Chapter 9
Collective Nouns

9.1 Bunches

The purpose of this chapter is to consider collective nouns such as group or deck (of cards). In chapter 3 (page 36), these nouns were characterized as "substantives which (in the singular) denote a collection or number of individuals". These nouns optionally appear with an of complement containing a bare plural noun or noun phrased which describes the members of the collection. We will refer to a noun phrase headed by a collective noun as "a collective noun phrase." Noun phrases not so headed will be called individual noun phrases. The term "bunch" will be used to characterize the kind of thing a singular definite collective noun phrase refers to. The central question to be asked in this chapter is whether a bunch is a singularity or a plurality. A related question will be whether a plural individual noun phrase has a reading in which it denotes a bunch. For example, the deck, by definition, denotes a bunch. If the cards is assigned the same denotation as the deck in some or all contexts, then it too denotes or can denote a bunch. I think it is fair to say that Bennett (1974), Link (1984), and Landman (1989) believe that plural individual noun phrases can denote bunches, while Lasersohn (1988) and Lønning

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45Working independently, Chris Barker and I arrived at similar conclusions concerning collective terms and we discovered some of the same evidence. His research is reported in Barker (1992).

46In the theories of Link and Landman, the denotations of collective noun phrases are called groups. However, since even plural individual noun phrases can denote groups in those theories I have avoided that term.
(1989) do not.\textsuperscript{47}

The answers to these questions about bunches have consequences for the sets versus union debate. To see this, consider the following scenario. Assume that bunches are singularities. Next assume, on the basis of predicate sharing (see section 3.2 for this term) as in the following pair:

\[(376) \quad \text{The committee voted.}\]
\[(377) \quad \text{The committee members voted.}\]

that plural individual noun phrases can denote bunches. If two such noun phrases are conjoined with a union and (e.g. the members of committee A and the members of committee B) we end up with a plural individual noun phrase that denotes a plurality having two members, each of which is a bunch. If this were the case, the differences between the union approach and the sets approach become much less substantial. Matters are even worse if we follow Landman (1989a) and take a bunch to be a singleton set whose sole member is a plurality. Allowing and to denote union and allowing that a plural individual noun phrase can denote a bunch, as is the case on Landman's theory, we end up with the conjunction of two plural individual noun phrases again able to denote a two membered plurality. In particular, the conjunction of two bunch denoting plural individual noun phrases would denote exactly what was originally proposed in the sets approach without the introduction of bunches, namely a plurality of pluralities (for details see section 2.4). This is clearly not in the spirit of a pure union approach. It would favor a sets approach or at least a mixed approach. For recall, the two approaches disagreed about whether a noun phrase such as the boys and the girls denotes a plurality with as many members as there are children (union approach) or just two members, one female and one male (sets approach). Sticking to a union and but allowing that the boys and the girls can denote singletons containing a plurality, we end up with the latter denotation for the boys and the girls.

To this point, we have been assuming that bunches are singularities, and then trouble arises for the union approach with the possibility that plural individual noun phrases can denote bunches. Arguments against the union approach are possible as well, even if one starts with the assumption that bunches are pluralities. For it is natural to assume that a plural

\textsuperscript{47}Lønning (1989:155) distinguishes between the group and the group of boys. Building on Selkirk (1977), he proposes a syntactic analysis of the group of boys in which the head of the noun phrase is boy. In this case, it would have the same denotation as the boys and would not denote a bunch.
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collective noun phrase such as *the congregations* denotes a set or plurality of bunches. *The two congregations* would denote a plurality with two member bunches. If bunches are pluralities, then a plural collective noun phrase denotes a set of sets or plurality of pluralities. This already requires a modification of the domain for the union theorist. The next step is to discover a plural collective noun phrase that is apparently coextensive with a conjunction of plural individual noun phrases. For example, based on the following pair and a context in which they are seemingly synonymous:

(378) The congregations prayed together.
(379) The Methodist congregants and the Presbyterian congregants prayed together.

one might argue that \( \| \text{the congregations} \| = \| \text{the Methodist congregants and the Presbyterian congregants} \| \). It would follow then that a conjunction of plural individual noun phrases denotes a set of sets, a result that is incompatible with the union approach.

I have just sketched two lines of reasoning by which collective noun phrases are used to attack the union theory. This does not mean that these noun phrases per se are problematic for the union approach. Discussion of the evidence below will probably make more sense if we first outline an approach to collective noun phrases that is compatible with the union theory. On this approach, singular collective noun phrases denote bunches and a bunch is just a certain kind of singularity while plural individual noun phrases are purely plurality denoting. Problems arise when either of these two assumptions are contradicted. One argues either that a) singular collective noun phrases denote pluralities or b) plural individual noun phrases are singularity denoting. It is important to point out that both of these arguments are based on predicate sharing between collective and plural individual noun phrases, which leads to the hypothesis that they co-denote. This means that again we need to ask: what predicates are shared, what predicates are not shared and crucially, how is the non-sharing explained. To facilitate discussion, I will neutrally speak about a plural individual noun phrase associated with a collective noun phrase. By this I mean a plural individual noun phrase which denotes a plurality whose members are all and only those individuals that make up the bunch denoted by the collective noun phrase. Also, I will occasionally follow Jespersen in referring to collective noun phrases simply as collectives.

In the following section, the data on predicate sharing will be laid out. I have divided this data up into the following categories. First, we will look at cases in which the ‘predicate’ that applies to the noun phrases in question is a quantifier. This would seem to be relevant to the question

...
at hand. These constructions tell us something about whether the language treats the denotation of a noun phrase as a set that can be quantified over and whether the two types of noun phrases compared here are treated the same. Next, we will look at verbal predicates that seem to semantically select for plural entities. Following that, we take up predicates that are morphologically marked as plural. In this section we also consider phrases that contain a pronoun that is anaphoric to the noun phrases under investigation. Following Jespersen, we look at how the number of a pronoun relates to the kind of antecedent it can have. The last piece of evidence we consider is copular constructions in which a collective is used predicatively with a plural individual noun phrase subject. This is not strictly a case of predicate sharing.

As we shall see, there is far from total predicate sharing between associated collective and plural individual noun phrases. In order for the argument against the union theory to go through some account must be given for this non-sharing. In the final section, we will consider such an account, found in Landman (1989b).

9.2 Noun Phrases as Restrictors of Quantifiers

Before attending to the data of this section, I would like to redefine the term "singularity." Originally, a singularity was defined linguistically as any object that is the denotation of a singular (count) noun phrase. Now however, we have singular collective noun phrases which denote bunches and we don’t yet know if bunches are singularities. So "singularity" is redefined semantically as follows (cf. Quine’s demarcation of "individual" in the Appendix):

\[
\forall x [\text{singularity}(x) \iff \forall y (y \in x \iff y = x)]
\]

and we still have D as the set of all singularities in the domain. Another thing that needs to be made clear is the use of the symbol "\(\in\)." This symbol is a part of the metalanguage. The object language member does not (always) denote this relation, hence the illformedness of the following:

\[
\text{(381) a. } \# \text{The boys have three members.}
\]
\[
\text{b. } \# \text{John is a member of the boys.}
\]

Talk of members of a plurality is to be understood in the metalanguage sense of membership.

With those preliminaries aside we now turn to quantificational structures that include definite noun phrases as restrictive terms. Such
structures will, it is hoped, provide a diagnostic for determining the type of entity denoted by the definite noun phrase. This diagnostic can then be used to investigate bunches.

As was pointed out in chapter 7, partitive phrases with all involve different kinds of quantification. Consider the following examples:

(382) All of the cars were painted.
(383) All of the car was painted.

In (382) we have quantification over members of an automotive plurality. In (383), on the other hand, we have quantification over parts or pieces of a singularity. Let us provide two denotations for all reflecting this difference:

(384) \[ \| all_{pl} \| = \{ \langle A,B \rangle \in (D^*-D) \times D^* \mid A \subseteq B \} \]
\[ \| all_{sing} \| = \{ \langle A,B \rangle \in D \times D^* \mid piece(A) \subseteq B \} \]

\textbf{piece} is a contextually specified partial function from $D$ to $D^*$. Intuitively, it gives for every element in its domain the set of parts of that element. John’s arm in some contexts will be a member of piece$(\| \text{John} \|)$.

\textit{all}_{pl} is employed in (382) and \textit{all}_{sing} in (383). We might have combined these two meanings into one, since they are differentiated semantically in terms of whether their first argument is a singularity or not. One reason to keep them separate is that only the plural form shows the pronominal behavior characteristic of quantifiers such as \textit{all}, \textit{each}, and \textit{most}. Thus while \textit{all} is interpretable as \textit{all of the cars} in the final part of (385) below, \textit{all} is simply uninterpretable in the final part of (386):

(385) The officers were concerned that their cars would not be seen at night. The manufacturer, seeking to allay their fears, informed them that most of the cars were adorned with reflective strips, and in any case, all were painted with glow in the dark paint.

(386) The officers were concerned that their car would not be seen at night. The manufacturer, seeking to allay their fears, informed them that most of the car was adorned with reflective strips, and in any case, all was painted with glow in the dark paint.

In the analysis of \textit{all} in (384), no role is played by the partitive of. An alternative along the lines of Barwise and Cooper (1981) might be to let \textit{all} have a standard universal quantifier meaning and have of deliver, in the case of (382), the set of members of the plural noun phrase’s denotation and
in the case of (383) a set of pieces of the singular noun phrase denotation. One reason not to do this is that the dual meaning of all is preserved in its floated incarnations\(^{48}\).

(387) The cars were all painted.
(388) The car was all painted.

So of is not made essential in our analysis.

We now have the beginnings of a diagnostic for the denotations of definite noun phrases which we apply to collectives:

(389) a. All of the group was silent.
     b. All of the boys were silent.

In (389b), we have quantification over members of a plurality. What does this tell us about the potentially synonymous (389a)? In fact, not very much. Since all can quantify over parts of a singularity as well as over members of a plurality, we don’t really know what we have in (389a). What we need is a quantifier that has only one of these meanings. One candidate is each, as the following shows:

(390) Each of the cars was painted.
(391) *Each of the car was painted.

The meaning of each (of) is just the meaning of all\(_{pl}\) given in (384). In fact, in light of Dowty (1987), this meaning is more appropriate to each than to all. In any case, crucially, each has no meaning corresponding to all\(_{sing}\). By the way, this is yet another reason not to pin the different meanings of all (of) on the of. If this were the case then we could not have a quantifier, each, that had only one of the meanings, unless we posited two of’s only one of which was selected by each. Back to the main point, we now have a quantifier that semantically selects for a plurality denoting term in its first argument. Before using this to test collectives, let me dispel a possible worry. One might imagine that each (of) selects its first argument on the basis of syntactic plurality. Evidence against this view comes from the fact

\(^{48}\) Incidentally, a comparison of floated all in (388) with pronominal all in (386), casts doubt on a hypothesis, raised in section 7.1, according to which floated quantifiers are actually instances of pronouns ‘derived’ from homophonous determiners. Were this the case, then a floated singular all would derive from a nonoccurring pronominal singular all.

(392) that it
(393)
(394)
(395)
(396) is, a question raised above, the bill.
(397) const. i.e. not denoting

that it will not combine with non-count plural noun phrases:

(392) a. The funds were ill-gotten.
   b. *Each of the funds was ill-gotten.
   c. All of the funds were ill-gotten.

(393) a. His guts were spilling out.
   b. *Each of his guts was in a different place.
   c. All of his guts were oozing out.

*each (of) combines with noun phrases that denote pluralities and those in (392)-(393), though syntactically plural, do not denote pluralities. Armed with each as a fairly safe diagnostic for semantic plurality, we apply it to collectives:

(394) a. *Each of the group left a flower.
   b. *Each of the deck had a red mark on it.
   c. *Each of his family ordered a different dish.

*each (of) does not combine with singular collective noun phrases. Floated each displays the same behavior:

(395) a. *The group each left a flower.
   b. *The deck each had a red mark on it.
   c. *His family each ordered a different dish.

If the line pursued here is correct, it follows that bunches are not pluralities. This means that if plural individual noun phrases are found to denote bunches, then they are ambiguous between a bunch and a plurality denotation, as is the case in the theories of Link and Landman. But we don't yet know if they can denote bunches and each cannot help us here. According to the ambiguity theorist plural individual noun phrases occur after each in their non-bunch denoting forms.

What is needed now is a quantifier that is the reverse of each. That is, a quantifier that has only the singular or "pieces" interpretation we saw above with all. It is a little tricky to find a universal quantifier that fits the bill. However, I would argue that the word part in the following construction is to be analyzed as an existential "pieces" quantifier with the denotation assigned in (397):

(396) a. Part of the car was painted.
   b. Part of the funds were ill-gotten. (compare (392))
   c. #Part of the boys were in Texas.
(397) \( \| \text{part} \| = \{ <A,B> \in D \times D^* \mid \text{piece}(A) \cap B = \emptyset \} \)

Applying this quantifier to collectives we arrive at a well-formed construction:

(398) Part of the group was in Texas.

Ultimately, what is important here is the comparison between (398) and (396c). This contrast directly contradicts the ambiguity theory. If plural individual noun phrases such as the boys had readings on which they denoted a bunch, (396c) would be well-formed on that reading. But in fact, plural individual noun phrases cannot denote bunches. Putting our two results together, we have that plural individual noun phrases do not denote bunches and collective noun phrases do not denote first order pluralities, hence associated noun phrases such as the committee and the committee members should not be analyzed as co-extensional.

The remainder of this section will be taken up with notes and observations related to the argument made thus far.

We said that there is no obvious candidate for a unambiguous universal pieces quantifier. The closest I could come was the ad-noun whole. As Jespersen(§4.86) noted, collective noun phrases can be modified with whole:

(399) a. The whole family was in an uproar.
    b. Reagan's whole library was moved to California.

As in the case of part (of), collectives pattern differently from plural individual noun phrases:

(400) a. #The whole boys were in an uproar.
    b. #The whole books were moved. (with the meaning of 399b.)

Other prenominal quantificational words include the word individual and the numerals. These combine with plurals but not with singular collectives:

(401) a. The individual members had a chance to view the proposal.
    b. * The individual committee had a chance to view the proposal.
       (on a reading synonymous with a.)

(402) a. The five members voted.
    b. #The five committee voted.
Just as there are floated adverbial versions of \textit{all} and \textit{each}, \textit{part (of)} has an adverbial counterpart in \textit{partly}. The adverbial versions of (396c) and (398) above are:

\begin{itemize}
  \item[(403)] a. The boys were partly in Texas at the time.
  \item b. The group was partly in Texas at the time.
\end{itemize}

In fact, a verb phrase containing one of these adverbs \textit{can} be used with a plural individual noun phrase, as in:

\begin{itemize}
  \item[(404)] The bricks were partly covered with paint.
\end{itemize}

In this case, we have a distributive reading of the verb phrase. (404) would probably not be judged true in a situation where there was a pile of bricks a few of which were totally covered with paint but most of which had no paint on them. On the other hand, if a mason built a wall out of the bricks and then painted a few of them it would be true that:

\begin{itemize}
  \item[(405)] The wall was partly covered with paint.
\end{itemize}

The contrast is highlighted with the use of an overt element to mark the distributivity of (404):

\begin{itemize}
  \item[(406)] a. The bricks were all partly covered with paint.
  \item b. The wall was all partly covered with paint.
\end{itemize}

The anomaly of (406b) suggests an answer to a question raised in connection with (389) regarding \textit{all} and collectives. Since \textit{all (of)} quantifies over members and over pieces, we couldn't tell what was happening with collectives. However, if \textit{all} could in fact quantify over members (not pieces) of a bunch, then (406b) wouldn't be anomalous; it would have the meaning of (406a).

The following examples inspired by Dougherty (1970:853fn8) involve other contexts that distinguish bunch denoting from plurality denoting phrases:

\begin{itemize}
  \item[(407)] Many in the group are from New York.
  \item[(408)] Much of the group is from New York.
  \item[(409)] Some in the group are from New York.
  \item[(410)] Some of the group is from New York.
\end{itemize}

Dougherty demonstrates with these examples that collectives can be
quantified with both count and non-count quantifiers. In the latter case the resulting noun phrase is singular, as in (408) and (410). As for the issues addressed here, note that replacing the group with the boys in these examples results in ungrammaticality.

Going the other way, reciprocals provide for a context that has been analyzed as quantificational but which disallows bunches. Contrast:

(411) The rocks in that pile are touching each other.

with:

(412) #That pile is touching each other.

For analyses of the reciprocal which involve each-quantification of the subjects of (411) and (412), the contrast here is unsurprising, given that we already know the first argument of each is not defined for bunches. Given the theory of reciprocals in chapter 6, the contrast here derives from the Part operator.

Interestingly, this contrast is maintained even in cases where the reciprocal is not overt. Here is a sample:

(413) a. #The trio collided. (from Dougherty 1970)
    b. John, Bill and Tom collided.

(414) a. The members of group A live in different cities.
    b. #Group A lives in different cities.
    c. The members of groups A and B have the same last name.
    d. Groups A and B have the same last name. ( \neq c).
    e. These texts were discovered independently.
    f. This set of texts was discovered independently. (\neq e)

(415) a. These conditions are mutually exclusive.
    b. #This set/list/group is mutually exclusive.

I will end this catalogue with a puzzle that arose in thinking about the diagnostics used here. In the literature on generics there is some discussion about the differences between the singular generic as in (416a) and the bare plural as in (416b):

(416) a. The telephone became affordable to the average American around the turn of the century.
    b. Telephones became affordable to the average American around the turn of the century.
Carlson (1977:440) concludes, somewhat unhappily, that both types of generics denote a property set of a kind (for Carlson a "kind" is an individual in its own right). The set denoted by the definite generic is a subset of the set of properties denoted by the bare plural. Differences between the two noun phrase depend on which properties are in the former set, but not in the latter.

Though it may not follow necessarily, one would expect our quantificational diagnostics not to differentiate between these two types of generics since they both refer to kinds. Furthermore, since Carlson (1977:§4.1) argues that kinds are not sets, we would expect kind-denoting terms to pattern with singularity denoting terms.

Applying our diagnostics in (417)-(420) below, we find some contexts in which the definite generic patterns with singularity denoting terms while the bare plural patterns with plurality denoting terms.

(417) a. The white blood cell is responsible for producing aminosalicylic acid.
  b. White blood cells are responsible for producing aminosalicylic acid.
  c. # Part of the white blood cell is responsible for producing aminosalicylic acid. (meaning 'some white blood cells')
  d. # Part of white blood cells is/are responsible for producing aminosalicylic acid.

(418) a. Dogs attack themselves, when they get irritated.
  b. The dog attacks itself, when it gets irritated.
  c. Dogs attack each other, when they get irritated.
  d. # The dog attacks each other, when it gets irritated.

(419) a. 1989 Fords each come with a different serial number.
  b. *The 1989 Ford each come(s) with a different serial number.
  c. 1989 Fords come with one gasoline each.
  d. ?The 1989 Ford comes with one gasoline each.

(420) a. #Each of 1989 Fords comes with a catalytic converter.
  b. #Each of the Ford comes with a catalytic converter.

Some of these data are discussed in the literature on generics. Wilkinson (to appear) discusses pairs like the one in (420) within the context of a theory that in contrast to Carlson (1977) views bare plurals as potentially not kind denoting. Also relevant is Dayal's (1992) discussion of the significance of number in distinguishing the bare plural and the definite generic.

At the heart of this subsection was a distinction in the semantics of certain English quantifiers between quantification restricted to members of
a plurality or set and quantification restricted to pieces or parts of an entity. *all* was claimed to exemplify both types of quantification depending upon the entity providing the restriction. By isolating quantifiers that display only one of these types of quantification, we were able to probe the type of entity that collective noun phrases denote. We concluded that plural individual noun phrases and singular collective noun phrases do not denote the same type of object. This result is pleasing to the union theorist. On that theory, pluralization can never raise the order of the plurality denoted past first order. If plural noun phrases could denote bunches this cap on the order of pluralities would be threatened.

What we have shown here is that many quantificational predicates are not shared by collective and plural individual noun phrases. The argument based on this evidence involves the assumption that the non-sharing is the result of a difference in extension. In order to challenge this assumption, one would have to point to some other aspect of the syntax or semantics of the noun phrases in question that would explain the non-sharing.

9.3 Verbal Predicates and Anaphora

9.3.1 Introduction

In this section we attempt to deduce from the kinds of verbal predicates that apply to collective and plural individual noun phrases something about the relative nature of bunches and pluralities. We will look at predicates that have been classified as semantically plural as well as syntactically or morphologically plural predicates. In addition, we consider the class of noun phrases that may serve as non-quantificational linguistic antecedents to plural pronouns.

9.3.2 Evidence That Associated Collective and Plural Individual Noun Phrases Co-refer

In the introduction to this chapter we discussed the following example which suggests equating the reference of *the committee* with that of the plural individual noun phrase *the committee members*:

(376) The committee voted.
(377) The committee members voted.

Examples with inanimate collective noun phrases are also used to support coreference claims, for example:
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(421) The deck was shuffled.
(422) The cards were shuffled.

This example has the added feature that the predicate \textit{shuffled} is not normally appropriate with a non-collective singular subject, for example:

(423) ?The card was shuffled.

Facts of this type are used as the basis for the following argument. The contrast in (422)-(423) indicates that \textit{shuffled} refers to a property that pluralities but not singularities can have. (421) shows that bunches can have this property. Hence, bunches must be pluralities and not singularities. It is easy then to claim that the subjects of (421) and (422) both denote the same plurality. Other examples supporting this line of reasoning are:

(424) a. The nomads were scattered across the continent.
   b. The community was scattered across the continent.
   c. ?The nomad was scattered across the continent.

(425) a. The chairs were rearranged before the guests arrived.
   b. The kitchen set was rearranged before the guests arrived.
   c. ?The chair was rearranged before the guests arrived.

(426) a. The tourists were assembled in the parking lot.
   b. The group was assembled in the parking lot.
   c. ?The tourist was assembled in the parking lot.

Up to now we have been looking at predicates that might be called ‘semantically plural’ as they appear to sort for plurality denoting terms. In Jespersen (1914:$4.8$) and elsewhere similar kinds of effects are discussed with respect to predicates that are morphologically plural. Plural predicates are so identified because they generally do not combine with singular subjects. However, a singular collective noun phrase\textsuperscript{49} may serve as the

\textsuperscript{49}A collective noun phrase such as \textit{the committee} is considered syntactically singular for the following reasons:

1. there is a contrast between \textit{the committee} and \textit{the committees}
2. \textit{the committees} cannot serve as the subject of a singular predicate.
3. *\textit{these committee} is ungrammatical.
4. It won’t do to say that what I am calling a singular collective
subject of a syntactically plural predicate, as in the following British English example:

(427)  The committee are tall.

The argument made above with predicates such as _shuffle_ obtains here as well. Syntactically plural predicates apply felicitously to plurality denoting terms but not to singularity denoting terms. The fact that they apply to bunch denoting terms indicates that bunches are pluralities.

Jespersen also observed that predicates containing plural pronouns of various types combine with singular collective noun phrases which serve as antecedents for the pronouns. Here are five of the examples cited by Jespersen:

(428)  The _choir_ knelt and covered _their_ faces.

(429)  The _committee_ congratulated _themselves._

(430)  when the _legislature_ abolished the laws against witchcraft, _they_ had no hope of destroying the superstitious feelings of humanity.

(431)  desiring I would take some care of their poor _town, who_, he says, will lose _their_ liberties...the _town_ had behaved _themselves_ so ill to me, so little regarded the advice I gave _them_, and disagreed so much among _themselves_, that I was resolved never to have more to do with _them_.

(432)  there _was a_ grand _band_ hired from Rossetter, _who_, with _their_ wonderful wind-instruments and puffed-out cheeks, _were themselves_ a delightful show to the small boys.

Jespersen pointed out that distance plays some part, "the plural construction occurring more easily at some distance from the singular substantive than in immediate contact with it." Perhaps this is the reason why (429) sounds strange to some speakers. These examples involve what may be analyzed as pragmatic cases of anaphora. But one might also inquire about bound variable anaphora. The question is can a plural pronoun be bound by a singular quantifier headed by a collective noun. Following are two examples whose status I am unsure of:

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noun phrase such as _the committee_ is really syntactically ambiguous with respect to number since, as Jespersen points out, often a single instance of such a noun phrase will display both singular and plural agreement within the same sentence.
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(433) Every debate team that Bill coaches eventually gets disqualified because they attack each other instead of attacking their opponents.

(434) Usually, if a debate team is coached by Bill, they end up attacking each other.

Regardless of the extent of this phenomenon, we are left with a range of plural predicates that apply to singular collective noun phrases thus lending support to coreference claims concerning collective noun phrases and their associated plural individual noun phrases.

9.3.3 Evidence That Collective and Plural Individual Noun Phrases Do Not Co-refer

In the previous subsection the evidence supporting coreference between singular collective and associated plural individual noun phrases came in two varieties. To begin with, we saw simple examples of predicate sharing. This was meant to show that specific noun phrases were coreferent. The other kind of data was of a more general type having to do with the nature of bunches. We saw that semantically plural predicates such as shuffle or scatter apply to singular collectives, implying that bunches may be pluralities. Also, plural pronouns seemed to take singular collectives as antecedents and syntactically plural predicates combined felicitously with singular collective subjects. The negative evidence in the present section will follow a similar pattern. To start with, some examples of predicate non-sharing will be presented, thus challenging the hypothesized coreference of collectives and plural individual noun phrases. After that there will be a number of general arguments against identifying bunches and pluralities.

The following list consists of contrasting sentence pairs with the one sentence having a singular collective as subject and the other a plural individual subject with the same predicate. Each pair is meant to be a case of predicate non-sharing, as the judgments marked with a "?-" indicate.

(435) a. The committee has five members.
b. ?The men have five members.

(436) a. The committee is composed of two judges and a fireman.
b. ?The members are composed of two judges and a fireman.

(437) a. The list had too many entries.

\[50\] This contrast is from Lønning (1987:153). Bennett (1974:237) similarly noticed the ungrammaticality of *members of the gods.*
b. The names had too many entries.
(438)
a. These players have foreign sounding last names.
b. This team has foreign sounding last names.
(439)
a. The deck has two aces in it.
b. The cards have two aces in them/it.
(440)
a. The deck has two aces among it/Them.
b. The cards have two aces among them.
(441)
a. These cigarettes can be smoked in under two minutes.
b. This pack can be smoked in under two minutes.

For (441a), the distributive reading of the predicate is intended. (441b) appears to disallow this reading. If distributivity is in fact analyzed as in chapter 5 with a quantificational operator, then this data falls in with what we saw in our earlier quantification section in general, and the data on reciprocals in particular (411-415).

As (435-441) show, there is some degree of predicate non-sharing between collectives and associated plural individual noun phrases which is unaccounted for on a coreference hypothesis. Moreover, this data is troublesome even for theories that fall a bit short of claiming coreference. For example in the theory of Landman (1989a) pluralities and bunches are distinct, but predicates can systematically shift from applying truthfully to a plural individual noun phrase to applying truthfully to an associated collective. Such a theory would have trouble with (440). And a theory such as Landman’s or Link’s (1984) in which a plural individual noun phrase can denote either a bunch or a plurality would have trouble explaining why (435b) is ill-formed. Unless some theory is presented which can explain why the predicates examined here should be ignored, we should be skeptical of the coreference hypothesis. Before moving on to other types of evidence, I should note that the examples in (435-441) are all of a general nature, that is they involve predicates that by their very nature select exclusively for either the collective or the plural individual member of the pair in question. But there are also predicates that could apply to both, but in a specific situation may not. For example, if John, Betty and Sue are all and only the members of the Math Department and they all own cars, the following may both be true:

(442) a. John, Betty and Sue own several cars.
b. The Math Department doesn’t own any cars.

In this situation then, the predicate own cars is not shared by the associated subject noun phrases in (442).

In the previous subsection, it was noted that semantically plural

predicate...
predicates have been used to show that bunches are pluralities. The argument made there however is not very strong. The problem is that many predicates that are classified as semantically plural apply to mass nouns as well, as noted in the generative literature by Dougherty. Thus while the chair was rearranged (425c) may be strange, the furniture was rearranged is not. Furthermore, the following examples which employ the predicates used earlier cast a layer of doubt on the usefulness of so-called "semantically plural predicates" in identifying bunches and pluralities:

(443) a. The pieces of the puzzle were scattered around the room.
b. The puzzle was scattered around the room.
c. #A piece of the puzzle was scattered around the room.

(444) a. The parts of the computer have to be assembled.
b. The computer has to be assembled.
c. #The screw has to be assembled.

This data suggests that the domain of application of these predicates includes things with a salient part-whole structure, which includes, but is not limited to bunches.\(^{51}\) It would seem then that the relevant semantic feature of these predicates cross-cuts the singularity-plurality distinction so they do not tell us that much about the possible plural nature of bunches.

So-called semantically plural predicates were of course not the only types of predicates whose application to collectives argues for the identification of bunches and pluralities. There were also examples, noted by Jespersen among others, in which singular collectives either combine with syntactically plural predicates or antecedes plural pronouns. These seem to make a clearer case for the proposed identification. And yet, it should be noted that these arguments rely on the assumption that syntactically plural predicates denote functions that are defined for pluralities only and the assumption that if the reference of a plural pronoun is determined on the basis of a single non-quantificational linguistic antecedent, that antecedent must denote a plurality. There is room to dispute both of these assumptions. Perhaps, syntactically plural predicates denote functions defined for pluralities and bunches. Perhaps a plural

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\(^{51}\)I assume the subjects of the b. sentences are not collectives. The anomaly of the phrases in (i.-ii.) suggest that the head nouns of the noun phrases in question are not collective:

i. #a puzzle of wooden pieces
ii. #a computer of imported parts
pronoun is interpretable as denoting that plurality whose members are those individuals composing the bunch denoted by a collective antecedent. There is a consideration that seems to me to favor the latter proposal. Jespersen noted that "it is only with collectives denoting living beings that the plural construction is found." Compare the following discourses in which I indicate the intended reference of the pronouns in square brackets:

(445) The committee finally decided to vote. They[=the members of the committee] had deliberated long enough.

(446) a. The mover refused to take Jack’s library. #They[=the books in the library] had not been tied properly.
   b. ?When John shuffled the deck he discovered they[=the cards] were tattered.

The infelicity in (446) is unexplained if all we say about (445) is: a) bunches are in fact pluralities, b) plural pronouns denote pluralities and c) semantic or pragmatic rules assign to the plural pronoun of (445) the referent of its antecedent. It will not help to modify (b) and say that plural pronouns denote only animate pluralities. That is simply false, since the books may serve as the antecedent for a plural pronoun. It will also not help to modify (a) and (b) and say that bunches are singularities and that plural pronouns may admit animate singularities as antecedents. That is also false: John cannot serve as the antecedent for a plural pronoun. Rather we need to say something like the following. In contrast to pluralities, a bunch can be the referent of the antecedent of a plural pronoun only if it is composed of animate (or human) beings. The crucial point for us is that the data in (445) when considered in light of (446) cannot be used to argue that bunches are pluralities. Furthermore, once we have entertained the possibility that pronominal anaphora is an indicator for the semantic status of a noun phrase antecedent, we can use it to learn about plural individual noun phrases. Collectives, especially inanimate ones, allow for singular pronominal anaphora:

(447) a. The deck is on the scale. It weighs too much.
   b. The Supreme Court is in session. It’s members are all busy.

It seems reasonable to assume then, that singular pronouns may denote bunches. If it were the case that plural individual noun phrases were sometimes bunch denoting, one might expect, counterfactually, that they would allow for singular pronominal anaphora:

52In the verbal plural, singular anaphora often marks the plural noun phrase, but in the non-verbal case, these are not always marked. For example, in English, the plural noun phrase is marked for the plural with *s.

53Note that the singular word can be used to mark the plural, and that the plural word can be used to mark the singular. In (what has been called) the singular mill since we are focusing our attention here. This is illustrated above.
Collective Nouns

The cards were shuffled. # It[=the cards] was put on the table.

In the theory of Landman (1989a) the plural individual subject of shuffle is bunch denoting and so its inability to serve as the antecedent of a singular pronoun demands explanation. Putting the results together, if pronominal anaphora teaches us anything, it is that collectives do not denote pluralities and plural individual noun phrases do not denote bunches.

The arguments put forward here can be made as well for the case of number agreement in verbal predicates. Jespersen’s observation obtains here as well. That is, while an animate singular collective might, in some contexts and dialects, combine with a plural verb phrase, inanimate ones don’t. Furthermore, plural individual noun phrases, whether animate or inanimate, do not in general combine with singular verb phrases, while singular collectives do. The fact that the rules for number agreement are sensitive to animacy lends support to a semantic or partially semantic theory of agreement. Following the approach outlined in chapter 2, section 2.3, we would like to capture the animacy facts in terms of the relative domains of the functions denoted by singular and plural predicates. However, if we identify bunches with pluralities, there is no easy way to implement this idea. We can’t say that only animate pluralities are in the domain of the denotations of plural predicates, since inanimate plural individual noun phrases combine with plural predicates. Rather what needs to be said is that bunches are not pluralities and the only bunches in the domain of plural predicate denotations are those composed of animate entities. Actually, there is another possibility. We might say that

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52Interestingly, such may be the case in some dialects of Arabic. There, verbal predicates are marked as plural only when preceded by a subject noun phrase denoting a plurality of humans. This is true despite the fact that there is no morphological marking for animacy and there is plural marking on inanimate noun phrases. (The facts reported here come from Landau, 1973:67-68)

53Note further that this formulation requires that bunches be distinguishable from run of the mill singularities. John is a singularity composed of an animate entity, yet John doesn’t take plural agreement.

One might think to adopt Landman’s (1989a) construction of bunches here. Unfortunately, although Landman does distinguish bunches (what he calls groups) from pluralities (what he calls sums) and run of the mill singularities, he does not go far enough to avoid the problems raised here. For Landman, bunches are singleton sets whose only member is a
animate collectives may denote pluralities but inanimate ones may not (or that animate bunches are pluralities) and that plural predicate denotations are defined exclusively for pluralities. The problem with this solution is that it seriously weakens all other arguments for saying bunches are pluralities because those arguments fail to discriminate between animate and inanimate collectives.

Finally, assuming a semantic theory of agreement as envisioned here, we cannot allow plural individual noun phrases to denote bunches, since bunches are in the domain of singular predicates while plural noun phrases do not combine with singular predicates.

Summarizing then, at best no argument can be made about the nature of bunches based on the types of predicates that may apply to collectives. At worst, it appears difficult if not impossible to give a semantic account of the types of predicates that apply to collectives without clearly distinguishing between bunches and pluralities.

9.4 Predicative Noun Phrases

There is one final bit of evidence that has been adduced in favor of identifying bunches and pluralities. It consists of examples in which a collective noun phrase is used predicatively:

(449) John and Mary are a happy couple.

One assumes that the predicate be a happy couple is true of any entity in the denotation of happy couple and hence that the entities it is true of are bunches. If (449) is true, then John and Mary denote a bunch and so we have a plural individual noun phrase denoting a bunch. Recall that this result is problematic, once we start considering plural collectives like the two couples and their associated plural noun phrases, like the Smiths and the Joneses.

plurality. For example, the bunch denoted by the deck is a singleton whose only member is the plurality whose members are the cards. Being inanimate, this bunch will not be in the denotation of the plural were shuffled, while the plurality denoted by the cards will. The problem is that Landman’s theory includes type-shifting operations of the kind discussed in chapter 4. Thus, the predicate were shuffled could be lifted so as to apply truthfully to any term denoting a bunch whose sole member is a plurality in the extension of the non-lifted were shuffled. Lifting should lead to a grammatical reading of *the deck were shuffled.
One could also use (449) to argue in the opposite direction by first assuming that the subject of (449) is plurality denoting and then arguing, based on the fact that the collective can be predicated of the subject, that collective nouns have pluralities in their extension. I will begin by responding to the first argument, that plural noun phrases are potentially bunch denoting and then afterwards consider the second type of argument.

To repeat then, it was just argued that since be a happy couple denotes a set of bunches, its truthful application to a plural individual noun phrase implies that such noun phrases are potentially bunch denoting. This argument relies crucially on following Partee (1987:§5) and references cited therein in taking be to be a logical type-shifter (from $<e,t>,t>$ to $<e,t>$) or simply taking it to mean simply "apply predicate." These interpretations account in part for the co-extensionality of common noun and "be a common noun" pairs such as man and be a man. This is a feature common to many analyses of be, according to Partee (1987:137), though she cites Stump (1985) as an exception. One of the meanings that Stump assigns be is that of a sort-shifter turning predicates of stages into predicates of individuals (in the sense of Carlson 1977). We might want to propose a similar meaning here. That is, perhaps be takes predicates of bunches into predicates of (associated) pluralities. In other words, couple is a predicate of bunches but be a happy couple is true of a plurality just in case a bunch associated with it is in the extension of happy couple. Were this the meaning of be, we could maintain, even in the face of (449) above, that bunches and pluralities are distinct and that plural individual noun phrases

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54.i.e. something like the following holds:

$$x \in \| \text{be} \| (A) \iff x \in D \land \exists z [z \in A \land \forall y (y \in x \leftrightarrow y \text{ is a part-of}(z) \land \text{human}(y))]$$

The restriction to humans is motivated by the strangeness of sentences in which an inanimate collective is used to form a predicate of pluralities:

(i) ?These cards are an expensive deck.

Although, B. Partee likes the following:

(ii) Those stars are a constellation.

(iii) The five of hearts, the ace of spades,...and the ace of clubs are a good hand in poker.
cannot denote bunches. But is there any reason to opt for this more complicated meaning of be other than to avoid a consequence unpleasant to the union theorist?

In fact, the simple "apply predicate" meaning of be runs into trouble once we consider plural predicative collectives as in:

(450) The guests this evening will be couples from Hungary.

To see the problem let us attempt to describe the truth conditions of the somewhat less informative:

(451) The guests are couples.

If couple denotes a set of bunches, then couples should, according to rule [8] (section 1.1), denote the set of all non-empty subsets of \(|\text{couple}|\), which is a set of sets of bunches. On the proposal we are entertaining here, are couples will denote the same set of sets. (451) is true then if and only if the denotation of the guests is in that set. This requires that the guests denote a set of bunches. More specifically, it must denote a set of bunches, each of which is a couple. Now even if we concede that somehow plural individual noun phrases may denote bunches, we still would need a way to assign a set of bunches (or plurality of bunches) as the denotation of a noun phrase whose head is not a collective noun. No semantics of plurals that I know of purports to do this. We have shown then that using (449) in the manner spelled out here to argue that plural individual noun phrases are bunch denoting, one runs into trouble with plural predicative collectives.

On the other hand, taking be to be a sort-shifter as described above, (451) can be approached as follows. Couples denotes the set of all non-empty subsets of \(|\text{couple}|\). In particular, it will contain singletons corresponding to the members of \(|\text{couple}|\). Taking bunches to be singularities, a singleton of a bunch is just the bunch itself (Quine’s Innovation, see Appendix). This means that \(|\text{couple}|\) is a subset of \(|\text{couples}|\). Applying our sort-shifting meaning of be to \(|\text{couples}|\) we get that be couples is true of a plurality of individuals if and only if an associated bunch is a couple and is in \(|\text{couples}|\). In other words, be couples is true of any plurality whose members form a couple.\(^{55}\) Now be couples is a plural predicate and hence is subject to a distributive reading.

\(^{55}\)A reviewer pointed out that this analysis along with a semantic theory of agreement like the one discussed in section 2.3 incorrectly predict *John and Mary are couples to be grammatical.

Collective

Bearing in mind the semantic value is accompanied by a grammatical value which each cell with a different significance will have, that couple represents a partition, its collective representation analyses in.

We do not have a specific a bunch of a bunch is not a collective as noted in.

(441)

proposed original shifting language in 437), plural, but not the sort-shifting, is the example of this proposal.

(452)

In each case, we may be talking to a plural of the sort-shifting, a phrase.

evidence that a plural, for instance, as a predicate, is few.

In each case, we may be talking to a plural of the sort-shifting, a phrase.
Collective Nouns

Bearing in mind our discussion of distributivity in chapter 5, we ask what value is assigned to the variable in the distributivity operator? By a rule of accommodation of the type discussed in Lewis (1979), a value is assigned which divides the domain in such a way that every individual guest is in a cell with one other guest with whom he/she is married or paired in some significant way. (451) is true if be couples is true of each cell in the partition that contains guests. If the guests are all single, there will be no such partition and (451) will come out false. If on the other hand, there is a partition of our guests into couples, (451) will come out true. Notice, this analysis relies on having a plurality denoting term as the subject of (451). We do not as yet have a distributivity operator based on the partitioning of a bunch and we do not want to introduce one. It is a property of collectives that they are generally not amenable to distributive readings, as noted in connection with (441), repeated below:

(441) a. These cigarettes can be smoked in under two minutes.
   b. This pack can be smoked in under two minutes.

One question arises here out of Partee's analysis of be. She proposes to extract the logical type-shifting function from the meaning originally proposed by Montague for be. Should we likewise take the sort-shifting to be a general mechanism that applies to all predicates of the language and leave be with its simple "apply predicate" meaning? This would not be a good idea, as a general policy. As observed above in (435-437), predicates such as have five members apply successfully to collectives but not to plural individual noun phrases. A better idea would be to limit the sort-shifting mechanism to predicative noun phrases. The following examples furnished by F. R. Higgins would argue in favor of this last proposal:

(452) a. We treat them as a couple.
   b. We treat them like a couple.
   c. We consider them a couple.

In each of these cases, there is no be but there is predication of a collective to a plural individual noun phrase, hence it might make sense to consider the sort-shifting as part of the predicativization of the collective noun phrase.

Summarizing now, predicative collectives were initially used as evidence that plural individual noun phrases are bunch denoting. In particular, they must denote bunches when acting as the subject of a predicate formed from combining be with a predicativized collective noun phrase.
phrase. But this argument was based on an analysis of *be* and/or predicativization which works only for examples in which the predicative collective is singular. An alternative analysis of *be* and/or predicativization as a bunch/plurality sort-shifter, accounts for the examples with singular as well as plural predicative collectives. And on the sort-shifter approach plural individual subjects of predicative collectives must in fact be plurality denoting.

Finally, recall above that an alternative type of argument was suggested based on (449), repeated here:

(449) John and Mary are a happy couple.

On this alternative, one argues that (449) shows that collectives are plurality denoting since they may apply predicatively to plural individual noun phrases. As explained in the introduction to this chapter, this result is damaging to the union theory, if one takes it one step further to plural collectives, such as *the two couples*. If that noun phrase denotes a plurality having two members, each of which is itself a plurality then the union theory is undermined. So, it is really the plural collectives that we need to focus on. But here (450) enters in again,

(450) The guests this evening will be couples from Hungary.

for if rely on the simple minded view of the predication relation in (449) appealed to in the argument above, then (450) shows that plural collectives in fact do not denote higher than first order pluralities, since they can apply predicatively to noun phrases denoting first order pluralities.

9.5 Notes on Cross Linguistic Variation

In researching the relation between bunches and pluralities, I discovered some cross-linguistic variation in the degree and manner in which these are distinguished.\(^{56}\) One of these differences has to do with animate collectives in British English (BE) versus American English (AmE). The others have to do with the use of the word meaning 'part' in Hebrew and Italian.

Above, I used the following example which seems to be good in BE

\[^{56}\text{For native speaker judgments in this section I thank Gennaro Chierchia, Jane Grimshaw, Sigal Uziel Karl, Tanya Reinhart, the poet Aharon Shabtai, Mandy Simons, and Sandro Zucchi.}\]
but not in AmE:

(427) The committee are tall.

It turns out that for some speakers of BE, the use of animate collectives in contexts that would be ungrammatical for AmE speakers is more widespread. Following are some examples:

(453) a. Each of the group left a flower.
    b. Each of his family ordered a different dish.
    c. The group like each other.

Judgements depended not only on the particular speaker (= dialect?) but also on the particular collective noun used.

What consequences do these facts have for the union versus sets debate? One might be tempted to say that at least in some cases, collectives in BE are in fact plurality denoting, hence we have an argument against the union theory. However, we must be careful here. Recall, that the trouble for the union theory actually starts only when collectives are in the plural. The union theory would be counterexemplified by a plural collective denoting a higher order plurality. Interestingly, to the degree that I tested this question, I found that BE in fact provides evidence for the union theory. The speakers I asked found it impossible to use the example below:

(454) The committees are old.

to mean that the members of the committees are getting on in age. A possible explanation for this would be that in BE the committee is ambiguous between bunch denoting and plurality denoting readings and since there is nothing in the domain that would correspond to the plural of a plural, assuming the union theory, only the bunch meaning surfaces when committee is pluralized.

Finally, I would note a difference between what was said here about BE as opposed to what was said earlier in section 9.3. There I claimed that the use of a plural verbal predicate with a singular collective has to do with the meaning of the verbal predicate as opposed to an ambiguity in the meaning of the noun phrase. On that story, the predicate simply has animate bunches in its extension. That seemed the right way to go for dialects that do not in general treat these terms as plurality denoting. Perhaps then the difference between the two dialect groups arose from a reanalysis of a ‘quirk’ in verbal meanings to one in noun phrase meanings or vice-versa.
The second area of cross-linguistic variation that I encountered had
to do with modifiers that select for singularity denoting complements. In
section 9.2, I claimed that part is once such modifier:

(396) a. Part of the car was painted.
   b. Part of the funds were ill-gotten.
   c. *Part of the boys were in Texas.

The phrase *Part of the boys should mean approximately some of the boys,
but it is ill-formed because, I claimed, part of selects for singularity denoting
complements. But now consider the following Modern Hebrew translation
for some of the boys:

(455) xelek me--ha---baxur----im.\(^{57}\)
     part from the boy plural

Hebrew apparently lacks a word like some, in the singular as well as in the
plural. Instead use is made of the word for part. The grammatical part of
the group is translatable with the same idiom:

(456) xelek me---ha---kva ca
     part from the group

In other words, for Hebrew, one apparently cannot produce an argument
based on (the translation of) part to show that plural individual noun
phrases do not denote bunches. I am even doubtful about whether one
could make the Hebrew parallel of the argument, based on each for
example, that collective noun phrases do not denote first order pluralities.

There is an interesting twist to this puzzle which points up
problems of translation. While (455) would be a natural translation for
some of the boys, it wouldn’t be the natural literal translation for *part of the
boys. I think that would be:

(457) xelek shel ha---baxur---im.
     part of the boy plural

which, in fact, more or less preserves the ill-formedness of the English
phrase. But this is of little help to the bunch investigator, for the following
is not very well-formed either:

\(^{57}\) Dashes are here used to mark off morphemes.
Collective Nouns

(458) xelek shel ha--kvuca
part of the group

As far as I could determine, xelek shel is only appropriate in cases where the object in question has a fairly obvious part structure. For example:

(459) xelek shel ha--mot
part of the rod

would be appropriate if the rod had various connected parts. While the phrase:

(460) xelek shel ha shamayim
part of the sky

is odd. A similar restriction seems to apply in the construction of English compounds with part: car part vs. sky part.

My first reaction to this data was that since the word part has been pressed into service as an existential determiner, there simply may not be any evidence that pluralities and bunches are distinguished in the ontology of the Hebrew language. However, it turns out that other constructions using part do provide evidence for the distinction. Recall, some of the evidence used above had to do with adverbials based on the word part and this evidence does translate, as follows:

(461) a. hu cava 'et ha--kir be-ofen-xelki
he painted ACC the wall in manner partial

'He partly painted the wall'

b. hu cava 'et ha--lven-im be-ofen-xelki
he painted ACC the brick PL in manner partial

'He partly painted the bricks'

(462) a. Ha--kvuca nifge'a be-ofen--xelki
the group was-injured in manner partial

'the group were partly injured'

b. Ha--yelad--im nifge'u be-ofen--xelki

...
the child PL were-injured in manner partial

'the children were partly injured'

(461b) cannot mean that some of the bricks were painted and some were not, a situation that would make (461a) true, if the bricks were formed into a wall. Likewise, (462a) but not (462b) would be true if some of the children in the group were injured while most were left unharmed.

A similar pattern arose in attempting to translate the part argument into Italian. Gennaro Chierchia pointed out to me that in contrast with the English example, the following is fine in Italian:

(463) Parte dei ragazzi erano in Texas.
     Part of-the boys were in Texas

Again this might lead one to suspect that Italian doesn't make the same distinctions as English. But again, upon closer inspection I found this not to be the case. Consider what happens when the word part is pluralized:

(464) a. parte dei ragazzi
     part of-the boys

b. una parte dei ragazzi
   a part of-the boys

c. *tre parti dei ragazzi
   3 parts of-the boys

d. tre parti del gruppo: la testa, la coda e il centro
   3 parts of-the group: the head tail middle

e. tre parti del muro
   3 parts of-the wall

f. * tre parti dei mattoni
   3 parts of-the bricks

(464c) and (464f) are out on the reading where one is counting parts of a plurality (not body parts or parts of a brick). The argument in Italian must be made using the plural parti.

This completes our brief exploration into cross-linguistic semantics. The hypothesis suggested by the comments made here is that languages do
not disagree with respect to their ontologies, even if the evidence for the ontology may differ. Of course, these notes were not intended as a serious study of this question.

9.6 Analysis of the Evidence

At this point, we have seen the evidence bearing on the relation between associated collective and plural individual noun phrases. I will now sketch two positions one might take given this evidence. The first is in favor of distinguishing bunches and pluralities and the second is in favor of identifying them.

9.6.1 An Extensional Account.

The majority of the data presented here argues for taking bunches and pluralities to be distinct and for taking the former to be the sole denotation domain for collectives and the latter the sole domain for plural individual noun phrases. The question remains then: how do we explain the predicate sharing that is observed? Modifying Blau's (1981) example slightly, how do we account for the fact that if the deck is shuffled, scattered on the table, bought by Jack or sorted by Frank then so are the cards? The answer is we don't, not formally, at least not in terms of coreference. As noted in chapter 3, it is quite common for two noun phrases to share some predicates without being coextensional. There might even be a systematic explanation for the sharing, even if this explanation is not within the realm of natural language semantics. In the present case, the sharing has to do with the intimate relation between a deck and the cards that make it up, even if that relation is not identity. Compare the entailment from a to b in the pairs below:

(465) a. Bill's painting is pornographic.
   b. Your reproduction of Bill's painting is pornographic.

(466) a. Bill is in Texas.
   b. Bill's brain is in Texas.

(467) a. Bill's father has redheaded ancestors.
   b. Bill has redheaded ancestors.

In (467) for example, the entailment has to do with facts about ancestry and not about coreference between Bill and his father.

I think it is important to spell out some details of the position we
are taking. There is a membership relation denoted by the metalanguage symbol "\(\in\)" and there is a different membership relation denoted by the English \textit{member}. Every singularity bears the \(\in\)-relation to itself and singularities bear the \(\in\)-relation to pluralities. John bears the \(\in\)-relation to the men in his support group, but not to his support group. On the other hand, the relation that \textit{member} denotes holds between John and his support group, but not between John and the men in his support group. To drive the point home even further, I would point out that a singular noun phrase whose head noun is \textit{set} does not denote a plurality, it denotes a bunch. The elements of a set do not bear the \(\in\)-relation to the set (though the set itself might); they bear to the set that relation which the English word \textit{member} denotes. In ordinary English, the relation that \textit{member} denotes seems to be restricted to animate entities: this chair is a member of Mary’s dining room set. Of course, the \(\in\)-relation has no such restriction. Of historical interest here is the following passage from Russell (1903:68, §70):

A class, we have seen, is neither a predicate nor a class-concept, for different predicates and different class-concepts may correspond to the same class. A class also, in one sense at least, is distinct from the whole composed of its terms, for the latter is only and essentially one, while the former, where it has many terms, is, as we shall see later, the very kind of object of which \textit{many} is to be asserted. The distinction of a class as many from a class as a whole is often made by the language: space and points, time and instants, the army and the soldiers, the navy and the sailors, the Cabinet and the Cabinet Ministers, all illustrate the distinction.

Russell’s "class as a whole" is a bunch while his "class as many" is a plurality.

Russell distinguishes non-linguistic objects and then claims that different terms in the language map on to these different kinds of objects. This is the view we endorse. Compare it to Jespersen’s categorization of collectives mentioned in the introduction according to which collectives are "substantives which (in the singular) denote a collection or number of individuals". On this view, the category of collective arises from a ‘mismatch’ between the semantics and the syntax, not from a distinction already present in the ontology.

9.6.2 A Non-Extensional Account

An alternative to the account just sketched would start by assuming...
that associated collective and plural individual noun phrases are in fact coreferent, however, they differ in some way that explains the non-sharing of predicates that we’ve seen. Discussions of intensionality follow this pattern of explanation and since that phenomenon served as inspiration for the account to be examined here, we start by reviewing an example of non-sharing explained by appeal to the intension-extension distinction. The noun phrases *the President* and *Bill Clinton* are currently co-extensional, but they have different intensions since they are not co-extensional at all times and even at the current time, one can imagine possible situations in which they wouldn’t have been co-extensional. The prediction then is that these noun phrases will fail to share predicates that somehow involve different times or possible worlds, predicates such as *will not live in Washington in the year 2000* or *must always open Congress.*

The analysis of intensionality provides a guide for a possible account of the pairs of noun phrases we are interested in, but it is not itself the correct analysis. There are two ways to see this. The first is that the predicates that are non-shared in our cases do not as a rule have anything to do with varying times or worlds (modality or tense). Another way to see that intensionality is not the source of the differences observed is to consider the noun phrases *Committee A* and *the members of Committee A,* a pair of noun phrases for which we found non-sharing. Let’s assume, counterfactually, that they differ intensionally but not extensionally. That would mean that in this world and at the current time, both have the same plurality as their extension, but that at other worlds or times they differ. But how could that be? How could an individual be part of the plurality which is *the members* of Committee A without at the same time being part of the plurality which is Committee A?

The conclusion then is that we need to find some way that noun phrase meanings can differ other than in terms of intension or extension. The question can be put in slightly more concrete terms as follows. Under the current alternative, we are taking associated noun phrases to refer to or to be about the same entity, while at the same time claiming that they denote different sets of properties of that entity. This is like the definite generic and the bare plural on Carlson’s analysis mentioned above. The puzzle now is to try to say what the source of these two property sets is. One possible answer is suggested by the analysis in Landman (1989b) of a slightly different but closely related problem. That problem concerns pairs of collective noun phrases which refer to bunches that appear to be distinct but which are made up of the same individuals, something that would be impossible if bunches were just pluralities. Landman’s idea is that we should think of these noun phrase pairs as just special cases of reference to the same individual under different guises. To give an idea of what
reference under a guise is, consider the following example, based on one used by Landman, which does not have to do with collectives. In order to adequately support his family, my high school chemistry teacher, Mr. Caliendo, worked in the evenings as a druggist. When the teachers in our district went on strike, it was true that:

(468) The chemistry teacher is on strike.

but it would have been misleading if not false to say that:

(469) The druggist is on strike.

Mr. Caliendo had different properties as a teacher than he had as a druggist. Nonetheless, we never believed that there were two Mr. Caliendos. Noone would have denied that the druggist and the chemistry teacher were co-extensional. As Landman shows, the same phenomenon can be reproduced with pluralities as well as with entities composed from pluralities. In (468-469), one and the same individual is first considered under the guise of a chemistry teacher and then under the guise of a druggist. The expression used to name the guise is part of the noun phrase used to pick out the individual himself. But this is not always the case. Landman observes that phrases of the form as a [CN_] can be used in English to name the guise. For example, Mr. Caliendo, as a teacher, was on strike while Mr. Caliendo, as a druggist, was not on strike.

Landman’s proposal has to do with pairs of collectives, however one might consider extending it to handle collective-plural individual pairs. The idea would then be that my family and the members of my family refer to the same plurality, but under different guises. Different guises give rise to different sets of properties of that same plurality. This would explain the observed non-sharing of predicates. This idea has some intuitive appeal, especially for those who like to keep the ontology sparse to begin with. To do it real justice, the details should be spelled out (some of which are already in Landman 1989b), especially the compositional semantics which would lead to the different property sets. While this is beyond the scope of the present work, I would like to end with some questions that such an account would have to address.

In Landman’s paper, he points out that the more connotative a term is, the more likely it is to produce a disguised individual. Similarly, since "chemistry teacher" and "druggist" are rather different properties, Mr. Caliendo has rather different properties under these guises. But now compare our own case. In order to explain the predicate non-sharing discussed in previous chapters, we would have to say that "my family" and

"memories" are co-extensional, they don’t fit the pattern, and the properties are properly on one hand and on the other hand.

there are cases where the noun phrase denotes a group of individuals. However, as in non-sharing above.

agreement with Landman’s collective concept, the OCP would already make the noun phrase non-sharing true.

[CN_]

(470) I would like to end with some questions that such an account would have to address.

According to Landman, my family refers under the guise of a teacher, and the phrase as a [CN_] refers to the same individual. The case of the collective-plural individual is similar. (1988:223)

(471) In Landman’s paper, he points out that the more connotative a term is, the more likely it is to produce a disguised individual. Similarly, since "chemistry teacher" and "druggist" are rather different properties, Mr. Caliendo has rather different properties under these guises. But now compare our own case. In order to explain the predicate non-sharing discussed in previous chapters, we would have to say that "my family" and...
"members of my family" are different guises for the same plurality. But they don't seem so different. It would be hard, for example, to know that the people at the next table fit one of the guises without knowing that they fit the other. Furthermore, what would be the extensions of these two properties (being my family and being the members of my family) if on the one hand they are different properties (hence contribute different guises) and on the other hand, bunches are just pluralities?

Landman (1989b:742) alludes to this problem when he notes that if there is a group consisting of John and Bill, then John and Bill should denote roughly the same set of properties as the group, because being a group unlike being a druggist is not a very connotative property. However, these two noun phrases show more or less the same degree of non-sharing as other pairs.

The animacy effects noted in the discussion of verbal predicates and agreement also seem to go in the wrong direction. Comments in Landman's article (page 728) would lead one to expect that inanimate collective nouns would be less connotative than animates (compare the concept of a committee or a government to that of a deck) and hence one would expect them to differ less from their associated plural individual noun phrases than do their animate counterparts. In fact, the opposite is true.

Problems also arise when one considers phrases of the form as a [CN_] mentioned earlier. First, consider the following example:

(470) Our chemistry teacher made $5 per hour as a druggist.

According to (470), Mr. Caliendo had the property of earning $5 per hour under his druggist guise. This shows that the when it is present, the as-phrase provides the guise, regardless of the form of the term picking out the individual. This means that an as-phrase of the right kind should cause a plural individual noun phrase to behave like a collective. But as Lasersohn (1988:149) notes, this does not seem to work:

(471) a. The boys as a baseball team have 12 members.
   b. The boys have 12 members, as a team.
   c. John and Mary were founded in 1925, as Committee A. (= Lasersohn's 25b)

Finally, the concept of a guise seems to be such that one noun phrase could not be taken to denote the same individual under different guises. This seems right. Continuing with our earlier example, after the strike was over Mr. Caliendo, along with other teachers, received a late
paycheck, though he was able to get by on the money he had made as a druggist. And yet, it is strange to say:

(472) Mr. Caliendo received his paycheck two weeks late and was paid on time.

If collectives combine with plural predicates on their plural guise and singular predicates on their bunch guise then we have a problem. For as Jespersen (§4.85-6, p.99) points out, one and the same collective noun phrase may combine with a plural and a singular predicate in the same sentence.

Summarizing then, the guise story remains a possible alternative account of the predicate non-sharing observed earlier. The guise story in general needs to be worked out and the nature of the ‘bunch guise’ itself needs to be elaborated in way that doesn’t simply rely on the singularity-plurality distinction, for that would amount to adopting the first alternative of section 9.6.1, just in a more complicated setting.

9.7 Conclusion

The subject of this chapter was the relation between plural individual noun phrases, such as the Senators and collective noun phrases, such as the Senate. It has been claimed that in some cases this relation is one of coreference. This claim then leads either to the conclusion that plural individual noun phrases can be singularity denoting or that singular collectives are plural denoting. Under either of these assumptions, it looks like one could form noun phrases that are semantically ‘plurals of plurals’: either by conjoining singularity denoting plural individual noun phrases or by pluralizing collectives. The union theory predicts that there should be no plural of a plural (semantically), hence collectives are relevant to the sets versus union debate.

In sections 9.2-9.4, we cited data arguing against the possibility of a plural individual noun phrase coreferring with a collective. The data included quantificational and verbal contexts that distinguish the two types of noun phrases on semantic grounds, as well as facts about number agreement between subject and predicate and between pronoun and antecedent, facts which resist analysis in a theory where singular collectives denote pluralities.

In the end we concluded that in a purely extensional theory, collectives and plural individual noun phrases could not be coreferent, however we raised the possibility that this conclusion could be avoided by adopting a non-extensional theory to explain the data.

10.1 Violets - Punters

violeta...