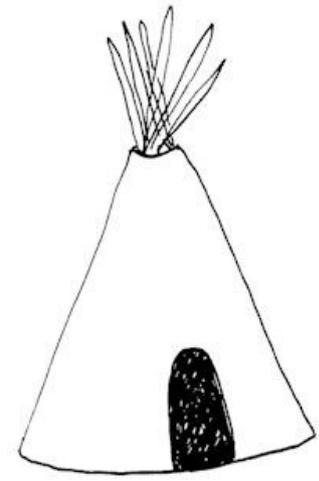
	34.	Dit is een klok. 1 2 3 4 5
	35.	Tom heeft een soort appel. 1 2 3 4 5
	36.	Dit is een schaap. 1 2 3 4 5
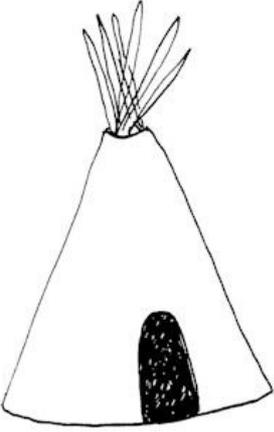
	37.	Dit is een soort tent. 1 2 3 4 5
	38.	Dit is een tent. 1 2 3 4 5
	39.	Dit is een soort appel. 1 2 3 4 5
	40.	Dit is een tent. 1 2 3 4 5
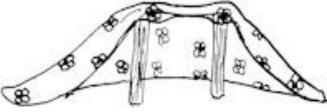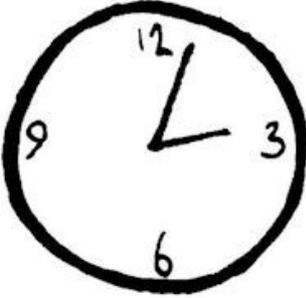
	41.	Dit is een soort hoed. 1 2 3 4 5
	42.	Sanne heeft een soort hoed op. 1 2 3 4 5
	43.	Lisa kijkt op een klok. 1 2 3 4 5
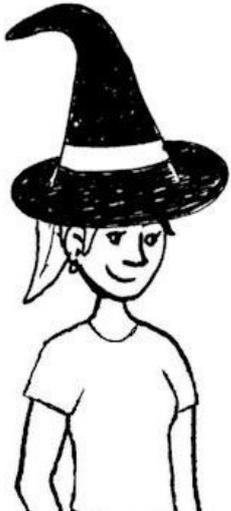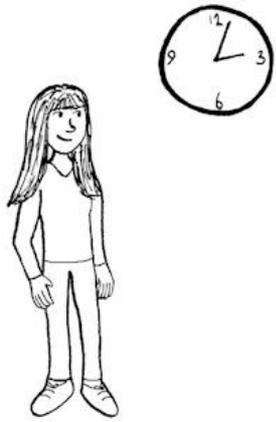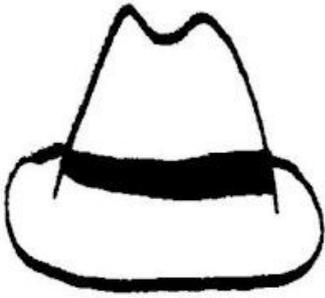
	44.	Dit is een soort krant. 1 2 3 4 5
	45.	Chris leest een krant. 1 2 3 4 5
	46.	Chris heeft een soort hoed op. 1 2 3 4 5

	47.	Chris heeft een gitaar. 1 2 3 4 5
	48.	Lisa staat naast een tent. 1 2 3 4 5
	49.	Dit is een soort gitaar. 1 2 3 4 5
	50.	Chris kijkt op een soort klok. 1 2 3 4 5
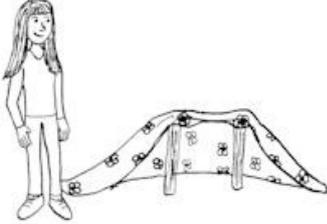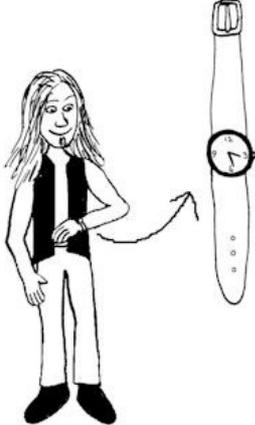
	51.	Chris heeft een soort gitaar. 1 2 3 4 5
	52.	Dit is een soort gitaar. 1 2 3 4 5
	53.	Chris heeft een soort pen. 1 2 3 4 5
	54.	Dit is een soort pen. 1 2 3 4 5
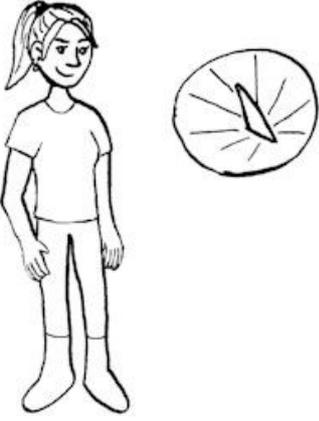
	55.	Sanne heeft een krant. 1 2 3 4 5
	56.	Lisa leest een krant. 1 2 3 4 5
	57.	Sanne leest een soort krant. 1 2 3 4 5

	58.	Dit is een soort hoed. 1 2 3 4 5
	59.	Tom leest een soort krant. 1 2 3 4 5
	60.	Dit is een soort gitaar. 1 2 3 4 5
	61.	Dit is een gitaar. 1 2 3 4 5
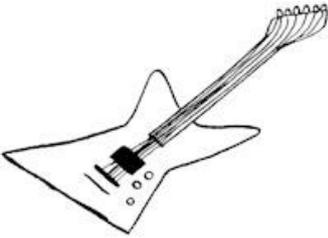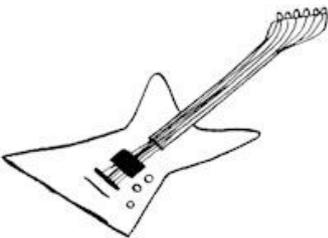
	62.	Tom staat naast een tent. 1 2 3 4 5
	63.	Dit is een schaap. 1 2 3 4 5
	64.	Dit is een gitaar. 1 2 3 4 5
	65.	Sanne heeft een soort gitaar. 1 2 3 4 5
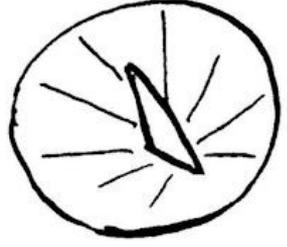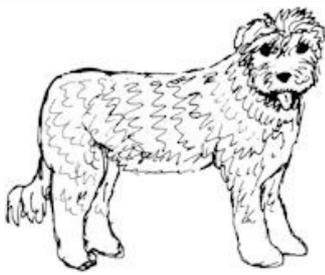
	66.	Dit is een soort schaap. 1 2 3 4 5
	67.	Dit is een pen. 1 2 3 4 5
	68.	Tom heeft een soort hoed. 1 2 3 4 5
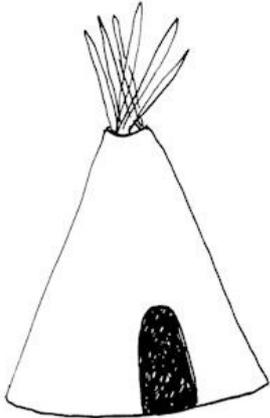
	69.	Chris heeft een appel. 1 2 3 4 5
	70.	Dit is een soort hoed. 1 2 3 4 5
	71.	Dit is een soort tent. 1 2 3 4 5
	72.	Sanne heeft een soort gitaar. 1 2 3 4 5
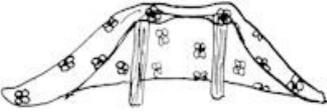
	73.	Chris staat naast een soort tent.
		1 2 3 4 5
	74.	Chris heeft een gitaar.
		1 2 3 4 5
	75.	Dit is een krant.
		1 2 3 4 5
	76.	Sanne heeft een hoed.
		1 2 3 4 5
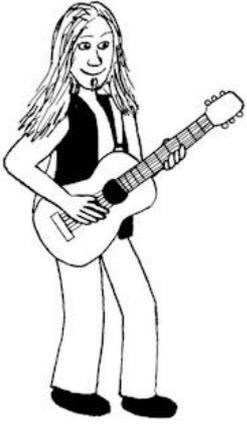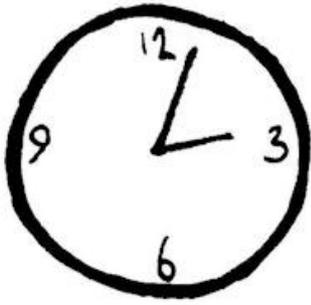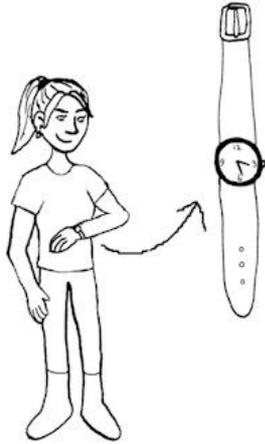
	77.	Dit is een soort klok. 1 2 3 4 5
	78.	Sanne heeft een krant. 1 2 3 4 5
	79.	Sanne heeft een pen. 1 2 3 4 5
	80.	Dit is een pen. 1 2 3 4 5
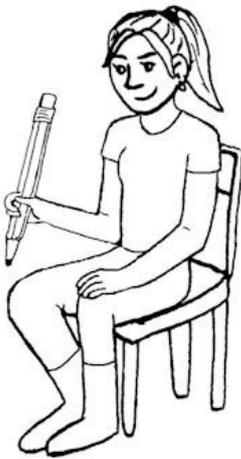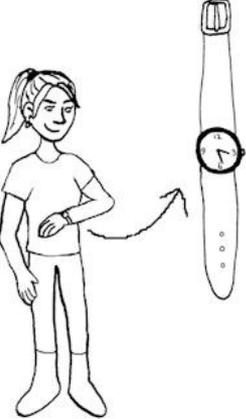
	81.	Tom heeft een soort appel. 1 2 3 4 5
	82.	Sanne kijkt op een klok. 1 2 3 4 5
	83.	Dit is een soort krant. 1 2 3 4 5
	84.	Dit is een pen. 1 2 3 4 5
	85.	Dit is een soort tent. 1 2 3 4 5
	86.	Dit is een soort pen. 1 2 3 4 5
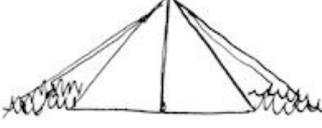
	87.	Dit is een hoed. 1 2 3 4 5
	88.	Dit is een soort appel. 1 2 3 4 5
	89.	Dit is een hoed. 1 2 3 4 5
	90.	Dit is een schaap. 1 2 3 4 5
	91.	Tom heeft een appel. 1 2 3 4 5
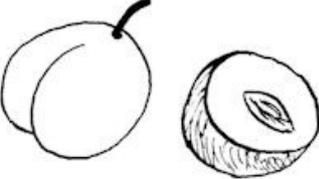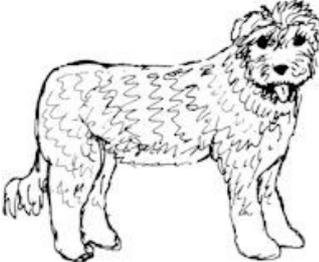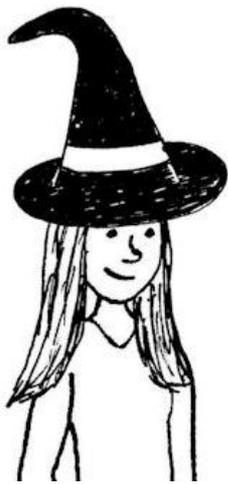
|		
	92.	Lisa heeft een soort hoed op. 1 2 3 4 5
	93.	Dit is een soort gitaar. 1 2 3 4 5
	94.	Lisa heeft een appel. 1 2 3 4 5
	95.	Dit is een krant. 1 2 3 4 5
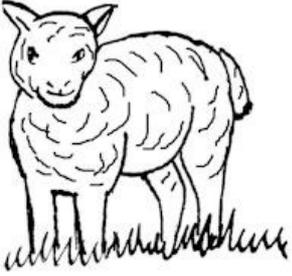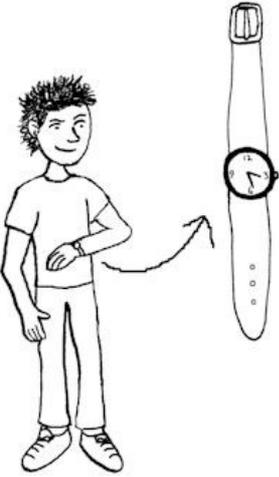
	96.	Dit is een soort klok. 1 2 3 4 5
	97.	Lisa staat naast een soort tent. 1 2 3 4 5
	98.	Dit is een soort schaap. 1 2 3 4 5
	99.	Tom kijkt op een soort klok. 1 2 3 4 5
	100.	Dit is een schaap. 1 2 3 4 5