

Definite and Bare Kind-denoting Noun Phrases

Roberto Zamparelli
Università di Bergamo,
Piazza Vecchia 8, 24129 Bergamo, Italy;
roberto@unibg.it

1 Introduction

The goal of this paper is to examine some differences between English and Romance languages in the way *definite* and *determinerless* noun phrases can be used in generic contexts. As is well known, English and other Germanic languages can use determinerless plural count and singular mass noun phrases (henceforth *bare nouns*) to express a *generic* meaning.

- (1) a. [Dogs] come in many different sizes.
b. [Pitbulls] are unpopular in England.
c. [Birds] evolved from [reptiles].
d. [Helium] is abundant in the universe.
e. [Nuclear physicists] study [atoms].
f. Pasteur discovered [antibiotics].
g. On the sixth day, at 12 o'clock sharp, God created [zebras].

To express the same meaning, Romance languages (here and elsewhere, I exemplify with Italian), standardly use noun phrases with a definite article: the plural definite with count nouns and the singular definite with mass nouns (sing. *il/la/lo/l'*, plur. *i/gli/le*) (2). A singular definite article with count nouns is also possible (3), with the same restrictions as in English (see e.g. Lawler 1973, Carlson 1977:432).

- (2) a. [I cani] si trovano un po' in tutte le taglie.
b. [I pitbull] sono impopolari in Inghilterra.
c. [Gli uccelli] si sono evoluti da[i rettili].
d. [L' elio] è abbondante nell'universo.
e. [I fisici nucleari] studiano [gli atomi].
f. Pasteur scoprì [gli antibiotici].
g. Il Quinto Giorno, a mezzogiorno spaccato, Dio creò [le zebre].
- (3) a. [La volpe] è rara in queste regioni.
[the fox] is rare in these regions.
b. [Il cane] è il miglior amico del[l' uomo].
[the dog] is the best friend of [the man]

In English, and again Germanic in general, bare nouns can also have an *existential* reading. In (4) *hungry-looking dogs*, *water* and *Italian students* roughly correspond to *some dogs*, *some water* and *some Italian students*. In these case, the predicates must have an 'eventive' or 'transitory' character.¹

- (4) a. [Hungry-looking dogs] are rummaging in my garbage.

⁰Many thanks the audiences of *Going Romance* 2000 and the 2001 *Incontro di Grammatica Generativa* for interesting comments and observations. This paper has greatly benefitted from discussions with Pino Longobardi, Veneeta Dayal, Caroline Heycock and other colleagues. All errors are of course my own.

¹In what follows I adopt the traditional Carlsonian distinction between 'stage level' (episodic, temporal) and 'individual level' (stative, tendentially atemporal) predicates.

- b. I poured [water] into my glass.
- c. I met [Italian students] in Beijing.

As can be imagined, this state of affairs is problematic for Germanic learners of Romance languages and vice-versa, and an area where a good understanding of the theoretical picture could at the same time deepen our comprehension of the language faculty and provide better tools to characterize and teach these differences. The existence of discrepancies even between Romance languages (see section 5.1) makes the problem even more challenging. In this article I will investigate the origin of these meanings with the help of some novel or ill-studied data from Romance languages, evaluate some previous theories and point out directions for further analyses.

Within formal semantics, the main thread in the discussion on the meaning of bare nouns since Carlson (1977) has been the relation between the generic and the existential reading. Two leading approaches have emerged. One—based on Carlson’s (1977) original idea—holds that English bare nouns are always non-quantificational constructs, i.e. proper names of kinds of things; the existential reading visible in (4) is derived from the native kind-level denotation. An influential variant of this theory has been advanced in Chierchia (1998) within a study on the syntax-semantics mapping across languages (see also Dayal 2000). I shall collectively refer to this family of theories as the *neo-Carlsonian* view.

In the second approach, the *Ambiguity Theory*, stated most explicitly in Gerstner and Krifka (1987), Wilkinson (1991), and Diesing (1992a), bare nouns are ambiguous: in some contexts they are proper names of kinds, in others, weak indefinites. The existential reading comes from this latter interpretive possibility, a case in which the free variable provided by the indefinite is bound by a default existential operator. Yet other authors, e.g. Dobrovie-Sorin and Laca (1997) accept the idea of an ambiguity but reject the notion that bare nouns in existential contexts have the meaning of indefinites.

Theories of bare nouns were originally developed looking at English and German facts, but the difference between Germanic and Romance languages had been noticed and discussed since Casalegno (1987) (see also Laca 1990, and Vergnaud and Zubizarreta 1992 for a more syntactic approach). The crucial data are the following.

In French, bare nouns cannot appear as arguments. In other Romance languages they have a limited distribution. A simple bare noun such as *soldati* “soldiers” in Italian may appear at the left periphery of the sentence, in focus (5a) or topic (5b) position (see Rizzi 1997, Cinque 1990 for a characterization of these positions).

- (5) a. SOLDATI, ho visto, mica poliziotti.
SOLDIERS, I_Ihave seen, not policemen
- b. Soldati, li vedo spesso.
soldiers, them I_Isee often.

As arguments, bare nouns only appear in lexically governed positions: objects of verbs or prepositions (6a,b), and some postverbal subjects of unaccusatives (6c) (see Contreras 1986, Brugger 1993, and Delfitto and Schroten 1992). When modified by a relative clause, or a ‘heavy enough’ PP or AdjP (7), Italian bare nouns may also appear in preverbal subject position (Longobardi 1994), though they are still marginal with individual-level predicates such as *be Italian/spies* (7b).

- (6) a. Ho incontrato soldati per strada.
I have met soldiers in_Ithe street
- b. Ho parlato con soldati.
I have spoken with soldiers
- c. Arrivarono soldati da tutte le parti.
Arrived soldiers from every corner

- d. ??Soldati sono qui.
Soldiers are here
 - e. *Soldati sono italiani.
Soldiers are Italian
- (7)
- a. Amici che non vedevo da tempo {sono appena arrivati / ?? sono italiani}
Friends that I hadn't seen for a long time {have just arrived / are Italian}
 - b. Strani individui {si aggiravano per le strade / ??erano spie}
Strange individuals {walked around in the streets / were spies}

When they are possible, Romance bare nouns can clearly have an existential reading, exactly as the English cases above. A similar indefinite meaning can also be expressed with the plural 'partitive indefinite' determiner *de+DEF-ART* (literally "of the"). In languages such as French, which do not admit argumental bare nouns, this is in fact the only option.

- (8)
- a. (Dei) Cani dall' aria affamata stanno rovistando nella mia pattumiera
(some) Dogs with a hungry look are rummaging in my rubbish bin
 - b. Ho versato (dell') acqua nel bicchiere
I have poured (some) water in the glass
 - c. Ho incontrato (degli) studenti Italiani a Pechino
I have met (some) students Italian in Beijing

However, as first pointed by Casalegno (1987), a quasi-universal or 'kind'-reading of Italian bare nouns doesn't seem to be available (more on this below). The standard tool to express generic noun phrase meanings in Romance languages is the definite determiner.

Given these facts, a question immediately arises. In English, bare nouns can apparently have two meanings, one existential, one generic—whole theories have been constructed to capture this fact. In Italian, however, the same meanings are expressed using two very different constructions: bare nouns or the partitive indefinite for the existential, definite nouns for the generic meaning. How can the two competing approaches developed for English account for this obviously different syntax/semantics mapping?

The answer I will put forward is that Italian definites are closer to English bare nouns than has been previously assumed. Apart from their generic/quasi-universal meaning, definites in Italian (and to some extent in other Romance languages) have an indefinite reading which is absent in English definites, and which is nicely captured by one of the leading theories of English bare nouns. At the same time, I will defend the (old) idea that bare nouns in Romance differ from English bare nouns in not being able to denote kinds.

The structure of the rest of this paper is as follows. After listing some available tests I will evaluate the two competing approaches to noun phrase genericity in English and consider three possible extensions to the Romance facts. Section 3.1 will give examples of the indefinite reading of definites. Section 4 will discuss in some detail Chierchia's (1998) neo-Carlsonian view of kind-denoting noun phrases. Section 4.3 will reevaluate the 'indefinite definite' data and make a proposal. The last two sections will contain some preliminary remarks on the circumstances which allow the 'indefinite definite' interpretation to arise, and some cross-linguistic differences.

2 Tests for noun phrase genericity

Various tests have been proposed at least since Lawler (1973) to distinguish between noun phrases which refer to or quantify over ordinary objects and noun phrases which range over kinds. All are based on the nature of the predicates involved.

Kind-level predicates. Probably the best case for the linguistic relevance of kinds comes from predicates which cannot usually apply to ordinary individuals: (9a) contrasts with (10), hash-marked assuming a biologically normal world. These predicates may also be episodic.

- (9) a. Domestic dogs {evolved from jackals / appeared 100000 years ago / will become extinct / become bigger and bigger as you look back into the history of civilization / have increased by 4% throughout the country}
 b. Light-bulbs were {created / invented / perfected / analyzed} by Edison.
- (10) #Fido {evolved from jackals / appeared 100000 years ago / will become extinct / becomes bigger and bigger as you look back to the history of civilization / has increased by 4% throughout the country}

Taxonomic properties of kinds. “Dogs with long, uncombed fur” are “dogs”, which are in turn “mammals”, which are “animals”, and so forth. Only kinds have the property of being divisible into more specific subkinds, defining a taxonomy along some dimension (e.g. size, biological type)² The corresponding predicates are a good test for ‘kindhood’.

- (11) a. Dogs {have several breeds / come in many sizes / have very diverse subkinds}
 b. *Fido and Spotty {have several breeds / come in many sizes / have very diverse subkinds}

Quantificational properties. A test heavily used by Carlson (1977) and others involves quantificational properties, or more exactly properties which refer to the spatial/temporal *frequency* (i.e. ratio between number of individuals and space/time units) of some class.

- (12) Dogs are {common / rare / abundant / widespread / scarce } in this region.

One reason for the popularity of this test is the sharp judgment that no overt quantifier can be introduced in (12) (barring a quantification-over-subkind reading, where *twenty dogs* means “twenty types of dog”). I will return to the reliability of this test in section 4.1.

- (13) a. *{All / most / those / the} dogs are {common / rare / abundant / widespread / scarce }.
 b. *{Twenty / many / some / one} dog(s) is/are {common / rare / abundant / widespread / scarce }.

Characterizing sentences. Quantitatively speaking, the vast majority of ‘generic’ uses of noun phrases are found in *characterizing sentences* (see Krifka et al. 1995 for a discussion of this terminology), sentences which express a regularity of a non-accidental nature.³

- (14) a. Dogs {bark at the moon / have four legs / hate cats}
 b. Young roosters {like hens / compete for supremacy}

Opinions differ on the proper analysis of characterizing sentences. In Carlson’s original approach, the noun phrases in such sentences were still interpreted as kinds. However, many predicates found in characterizing sentences with bare nouns may also form characterizing sentences with indefinites like “a dog/two dogs”.

²Note that “be of a certain kind” is not a taxonomic property as we use this term, since *those 3 dogs are of three different kinds* is fine, but *those 3 dogs* is not kind-denoting.

³It has often been observed that the regularity must be a generalization based on some underlying law: for instance, when (a) is only accidentally true, it does not constitute a good characterizing sentence.

- a. #Children born in the first ward of this hospital are left-handed.

- (15) a. A dog (usually) barks at the moon.
 b. A normal dog (always) has four legs.
 c. Two young roosters (always) compete for supremacy.

These cases can be easily treated using the quantificational schema in (16) and (17), where an overt or covert adverb of quantification binds the free variable provided by the indefinite (see Lewis 1975, Heim 1982). Thus, to the extent that *dogs bark at the moon* is similar in meaning to *a dog barks at the moon*, we have the possibility, and certainly the temptation, to assimilate the characterizing sentences in (14) to those in (15).

- (16) a. A dog (usually) barks at the moon.
 b. **Most** x .[dog(x)] [bark-at-the-moon(x)]
 (17) a. Two young roosters (always) compete for supremacy.
 b. **Every** x . [roosters(x) \wedge young(x) \wedge **2**(x)] [compete-for-supremacy(x)]

2.1 The division of labor

The dilemma posed by characterizing sentences raises a more general methodological question: what should we allow kinds to *do* directly and what should instead be delegated to quantifications over the objects which instantiate them? The dog-kind can clearly appear, evolve and become extinct. Can it also have four legs and bark at the moon? If the answer is negative and all we do in these cases is quantification over individuals, do we still want to summon kinds in order to extract these individuals from them, or shall go for the objects directly?

In the ambiguity approach, kinds do very little. Bare nouns are assumed to be ambiguous between a kind reading and an indefinite reading. Sentences containing kind-level, taxonomic and quantitative predicates are interpreted using the kind-denotation of bare nouns, marked here with superscript *k*.

- (18) a. invented(Edison, light-bulbs^k)
 b. have-subspecies(dogs^k)
 c. rare(dogs^k)

In characterizing sentences, on the other hand, bare nouns are interpreted as indefinites bound by a quasi-universal operator **Gn**. The quantification is also restricted to appropriate ‘situations’ *s* or ‘times’ (e.g. normal situations when barking at the moon would be appropriate), which are also unselectively bound by the **Gn** operator:

- (19) a. **Gn** x, s [dog(x) in s] [bark-at-the-moon(x) in s]
 b. “For each appropriate situation s , if x is a dog in s than x barks at the moon in s ”

In the existential meaning, the free variable provided by the indefinite bare noun is bound by a ‘default’ existential quantifier (*Existential Closure*, **EC**). In Diesing (1992a) and Kratzer (1995), the domain of application of **Gn** and **EC** also corresponds to different parts of the sentential structure (restrictive and nuclear clause).

In the neo-Carlsonian approach kinds do more work: bare plurals in English denote kinds, but may be turned into indefinites providing a free variable by a type-shifting operator which applies whenever the predicate requires an object-level argument. In existential contexts, this type-shifting operation (“*Derived Kind Predication*” in Chierchia 1996) also inserts an existential quantifier. (20b) is interpreted as (20c):⁴

⁴More precisely, in this system count nouns can be directly generated as property-denoting entities, but they need to be turned into kinds by the “down” \cap type-shifter ‘after’ having been pluralized to order get the *e*-type denotation which is required in argument position. This denotation, i.e. \cap lions, is the input for the DKP shift described (see Chierchia,

- (20) a. *Derived Kind Predication* (Chierchia 1996,364)
 If P applies to objects and k denotes a kind, then
 $P(k) = \exists x[\cup k(x) \wedge P(x)]$
 where \cup is a type-shifting operator from kinds to the corresponding properties.
- b. Lions are ruining my garden =
 c. $\exists x[\cup \text{lions}(x) \wedge \text{ruining my garden}(x)]$

In characterizing sentences we again have a type-mismatch between a predicate which doesn't accept kinds (e.g. "bark") and a bare noun which denotes one. This mismatch drives the application of \cup , and ultimately the creation of an indefinite with a free variable, which is bound by the **Gn** operator as seen above:⁵

- (21) a. Dogs bark.
 b. **Gn** $x,s[\cup \text{dogs}(x) \wedge C(x,s)][\text{bark}(x,s)]$

3 Romance definites

The first important fact about Romance definites is that they are used in *all* the cases seen above in (9)-(14): with kind-predicates (22a,b), taxonomic predicates (22c), quantitative properties (22d) and in characterizing sentences (22e). The distribution matches that of the English singular definite generic, in (23).

- (22) a. I cani {si sono evoluti dagli sciacalli / sono apparsi 100000 anni fa / si estingueranno}
 b. Le lampadine sono state {create / inventate / perfezionate/ analizzate} da Edison.
 c. I cani {hanno parecchie razze / si trovano in varie taglie / hanno sottotipi molto diversi}
 d. I cani sono {comuni / rari / abbondanti / diffusi / scarsi } in questa regione.
 e. I cani {abbaiano alla luna / hanno quattro zampe / odiano i gatti}
- (23) The Arctic fox {is on the brink of extinction / is very rare / had several varieties / changes color in summer}

In non-generic contexts, such as (24), the definite determiner in Italian and English seem to behave the same.

- (24) a. I ragazzi sono qui
 The boys are here
 b. here(**Max**(boys))

The meaning of this 'normal' use of the definite article is captured by the maximalization operator **Max** (see Sharvy 1980, Link 1983, Chierchia 1996, and others). **Max** returns the single largest possible element in a set. Assuming that plurals denote the set of all plural individuals that can be formed with the denotation of the corresponding singular count (a set of singular individuals), **Max** will pick out the largest plural individual in this denotation, or will be undefined when no such element is present. In the singular, **Max** will be defined only when it receives a singleton set as input; this captures the fact that a phrase such as *the dog* i.e. **Max**(dog) is defined only in a context in which *dog*

1996:356).

⁵What remains unclear in this system is exactly how the kind is turned into an indefinite-with-free-variable. Clearly, bringing the kind into the domain of properties via \cup won't do, since this would clash with the same requirement for arguments to be of type *e* which drives the application of the properties-to-kinds operator \cap earlier in the derivation. A second operation must close off the property by inserting a free variable, but this operation must not be available to turn a bare singular count like "dog" into a well-formed indefinite, or we would have bare singular count nouns all over.

is a set containing a single individual dog. In this case, **Max** yields that individual, and is equivalent to the ι operator.

To extend this semantics to the Romance kind-cases, various approaches seem in principle possible.

In the spirit of the ambiguity hypothesis, we could assume that Romance definites denote genuine kinds in cases such as (22a)-(22d) and indefinites in characterizing contexts such as (22e). The indefinite meaning makes available a free variable which gets bound by the generic operator, exactly as with English bare nouns. In all other, non-generic contexts, the Romance definite article denotes **Max**, precisely like in English. This approach gives an accurate translation of the ambiguity theory of genericity, at the expense of positing a 3-way interpretation for the Romance definite article.

At the other extreme, we have the possibility that Romance definites never really denote kinds in the sense in which English bare nouns may denote kinds: even in the kind-triggering context (22a)-(22d), Romance definite articles are interpreted as **Max**. For instance, in (22a) *i cani* would not denote a kind, but something similar to what the English phrase *the dogs that may exist* refers to. This proposal eliminates the ambiguity of *the*, but additional assumptions are needed to explain why English cannot use the definite to get the same generic meanings.

A intermediate possibility—let’s call it the 2-way distinction approach—is that Italian definite noun phrases have two distinct interpretive possibilities, an object-level one which we see in (24) and a kind-level one, in (22a)-(22d). Definites in characterizing sentences must be derived from one of these two possibilities.

In what follows, I will review features and problems of the first two approaches, and conclude that the third possibility is in fact the best option.

3.1 Indefinite definites

The 3-way approach holds that definites in characterizing sentences can provide a free variable in search of a binder. In English this element can be bound by Existential Closure, so—all other things being equal—we should expect this to happen in Italian as well. However, Italian definites with predicates like those in (25) and (26) cannot take an indefinite, purely existential reading, where the uniqueness and familiarity conditions are canceled.

- (25) a. [I cani] sono amichevoli/intelligenti.
the dogs are friendly/intelligent.
≠ “some dogs are friendly/intelligent”
- b. [Gli elefanti] sono facili da addestrare.
the elephants are easy to train
≠ “some elephants are easy to train”
- (26) a. [I cani] stanno abbaiano nel mio giardino
the dogs are barking in my garden
≠ “some dogs are barking in my garden”
- b. Si sedette al tavolo verde e prese [le carte]
He sat at (the) table green and he took the cards
≠ “He sat down at the green table and took some cards”
- c. [Gli edifici] crolleranno a Berlino domani
the buildings will fall in Berlin tomorrow
≠ “Some buildings will fall in Berlin tomorrow”

(25) is unsurprising, since English bare nouns cannot take an existential reading with these individual-level predicates. But the predicates in (26) do allow, and in fact force, an existential reading for bare nouns (e.g. “buildings will fall in Berlin tomorrow” is about *some* buildings), yet no pure existential

reading arises with Romance definites. The lack of this reading is a potential problem for the 3-way approach.

But is this reading unavailable in general? Looking more carefully, we do find many other cases which force us to conclude that, in Italian, some definites can after all have a purely indefinite meaning. Consider:

- (27) Ogni settimana, il mio sito web viene attaccato da[gli hacker].
every week, my web site is attacked by[the hackers]
- (28) La casa è sporchissima. In cantina ci sono [i topi] e sotto il lavello
the house is filthy. In the basement there are [the mice] and under the sink
vivono [gli scarafaggi].
live [the cockroaches]
- (29) Che fai per mestiere? Fotografo [gli uccelli]
What do you do for a living? I photograph [the birds]
- (30) Con questi disturbi ho dovuto smettere di bere [il caffè]. [Il tè] invece mi facilita
with this condition I had_to stop to drink [the coffee]. [the tea] instead helps
la digestione.
my digestion.
- (31) Gianni è così pallido che sembra abbia visto [i fantasmi].
Gianni is so pale that it_seems he_has seen [the ghosts]
- (32) Nel 1986 [i ladri] hanno svuotato il mio appartamento.
In 1986 [the thieves] have emptied my apartment.

Various things must be said about these examples. First, they are all ambiguous. *Gli hacker* in (27) can mean either “a specific group of hackers” (the ‘normal’ definite meaning) or “some random members of the hacker community” (most likely not always the same in different weeks). The normal definite meaning requires a context in which this unique group can be picked out, the other meaning doesn’t. Where a context is harder to construct, the normal definite meaning vanishes. For instance, *i topi* “the mice” and *gli scarafaggi* “the cockroaches” in (28) don’t naturally refer to specific groups of these animals, but just to *some number* of mice and cockroaches. In (30), I am not necessarily referring to my usual morning coffee or tea: the sentence can very well be said by a sporadic drinker with no coffee or tea in contextual sight. The only reading of (31) and (32) out of context is one where, again, some random, ill-defined or unidentifiable ghosts/thieves are talked about.

The second point is that, if we accept the idea that characterizing sentences are quantificational, and that predicates like *bark at the moon* are necessarily true of ordinary objects and not of kinds, then by the same token we must accept that predicates like *be photographed*, *empty an apartment*, *attack my web-site* and so on require ordinary objects. This entails that the Italian definites in the examples above must refer to the ordinary objects, not to the kind, the species, which would not match the predicate’s requirements.

Third, the distribution of these ‘indefinite definites’ is quite diverse. We have objects (29), (30), (31), post-verbal subjects (28), subjects of passives (27), preverbal subjects (32). We find them in stative sentences (28), sentences with overt quantification over times (27), characterizing sentences like *Fotografo gli uccelli* in (29) and *bere il caffè* in (30), pure episodic sentences (32).

Fourth, English must use bare nouns, *not* definites, to get the indefinite readings just described:

- (33) a. Every week, my web site is attacked by (??the) hackers
b. The house is filthy. In the basement there are (??the) mice and (??the) cockroaches live under the sink.

- c. What do you do for a living? I photograph (??the) birds.
- d. With this condition I had to stop drinking (??the) coffee. (??The) Tea on the other hand helps my digestion.
- e. John is so pale that it seems he has seen (??the) ghosts
- f. In 1986 (??the) thieves emptied my apartment.

This is an important point, because it rules out the possibility that the ‘indefinite’ reading of (27)-(32) is actually a definite description plus the mechanism of *bridging*. ‘Bridging’ allows a definite description to pick out an object which has only indirectly been introduced into the discourse by mention of some entity associated with it. For instance, in (34b,c) *the door/the windows* are understood as parts of the house mentioned in (34a). Since house do not prototypically contain mice (34d) is not a felicitous bridging.

- (34)
- a. I looked at the house.
 - b. ... The door was red.
 - c. ... The windows were red.
 - d. ... #The mice were quite big.

Suppose we try to say that the indefinite reading of definites is actually a plain definite description, which gets its restrictions via bridging. For instance, in (28) we are actually referring to those mice which are sometimes/generally found in filthy houses. Since English cannot use a definite in the same context, we must conclude that Italian can somehow bridge further than English. This is a strange conclusion—bridging is a canonical interface mechanism, based on what we know about the world: no cross-linguistic variation should be expected in this domain. Moreover, bridging is not restricted to definites. Universal quantifiers can use the same mechanism. Consider:

- (35)
- a. I looked at the house.
 - b. ... Every window was lit.
... Ogni finestra era illuminata
meaning: “every window *of the house* was lit”
 - c. ... ??Every mouse was quite big.
... ??Ogni topo era assai grosso.

Here there is no variation between English and Italian. Thus, we would have to conclude that Italian is able to bridge more than English, but *only* in the specific case of definite determiners. In addition, in most cases seen so far it was not at all clear which object could be the source for the bridging. To say that (27) means “Every week my web site is attacked by the hackers *which attack my web site*” is simply absurd: if it were possible in Italian to import the content of the predication in the restriction of a definite we would predict that in this language definite descriptions should always be felicitous. In a normal context where floors have more than one tile but no particular tile is salient (36a) should be appropriate, with the interpretation of (36b).

- (36)
- a. #Ho guardato il pavimento ed ho visto la mattonella.
I looked_at the floor and I saw the tile.
 - b. I looked at the floor and I saw the tile that I saw.

Finally, an account based on bridging would leave as a mystery why indefinite readings are only possible in some sentences and in some syntactic positions (see (26) and section 5).

A last argument for the indefinite reading of definites comes from the Definiteness Restriction in existential contexts. A known puzzle is the fact that Italian seems to be immune from this effect:

- (37)
- a. C’è {Gianni / il mio cane} in giardino.

- b. *There is {John / my dog} is the garden.

Zucchi (1995) and Zamparelli (1995) argue that the apparent lack of DR is due to a possible locative interpretation for Italian *Ci*-sentences: (37a) does not assert existence, but simply that Gianni is in the garden. Temporal cases where the nominal is a specific, non-eventive definite are indeed worse (38a). But (38b), where *i senatori* can be a kind, is perfect with an existential meaning: *In Romulus' times, senators already existed*. Thus, the existence of indefinite definites helps resolving this cross-linguistic difference.

- (38) a. ??*Nell' età di Romolo c' erano già [i 100 senatori di Roma].*
 In_the age of Romulus there were already [the 100 senators of Rome]
 b. *Nell' età di Romolo c' erano già [i senatori].*
 In_the age of Romulus there were already [the senators]

I will return to the indefinite reading of definites in section 4.3. Here, it is sufficient to note that the 3-way ambiguity hypothesis gains some credibility from the existence of such cases: all the readings we expect in principle, including the purely existential one, are actually found. On the other hand, the cases in (26) are not amenable to an indefinite interpretation, so the 3-way proposal still owes an account of when a definite may be interpreted as an indefinite.

4 The Neo-Carlsonian View

Chierchia's (1998) main argument against the ambiguity theory of English bare nouns goes as follows. In the ambiguity hypothesis, the kind meaning of a bare noun is completely independent from its existential meaning. Therefore, it should be possible to block one without blocking the other. In particular, kinds have an intrinsic *intensional* component which is optional in a plain indefinite: the kind *dog^k* (an entity) bears an intuitive relation with the intension of the property *dog*, the set of dogs in all possible worlds. This intensional dimension can be blocked by inserting a rigid designator (a proper name or a deictic element) in the restriction of the bare noun. This, *people*, *ship parts* and *rabbits* can be kinds, but *people next to me*, *parts of the "Titanic"* or *rabbits that just bit you* cannot (39) (see Carlson 1977:316).

- (39) a. *[People next to me] are {common / numerous / indigenous to Asia / widespread}
 b. *[Rabbits that just bit you] {come in two varieties / are almost extinct}
 c. ??Edison invented [parts of the "Titanic"]

As is well known, existentially interpreted bare nouns are unusual indefinites in that, in Italian as in English, they always take narrow scope with respect to intensional operators (40a), negation (40b), temporal adverbial (40c) and pronoun reference (40d).

- (40) a. Gianni stà cercando [parti di nave] (Opacity)
 John is looking for [ship parts]
 (cannot mean: "there are ship parts such that John is looking for them")
 b. Gianni non ha visto [parti di nave] (Negation)
 John didn't see [ship parts]
 (cannot mean: "there are ship parts such that John didn't see them")
 c. Gianni ha ucciso persone {ripetutamente / per tutta la vita} (Differentiated scope)
 John killed people {repeatedly / throughout all his life}
 (no 'resurrection' reading)
 d. Gianni cerca parti di nave, e anche Paolo le cerca (Pronoun reference)
 John is looking for ship parts, and Paul is looking for them, too.

(not necessarily the same parts)

Chierchia points out that when bare nouns have a ‘rigid’ modifier which blocks their kind reading, as in (39), their existential interpretation loses this ‘narrowest-scope’ requirement. The bracketed bare nominals in (41), adapted from Chierchia 1998:373, can (in some cases *must*) have wide scope.

- (41) a. John is looking for [parts of the “Titanic”] OK some specific parts
b. Jack didn’t see [parts of the “Titanic”] Parts > Neg OK
c. John killed [people sitting here] {repeatedly / throughout all his life}. only
‘resurrection reading’
d. John is looking for [parts of the “Titanic”], and Paul is looking for them, too. ‘same parts’ reading OK

This would be expected if the existential reading with narrowest scope was derived from the kind meaning via the DKP operation: once the kind reading is blocked by the presence of *this* and *Titanic*, a necessary step in the derivation of this reading is missing. If the ambiguity hypothesis was correct—Chierchia argues—the connection between the impossibility of the kind meaning and the scope differences between (41) and (40) would be utterly mysterious.

Note, in passing, that Chierchia’s reasoning does not lead to the conclusion that bare nouns cannot be indefinites. Quite the opposite: the non-kind-denoting bare nouns in (41) do get a well-formed reading, and a clearly existential one. As Carlson notes, these bare nouns have a limited distribution, which resembles that of overt indefinites: they cannot go with individual-level predicates, and they cannot be easily coordinated with bare nouns that may refer to kinds (cf. (42),(43) a vs. b). Some method to derive this existential reading must thus be assumed.

- (42) a. *[Dogs in the next cage] are intelligent/mammals/tall. Carlson (1977)
b. ??[a dog] is intelligent/a mammal/tall.
(43) a. ??[people who mend shoes] and [people who are in the next room] get along pretty well.
b. [elephants and {??a turtle / turtles}] live a long life.

Chierchia strengthens his theory by proposing that *all* existential meanings having obligatory narrow scope are derived from kinds. In Italian, bare nouns are typically interpreted existentially, and have the same scopal properties as English ones (see (40)). It follows that even in Italian bare nouns must be capable of denoting kinds. Yet, as we have seen, Romance languages do not standardly use bare nouns for this purpose, but definites. Chierchia (1998) and Dayal (2000) address this issue, giving similar answers. Their idea is that Romance generic uses of the plural definite articles are simply modalized versions of the ‘normal’ definite meaning, **Max** (ι , in Chierchia’s formulation). Characterizing sentences are interpreted as in (44b), with a gnomic operator **Gn** ranging over specific dog instances in each possible world. Kind-level predicates like *be extinct* directly apply to this intensional meaning (45).

- (44) a. I cani abbaiano Chierchia (1998:392)
the dogs bark
‘dogs bark’
b. **Gn** $x,s [x \leq \iota \text{ dogs} \wedge C(x,s)][\text{barks}(x,s)]$
(45) a. I cani si sono evoluti dagli sciacalli.
the dogs have evolved from_the jackals
b. evolved-from-jackals($\wedge \iota$ dogs)

Two questions arise. One is why English cannot use the definite for the same purpose; the second is why Italian does not use bare nouns for the generic meaning. Dayal’s answer to the first question

hinges on a difference in the semantics of the definite article: English definites, unlike Italian ones, would not be intensional in the necessary sense (see Dayal 2000 sec. 2.1). Chierchia’s proposal relies instead on the economy principle “Avoid Structure”

- (46) *Avoid Structure* Chierchia (1998)
Apply SHIFT at the earliest possible level.

where SHIFT is a type-shifting operation which produces, when necessary, a suitable denotation for an argument position. The idea is that in Italian noun phrases are full DPs with an empty D head, whereas in English they can be simple kind-denoting bare NPs (see footnote 4). Thus, even though English has two potential structures to generate kinds the simpler NP structure bleeds the more complex DP structure available in Italian.⁶

Turning to why Italian uses generic definites instead of generic bare nouns, Chierchia’s proposal is that Italian bare nouns, unlike English ones, always contain an empty D head, with special licensing requirements. The net effect of these requirements is to restrict the distribution of unmodified Italian bare nouns to those positions which are lexically licensed at LF. I’ll return to this issue momentarily.

4.1 Scope and bare nouns in Italian

This sketchy summary hardly does justice to the cross-linguistic investigation attempted by Chierchia and Dayal, but it is hopefully sufficient to bring up the main points for discussion. I will start with the problem of bare noun meanings, then examine the issue of definite kinds in light of the existential readings discussed in section 4.

As we have seen, Chierchia’s thesis that narrow-scope existentials are always derived from kinds requires bare nouns to be acceptable *as kind denoting entities* also in Italian, *contra* Casalegno (1987) and Longobardi (1994). There is some disagreement over the data on this point, but it is a fact that there are Italian speakers (the author included) who accept all the narrow-scope facts given in (40), but reject the kind interpretation of bare nouns with kind-level and taxonomic predicates. For these speakers, the only (marginal) reading of the bracketed noun phrases in (47) is an existential one over either ordinary objects (e.g. God created some zebra specimens) or subkinds (*types of* birds evolved from *types of* reptiles). Picking a well-modified bare plural which is also a good natural kind doesn’t help ((48a) vs. (48b,c); recall that Italian bare nouns must be modified in order to appear in subject position).

- (47) a. ?[Uccelli diffusi sul pianeta] si sono evoluti da [rettili].
[birds widespread on_the planet] evolved from [reptiles]
- b. [Fisici nucleari] studiano [atomi]
[Physicists nuclear] study [atoms]
- c. Pasteur scoprì [antibiotici].
Pasteur discovered [antibiotics]
- d. A mezzogiorno preciso del sesto giorno, Dio creò [zebre].
At 12 o’clock sharp of_the Sixth Day, God created [zebras]
- (48) a. [Tigri dai denti a sciabola] passeggiavano per le foreste primordiali. (Ex)
[tigers with saber-teeth] strolled in the primordial forests
- b. *[Tigri dai denti a sciabola] sono estinte.
[tigers with saber-teeth] are extinct
- c. *[Tigri dai denti a sciabola] avevano due sottospecie.
[tigers with saber-teeth] had two subspecies

⁶Avoid Structure should of course be implemented with some care, or we end up with the prediction that *dogs* should bleed *this kind of mammal* in any context where the latter means “dogs”.

(Chierchia 1998) most convincing case for a kind reading of Italian bare nouns comes from quantitative predicates:

- (49) a. Qui, ragazze in minigonna sono rare/comuni/frequenti.
 here, girls in miniskirt are rare/common/frequent
 b. Dopo il disastro nucleare, purtroppo, cani con difetti congeniti sono molto
 after the nuclear disaster, unfortunately, dogs with birth defects are very
 numerosi
 common

However, the use of quantitative properties as a test for kindhood has come under attack (see in particular Krifka et al. 1995, sec. 1.4.1 and Longobardi 1999). Recall that this test was linked to the impossibility of combining these predicates with overt determiners:

- (13) a. *{All / most / those / the} dogs are {common / rare / abundant / widespread / scarce }.
 b. *{Twenty / many / some / one} dog(s) is/are {common / rare / abundant / widespread / scarce }.

But these properties express *ratios* between a number and a unit. To say that an object is “common” means that, searching within a certain spatio-temporal area, one would find an above-average number of them. Quantified noun phrases like those in ((13)a) do not provide a number at all, and those in ((13)b) express the number of objects but not the spatio-temporal search area. Longobardi (1999) shows that providing an explicit or implicit search area all the indefinite determiners become more or less acceptable. Yet, it seems highly unlikely that *3 twin dogs with birth defects* may be a kind.

- (50) a. Delle ragazze in minigonna sono rare, *in questo paese*. (Longobardi 1999)
 some girls in miniskirt are rare, in this town
*contrast: *“Some girls in miniskirt are rare in this town”*
 b. Dopo il disastro nucleare, tre cani *gemelli* con difetti congeniti sono diffusi
 after the nuclear disaster, three dogs twin with birth defects are widespread
 “After the nuclear disaster, three twin dogs with birth defects are widespread”
 c. Due lezioni corrotte *sulla stessa riga* diventano più frequenti man mano che ci
 Two variants corrupted on the same line become more frequent as that we
 allontaniamo dall’ archetipo.
 move away from the original source
 “Two corrupted variants on the same line become more frequent as we move away from
 the original source”

This argument does not of course exclude the possibility that true kind-denoting elements may be acceptable with these predicates, but a test for kindhood which only rests on this class of predicates remains inconclusive. Moreover, suppose for the sake of the argument that quantitative properties did require kinds: in this case, the contrast between (a) and (b) in (51) and (52) would be a total mystery.

- (51) a. ??Valigie con il bordo giallo hanno due sottotipi.
 Suitcases with the edge yellow have two subtypes
 b. Valigie con il bordo giallo {sono insolite / comuni negli aeroporti}
 Suitcases with the edge yellow {are unusual / common in airports}
- (52) a. *[Lupi con il pelo argentato] diventano sempre più grandi man mano che
 [wolves with the silver fur] become bigger and bigger as
 si va a Nord.
 one moves North

- b. [Lupi con il pelo argentato] sono rari.
[wolves with the silver fur] are rare

If quantitative properties could accept other semantic types different from kinds (properties, frequencies or whatever other abstract entity is made available by our ontology), we could at least have some leverage to account for the difference above.

In the rest of this paper I will adopt the view that Romance bare nouns never denote kinds (excluding again the ‘taxonomic subkind’ denotation). It follows that the narrow-scope properties of (Romance) existentials cannot be derived from the kind meaning. The correlation between the impossibility of the kind reading and the availability of wide scope must be due to some other property. Let’s test the idea that the relevant property is, informally, ‘lack of referentiality’. It is easy to find examples of structurally different noun phrases which are intuitively non referential, and show a scope pattern remarkably similar to that of bare nouns. Consider:

- (53) a. John, the professional apple-picker, is trying to pick [three apples at a time] *3 > TRY
b. John can pick [three apples at a time] for the the whole day. *Differentiated scope*
c. John didn’t pick [three apples at a time] *3 > NEG
d. *John can pick [three apples at a time]_i and Marc can pick them_i, too.

It is very unlikely that the expression *three apples at a time* may be derived from a kind—no genuine kind-level predicate can accompany it. Yet, this expression displays the same narrow-scope tendencies we found with bare nouns in (40); it plainly makes no sense to ask which three apples at a time John is trying to pick, or is not picking.

Suppose that the possibility of a referential interpretation is linked to the presence of some lexical element in D at LF. In (54a), the indefinite determiner could serve this function (perhaps by moving to D from a more internal position, cf. Zamparelli 1995). In (54b), however, there is no functional element whatsoever to be moved to D, hence no ‘wide scope’ is available. Rigid modifiers restore this possibility. The same happens in fact with overt indefinites: (54a) has a narrow scope option, but (55a), with a rigid modifier, has necessarily wide-scope, not unlike (55b)

- (54) a. John is looking for a piece of paper.
b. John is looking for pieces of paper.
(55) a. John is looking for a piece of paper that Mary gave him yesterday.
b. John is looking for pieces of paper that Mary gave him yesterday.

Descriptively, an object shared between two sentences (the main clause and the relative) gets the wider of the scopes it gets in each of the sentences: since *a piece of paper* is above all operators in the relative it must be above all operators in the main clause. In a movement analysis of scope-taking elements, this can perhaps be cast as a syntactic requirement: the rigid element inside the relative must take wide scope with respect to the main clause, but the only way to do that is to pied-pipe the relative clause and its nominal head out of all other sentential operators. Alternative accounts are possible but I will not discuss them here.⁷

⁷Here I am assuming that PP modifiers like *in the next room* pattern with full relatives. The fact that the bare noun or indefinite takes the widest scope explains the observation in Carlson (1977) that bare nouns with rigid modifiers cannot be bound by adverbials of quantification. Moving along with their clause these bare nouns end up outside the domain of the adverbial operator in the main clause.

- a. *[People in the next room] {are often tall / are nice when they are born in the spring} (Carlson 1977:317)

(56) [John]_i [a piece of paper that Mary gave him yesterday]_j [*t*_i is looking for *t*_j]

To sum up, we do not need to assume the narrow-scope indefinite reading of bare nouns is always derived from kind readings via the DKP or similar operations. In Romance, where there is no strong evidence that bare nouns may denote kinds, narrow scope existential bare plurals can be generated by the same mechanism which generates other indefinites, their scope properties limited by the lack of overt material in D.

This state of affairs has some advantages over other analyses. One open question in the neo-Carlsonian approach is why the mechanism which assigns existential reading to non-kind-denoting bare nouns such as *parts of the “Titanic”* cannot apply to *ship parts* as well. If it could, *ship parts* should be able to receive wide scope. A possible answer, in the spirit of Chierchia’s approach, is that the DKP blocks the other mechanism; yet, this is made less likely by the fact that the DKP itself is assumed to be a last-resort strategy triggered by a type mismatch. Moreover, it has been argued, e.g. by Fox (1995), that economy considerations should take semantics into account: derivations leading to different interpretations cannot be matched by economy. In our case, when we try to construct a derivation for the wide-scope reading of *ship parts* we find that only the normal scope system for indefinites can give us this meaning. Why should we then evaluate its economy against the DKP? The DKP just doesn’t give us that output.

In the alternative I have sketched above these issues simply do not arise: the standard mechanism to give wide scope to an indefinite requires the presence of some element in D. Lacking that, the narrow-scope reading is forced.⁸

The question that remains is: do we still need the DKP in English? The indefinite interpretation of bare nouns should also be available in English. If the DKP exists in this language, English would have two ways to get an existential reading out of bare plurals, which seems uneconomical. In the next section, I will argue that there are in fact reasons to keep the DKP in the system.

4.2 Italian definites revisited

The neo-Carlsonian theories considered so far (Carlson 1997 does not discuss these cases) approach Romance definites as intensional versions of normal definite noun phrases. One problem with this view is that of course ‘being intensional’ is a much broader notion than ‘being a kind’. As Chierchia (1998:350) puts it, “not all individual concepts are going to be kinds. Only those that identify classes of objects with a sufficiently regular function and/or behavior will qualify”. For instance, inserting a numeral between the determiner and its restriction blocks the kind-reading.

(57) Nell’ antica Roma, [i (*cento) senatori] sono apparsi con Romolo.
in_the ancient Rome, [the (100) senators] have appeared with Romulus
(cf. “In Ancient Rome, (*100) senators appeared with Romulus”)

Dayal’s (2000) explanation for this effect seems very plausible: even if senators happened to be 100 in Romulus’ times, this is not a necessity: limiting the number to be 100 in all possible worlds is an arbitrary choice, which makes it impossible for this noun phrase to be associated with the senator-kind (senator^k).⁹ At the same time, in English as in Italian, the presence of a numeral does *not* block an intensional reading. Thus (58a) has a *de dicto* reading (meaning: the *identity* of the people who serve as senators changes) which makes the entailment from (a) and (b) to (c) invalid. (59) has a reading

⁸It seems to me that this account can be extended to theories which see narrow-scope indefinites as bare properties (e.g. (van Greenhoven 1996), (Dobrovie-Sorin and Laca 1997)). One way would be to say that an empty D (and the lack of additional restrictive material) *forces* the nominal to be interpreted as a bare property. In other cases, this interpretation is optional.

⁹On the other hand, there could be cases where the numeral is a non-arbitrary addition to the kind—a necessary part of its meaning. For instance, it seems to me that the bracketed noun phrase in (a) qualifies as a kind. Note that English has to use the definite here.

where *the 4 firemen on night duty* collectively picks whoever was on duty in each call-situation last year.

- (58) a. [I cento senatori] cambiavano ad ogni elezione.
[the 100 senators] changed with every election.
b. Marcus and Brutus are senators.
c. Marcus and Brutus changed with every election.
- (59) Last year [the (4) firemen on night duty] received 300 calls.

Since the examples above are identical in Italian and English, it is not clear in which sense the English *the* could be any less intensional than Italian *i/gli/le*, or how the choice of determiners influences the intensionality of the noun phrase. Using *every* rather than *the*, intensional readings are still possible (60a), but kind-level predicates are disallowed (60b):

- (60) a. [Ogni senatore] cambiava ad ogni elezione.
[Every senator] changed with every election.
b. *[Ogni senatore] è apparso con Romolo.
[Every senator] has appeared with Romulus

Evidently, not all intensional noun phrases can be fed to kind-level predicates, only those that qualify as kinds—those that reflect a sufficiently regular categorization. But now, by Occam’s razor, it seems pointless to posit an ontological difference between genuine kinds (the entities denoted by English bare nouns) and individual concepts which have the same restrictions as kinds, can always be turned into kinds by an operator available in the language (i.e. \uparrow), but are not kinds. Unifying them under the banner of intensions is subject to the criticism raised in Carlson (1977), sec. 4.0. I will go the other route and assume that English and Italian generic definites denote entities called kinds.

This move poses no problems with respect to any version of the blocking principle, given our previous conclusion that Romance bare plurals do not denote kinds: there is only one way to build kinds in Romance, and it is via the definite article.¹⁰ On the other hand, in English, where genuine kind-denoting bare nouns are possible, the definite strategy could be blocked if some version of Avoid Structure can be brought to bear on these cases. I will not try to formulate this principle here, and I will leave open for the time being the question of how exactly Romance definites acquire their kind-denotation (see Zamparelli (prep) for elaborations).

One remaining question for an account of these differences based on blocking is why there is no conflict in English between the bare plural kind-formation and the singular definite generic, or indeed between plural and singular definite kinds in Romance. The answer found in various forms in the literature is that singular and plural kind-denoting noun phrases are not equivalent (see Kleiber 1990, Krifka et al. 1995, Chierchia 1998 and Dayal 2000). Chierchia’s proposal is that the singular definite generic in (61) in English and Italian is the result of turning the property *tiger* into a mass and then creating a group out of it.

- (61) The tiger is widespread = THE(MASS(tiger)) = g(ι MASS(tiger))
a. [Gli otto pedoni] furono introdotti nel gioco degli scacchi dai Persiani.
[the eight pawns] were introduced in the game of chess by the Persians.

¹⁰Note that if Romance bare nouns could be kinds, a conflict should arise between the kind denotation of the bare noun (say *ragazze con la minigonna*) and that of the plural definite (*le ragazze con la minigonna*).

The choice of groups (ontologically different from pluralities) is based on the observation, attributed to Kleiber (1990), that the singular definite generic has a ‘mass noun behavior’, judging from contrasts such as:

- (62) a. *The tiger is {three / many / numerous / helpful toward each other}
 b. Tigers are {three / many / numerous / helpful toward each other}

One could wonder, however, if this effect isn’t due to other factors. The unacceptability of predicates like *three*, *many* or *helpful toward each other* simply follows from the fact that *the tiger* is syntactically singular (witness **the group is three/many/helpful toward each other*). This does not extend to *numerous*, given the perfect acceptability of (63), but note that *numerous* is also deviant when applied to the kind-construction (64).

- (63) The group was numerous.
 (64) ??This kind of animals is numerous (in this region)

Assuming that *this kind of animal* does denote a genuine kind of animal, it is not clear that the unacceptability of *numerous* is due to a mass/count contrast.

Zamparelli (1998,prep) and Dayal (2000) propose a different analysis of the definite singular generic. The idea is that nouns can denote either sets of individuals or sets of kinds. The latter is required for the subkind/taxonomic reading of (65), where the numeral ranges over *types* of marsupials.

- (65) Two marsupials lay eggs and milk their youngs.

Given that this type of denotation is independently necessary, one can simply assume that the definite article which appears in the definite generics is the normal definite article applied to the kind meaning, returning the largest possible subkind, i.e. the kind itself.¹¹ Once this entity (uppercase “KIND”, in Dayal’s notation) is distinguished from the denotation of a bare plural in English and of a definite generic plural in Italian (lowercase “kind”), no blocking effect is expected.

4.3 Indefinite definite revisited

With this discussion in mind, let’s go back to the indefinite definites considered in section 3.1 and specifically to the problem of how the indefinite reading is derived. The crucial hint is that if we change the examples slightly, the indefinite reading becomes impossible:

- (66) Ogni settimana, il mio sito web viene attaccato da...
 every week, my web site is attacked by ...
 a. [gli ignoti furfanti]
 [the unknown rascals]
 b. [gli autori del recente attacco alla Microsoft]
 [the authors of_the recent Microsoft attack]
 c. [i quattro hacker]
 [the four hackers]
 d. [i tuoi amici]
 [the your friends]
- (67) Gianni è così pallido che sembra abbia visto...
 Gianni is so pale that it_seems he_has seen...

¹¹See Zamparelli (1998) and (prep) for details. Dayal’s account of how the singular definite picks the right kind is slightly different.

- a. [i paurosi fantasmi]
[the frightful ghosts]
 - b. [i fantasmi della mia casa]
[the ghosts of_the my house]
 - c. [i numerosi fantasmi]
[the numerous ghosts]
- (68) Nel 1986 [gli abili ladri / i tuoi sostenitori / i quattro ladri] hanno svuotato
In 1986 [the skilled thieves / the your supporters / the 4 thieves] have emptied
il mio appartamento.
my apartment.

The new noun phrases have been built by adding a non-restrictive modifier¹² (66)a, (67)a, (68), a rigid complement or modifier (66)b, (67)b, (68), a numeral (66)c, (67)c and (68) or a personal pronoun (68). With these additions, the definites above must refer to some contextually unique group of hackers/thieves/ghosts, etc.: the indefinite reading available before is now completely out. Note, crucially, that the modifiers themselves have no problem appearing with indefinites: the same sentences without the definite article have a perfect existential meaning, parallel to their English glosses.

- (69) Ogni settimana, il mio sito web viene attaccato da...
every week, my web site is attacked by ...
- a. [ignoti furfanti]
[unknown rascals]
 - b. [autori del recente attacco alla Microsoft]
[authors of_the recent Microsoft attack]
 - c. [quattro hacker]
[four hackers]
 - d. [tuoi amici]
[your friends]
- (70) Gianni è così pallido che sembra abbia visto...
Gianni is so pale that it_seems he_has seen...
- a. [paurosi fantasmi]
[frightful ghosts]
 - b. [fantasmi della mia casa]
[ghosts of_the my house]
 - c. [numerosi fantasmi]
[numerous ghosts]

¹²In Italian, pre-nominal modifiers are generally non-restrictive. This can mean two things. The modifier of a nominal can be non-restrictive when it denotes a property possessed by all the elements denoted by the nominal in any context; or when all the elements that the nominal alone would pick out in a given context are such that the modifier would apply to them. To illustrate, *enormi* in (a) is non-restrictive in the first sense, since all blue whales are huge. In (b), on the other hand *gli individui* “the individuals” picks out a unique group of people in context, of which it is said that they are all mysterious. Generic noun phrases may contain pre-nominal adjectives which are non-restrictive in the first sense (see e.g. (a)), but not in the second.

- a. Le enormi balene azzurre sono in pericolo di estinzione.
the huge blue whales are in danger of extinction
- b. I misteriosi individui mi dissero di seguirli.
the mysterious individuals told me to follow_them

- (71) Nel 1986 [abili ladri / tuoi sostenitori / quattro ladri] hanno svuotato il mio appartamento.
In 1986 [skilled thieves / your supporters / 4 thieves] have emptied my apartment.

This clearly shows that the indefinite reading of Italian definites is not obtained by simply disregarding the definite article and interpreting the bare nouns (or numeral+noun) which results, or (66)-(68) would be synonymous with (69)-(71). The only difference between the definites in (66)-(68) and those in (27)-(32) is that the modifiers I have added block the possibility of reading these phrases as kinds, as shown by a sample in (72). The conclusion is (73).

- (72) a. ??[Gli autori del recente attacco alla Microsoft] {sono diffusi / sono apparsi
[the authors of the recent Microsoft attack] {are widespread / have appeared
col primo computer}
with the first computer}
b. *[I 3000 orsi] {apparvero 100000 anni fa / si sono evoluti in Africa / si trovano
[the 30000 bears] {appeared 100000 years ago / have evolved in Africa / come
in vari colori}
in various colors }
c. *[Gli ignoti furfanti] {sono diffusi / sono apparsi tanto tempo fa}
[the unknown rascals] {are widespread / have appeared long time ago}
d. *[I paurosi fantasmi] {hanno vari sottotipi / si trovano in vari colori}
[the fearful ghosts] {have various subtypes / come in various colors}

(73) **Generalization**

A definite noun phrase in Italian may have an indefinite meaning only when (in some context) it can have a kind-level meaning.

Following exactly the argument that Chierchia uses against the ambiguity theory of bare nouns, we now have a strong case against the 3-way proposal for Italian. In the 3-way proposal there is no connection between the kind-reading of Italian definites and their existential reading. The latter comes from the ability of Romance definites to provide a free variable for Existential Closure or equivalent mechanism. Blocking the kind reading should not affect the existential one. But as we have seen this is not what happens. The conclusion is that the existential reading is *derived* from the kind reading, and that the neo-Carlsonian view which links the two is after all correct. In the case of bare nouns the argument rested solely on the scopal properties of the existential reading (which had alternative explanations), but Italian definites provide in fact a better test for the DKP strategy, since here no alternative is available to assign an existential reading where familiarity and uniqueness are suspended. However, the familiar narrow-scope facts still apply: in (74) the most natural reading is one where one does not see the same mice/wolves, and (75) has a reading where the speaker does not endorse the existence of UFOs or aliens.

- (74) a. Nelle cantine americane ci vedi spesso [i topi], ed in quelle scozzesi pure.
in the basements American there you often see [the mice], and in those Scottish, too.
“In American basements one often sees mice, and in Scottish ones, too”
b. Carlo vide per la prima volta [i lupi] quando era in Canada, mentre Marco
Carlo saw for the first time [the wolves], when he was in Canada, while Marco
li ha visti per la prima volta allo zoo.
saw them for the first time at the zoo.
- (75) a. Gianni è ammattito! Stà cercando di fotografare [gli UFO]
Gianni has gone mad! He is trying to photograph [the UFOs]

- b. Pensa che Carlo stà cercando di contattare [gli extraterrestri].
Guess what! Carlo is trying to contact [the aliens]

Once again it is sufficient to insert a non-restrictive prenominal adjective (*I grossi topi* “the big mice”) or a numeral (*I quattro UFO* “the 4 UFOs”) to fall back onto the normal definite interpretation.

4.4 Existential readings with singular definites

One alternative possibility to consider is that the existential reading of these cases might not be derived by the DKP, which is a simple existential over instantiations, but by a different operator, possibly the same which gives the existential reading to generic singular definites in:

- (76) a. [L’ auto “Megane”] è finalmente arrivata dal concessionario X
the “Megane” car has finally arrived to dealer X
b. Nei magazzini IKEA ho provato [il letto “Plipo”]
In the IKEA warehouse I have tested the “Plipo” bed
c. In queste foreste ci vivono [l’ alce] e [la lontra]
in these forests live the moose and the otter
d. A Yellowstone sono riuscito a fotografare [l’ orso bruno]
In Yellowstone I managed to photograph the brown bear.
e. [Il topo] arrivò in Australia con le prime navi
the mouse came to Australia with the first ships.

These noun phrases have one thing in common with the plural definites above: they all seem to refer to individuals as ‘nameless representatives’ of their kind. Plural definites can in fact be substituted for the singular in (76), with roughly the same meaning. However, if we try to cast singular definites in the place of indefinite plural definites the generic meaning is sometimes lost: the examples in (77) seem to be about a specific mouse/cockroach.

- (77) a. [il topo] ha rovinato la mia viola da gamba.
the mouse has ruined my viola.
b. Sotto il mio lavello vive [lo scarafaggio]
Under my sink lives [the cockroach].

The impression is that singular definite generics aren’t just used to report the action of a representative: what happens to that representative must in some sense affect the kind itself. Living under my sink or eating up my viola are not memorable events in this respect, reaching Australia is, hence the difference between (76) and (77). Plural definite generics do not have this restrictions.

The additional puzzle is that, as well known, singular definite generics can only be made with very specific properties (e.g. *the “Plipo” bed* but not *the bed*), while plural definite generics have no such limitations. This makes it difficult to tell whether the clear lack of a generic reading for the singular definite in e.g. (78) is due to the fact that *il fantasma* “ghost” and *l’ hacker* are not sufficiently well-specified kinds, or to some other reason.

- (78) a. Il mio sito web viene sempre attaccato dal[l’ hacker] cf. (27)
My web site is always attached by_[the hacker]
b. Gianni è così pallido che sembra abbia visto [il fantasma]. cf. (31)
Gianni is so pale that it_seems he_has seen [the ghost]

It is not clear to me whether these facts mean that we cannot use the same mechanism to extract instances from singular and plural definites, or that the two do share a common operator but singular definites have additional (pragmatic?) constraints of their own.

For concreteness, I will assume here that the existential reading of plural definite generic is due to the DKP and that singular definite generic resort to some other, more specific operator. Note that either choice is in agreement with the kind-denoting analysis of Romance definites given above, since both operators would take non-ordinary-individuals as input (kinds or KINDs).

5 Ways to indefinites

The situation discussed so far can be summarized as follows. Italian (and Romance) bare plurals cannot denote kinds, while English ones can. Italian plural noun phrases introduced by the definite article are two-way ambiguous. They have an object-level reading (which might be intensional, i.e. pick a different set of object in each world/situation) and they have a kind-level reading. As kind-denoting entities, Italian plural definites can use the DKP to acquire an existential reading. The question is in what conditions this is possible.

We have seen ((25) above) that definite subjects of individual-level predicates do not have this reading. Moreover, contexts which provide an anchoring for the normal reading of the definite determiner (**Max**) seem to block the indefinite reading, as shown by e.g. (26c) repeated below, where we understand *gli edifici* as ‘all the buildings in Berlin’. This suggests that the indefinite interpretation is in some sense a last-resort strategy.

- (26c) Gli edifici crolleranno a Berlino domani
 the buildings will fall in Berlin tomorrow

A third factor is the position of the definite and the choice of predicates. With predicates of existence or ‘coming-into-being’, preverbal subjects are read specifically:

- (79) a. In quella casa ci sono [i fantasmi]. *indef. possible*
 in that house there are [the ghosts]
 b. [I fantasmi] sono in quella casa. *indef. impossible*
 [the ghosts] are in that house

Similarly in (80a) the only reading is universal: generically-all hurricanes arise in the area. Inserting an overt quantification over times (80b) gives a strange meaning where it seems that hurricanes, all of them, appear over and over in the same area. On the other hand (81), where the predicate is not ‘coming-into-being’, may be reporting the habitual effects of *some* random hurricanes/locusts.

- (80) a. [Gli uragani] hanno origine in quest’ area del Pacifico.
 the hurricanes arise in this part of_the Pacific.
 b. ?Ogni anno [gli uragani] hanno origine in quest’ area del Pacifico.
 every year [the hurricanes] arise in this part of_the Pacific.
 (81) a. (Ogni anno,) [gli uragani] flagellano quest’ area del Pacifico.
 (every year,) [the hurricanes] flay this part of_the Pacific.
 cf. “Every year, hurricanes slash this part of the Pacific”
 b. (Ogni anno) le locuste trasformano i miei campi in un deserto senza vita.
 (every year) the locusts turn my fields in a desert without life

The lack of an existential reading for (80) is interesting if compared with the English (82a), which can have a universal (82b) and an existential reading (82c) (see Carlson 1987). Why isn’t the second available to the Italian definites above? The answer comes from two considerations: first, the Italian bare-noun equivalent of (82a) (in (83), with a modified nominal) does have an obligatory existential reading. Second, the existentially interpreted bare nouns in (82) and (83) have a special intonational

contour, which is different from that in (81).

- (82) a. Hurricanes arise in this part of the Pacific.
b. “Hurricanes are tempests which have the property of arising in this part of the Pacific.”
c. “It is a fact about the world (or this part of the Pacific) that some hurricanes arise in it.”
- (83) a. Spaventosi uragani hanno origine in questa parte del Pacifico.
Frightful hurricanes arise in this part of the Pacific.
b. Locuste grandi quanto uccelli vengon fuori da queste umide paludi
Locusts as big as birds come out of these humid marshes.

The conclusions I would like to suggest is that when the bare nouns in (82) (83) are interpreted existentially, they are *not* derived from a kind via the DKP, but they are born object-level indefinites (possibly moved to some high focus position, which is responsible for their special intonation). English would thus be a language with a double route to the existential meaning: in some positions the DKP is not applicable, but the indefinite route may still be available.

But why should the DKP be impossible? Interesting suggestions come from Laca’s (1990) discussion of how the generic reading of object bare nouns is linked to the informational structure of the sentence. According to Laca, object bare nouns can receive an existential reading if they are part of the utterance’s theme, but they get a quasi-universal reading if they are part of the rheme.¹³ Thus in (84) the (b) sentence is about architects (i.e. *architects* is the theme); the rheme, the property predicated of them, is the fact that they build houses. Since the bare noun *houses* is in the rheme it gets an existential meaning, while *architects* takes a quasi-universal reading. (84b) would not be contradicted (not even in the way generic sentences can be contradicted) by the discoveries that the majority of houses are built by engineers, but it would sound false if most architects spent all their time designing parking lots.

- (84) A What do architects do for a living?
B: Well, architects build houses.

In Italian, both noun phrases could have a definite article, but the interpretational difference seen with bare plurals is preserved: (85) does not necessarily imply that *all* houses are built by architects, that *all* young people are killed by drugs, or that missionaries help *all* poor people.¹⁴ The conclusion is that the DKP can be applied to a definite nominal when the nominal can be made to fall in the theme—which in turn depends on the choice of predicates, the context and the intonational contour. A sample translation for (85c) would be (86).

- (85) a. Gli architetti costruiscono [le case](, ad anche gli ingegneri, ma quelle costruite
the architects build [the houses](, and also the engineers, but those built
da architetti costano di più)
by architects cost more)
b. La droga uccide [i giovani]_i illegalmente(, mentre l’ alchool li_i uccide in
the drug kills [the young people] illegally(, whereas the alchool kills them in
perfetta legalità.)
perfect legality)

¹³I am mapping Laca’s terminology *focus* and *non-focus* onto *theme* and *rheme*. Laca describes focus, with (Wilson and Sperber 1979), as “the pragmatically most important point’, that constituent of the sentence which constitutes the foreground and whose substitution by a variable yields the first background of the sentence.” Moreover, she calls *inclusive* and *non-inclusive* what I am calling existential and quasi-universal.

¹⁴Note that the English equivalent of the last example would have to use the definite *the poor*, still with the same interpretation.

- c. I missionari in Africa curano [i poveri](, e le associazioni di volontariato in the missionaries in Africa cure [the poor](, and the associations of volunteers in Asia anche).
Asia, too.)

(86) $\mathbf{Gn} x, s [\cup \text{missionaries}^k(x) \text{ in } s][\exists y \cup \text{poor}^k(y) \wedge \text{cure}(x, y)]$

Every time Italian can use indefinite plural definite objects it can also use bare nouns and the partitive determiner. The difference between these forms is subtle; roughly, in (87), using the bare noun or the partitive determiner (*dei fumatori*) suggests no particular causal connection between one's smoking habit and cancer (much as the English *Cancer strikes smokers who happen to live in this city*), while using the definite does.

(87) Il cancro al polmone colpisce {i fumatori / fumatori / dei fumatori}
the lung cancer strikes {the smokers / smokers / sm smokers}

This seems to confirm the intuition that although *colpire* “strike” requires an object-level entity, the generalization the sentence expresses is a connection between a category (smokers^k) and a disease (cancer^k). Deriving objects from the kind is thus in some sense more appropriate than introducing them as objects from the start.

Obviously, this is not a worked-out account, but in my opinion it is a promising direction. Theme and rheme are flexible notions: they don't coincide with external subject and predicate, and can be influenced by the choice of predicates and by intonation (cf. Diesing 1992b, Herburger 1994). In this sense, they are well-suited to capture the variability in the data we have seen so far, and the variation we find in other Romance languages.

5.1 Cross linguistic factors

A cursory cross-Romance investigation shows that the indefinite meaning of definites is more free in Italian than in Spanish or French.¹⁵ Indefinite definites seem to be possible in habitual sentences in Spanish (with the same effects seen in Italian (88)), and in French (89) (though the partitive determiner *des* is preferred).

(88) Cada semana, mi página web es atacada por [{los hackers / *los bribones desconocidos / every week, my page web is attacked by {the hackers / the rascals unknown / bribones desconocidos}]
rascals unknown}.

(89) Chaque semaine mon site web est attaqué par [les pirates]

In stative cases such as (90), Spanish has a contrast between *haber* and *estár/viver* (90), while in French the partitive article *des* is preferred.

(90) a. la casa está sucísima. En el sótano hay (*los) ratones, y bajo la
the house is very-dirty. In the sink you_have (the) mice, and under the
fregadera hay (*las) cucarachas
fridge you_have (the) cockroaches

¹⁵Thanks to Leonor Moral and Ricardo Etxepare for Spanish judgments, Cécile de Cat, Jean-Yves Pollock and Carmen Sorin for French. I have not included European Portuguese, since I have data from only one speaker; indefinite definites would seem to be completely disallowed in this language.

- b. La casa está sucísima. En el sótano están *(los) ratones, y bajo la fregadera
the house is very-dirty. In the sink are (the) mice, and under the fridge
viven *(las) cucarachas.
live (the) cockroaches
- (91) La maison est dégeulasse. Dans la cave, il y a {?les / des} souris, et dans l' évier vivent {?les / des} cafards.

Definites with mass nouns as in (92) are unacceptable both in Spanish and French (92). In the object position in (93), the definite seems to force the meaning that architects build *all* the houses, or the houses in a certain location (see Laca 1990 for similar data). Again, in French the partitive article seems to be possible, but it becomes impossible in examples such as *dentists cure teeth* (where we mean: all teeth).

- (92) a. Estoy enfermo y he dejado de beber (*el) café
I am sick and I have stopped to drink (the) coffee
b. *Pour le moment, je ne bois pas {*le / de} café.
- (93) What do architects do for a living?
a. Los arquitectos construyen las casas
b. Ils construisent {les / des} maisons

These data minimally show that within Romance languages different strategies are used to obtain the existential reading. In particular, the French use of the indefinite partitive is clearly different from the Italian use, which is much closer to the English *some*: (92) and (93) contrast with (94).

- (94) a. ??Con questi disturbi ho dovuto smettere di bere [del caffè].
with this condition I had to stop to drink [some coffee].
b. ??Gli architetti costruiscono delle case. *answer to: What do architects do for a living?*
the architects build some houses

6 Conclusions

This paper has argued that Italian (and Romance) bare nouns are more different from English ones than previous accounts would have it, but that at the same time generic definites in Italian (and to some extent Romance) are surprisingly close to English bare nouns. Moreover, Italian definites offer some evidence that the existential reading of English bare plurals might come from more than one source: from an original kind-denotation, or from an original object-level denotation. More empirical work remains to be done to understand in what conditions definites can be used to produce 'nameless representatives' of the kind they refer to, and what is the relevant cross-linguistic parameter. At a more theoretical level, these data raise the issue of how exactly the notions of 'blocking' and 'semantics-driven economy' must be understood.

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