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THEORETICAL LINGUISTICS PROGRAMME, BUDAPEST UNIVERSITY (ELTE)

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AND THE CLASSIFICATION OF PREDICATES

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1. Introduction

This paper is concerned with what causes a bare plural NP to be interpreted generically in examples like (1a), and existentially in examples like (1b) and (1c) - a question raised and discussed by Diesing (1992a).

- (1)a. Sharks are dangerous.
- b. Sharks are visible.
- c. Sharks are following a young seal.

Section 2 of the paper will briefly summarize Diesing's theory, which derives the generic or existential interpretation of a bare plural subject from the individual-level or stage-level character of its predicate, and will point out various problems in her proposal. Section 3 will put forth an alternative account of the facts illustrated in (1). It will be shown that generic and existential bare plural NPs differ in their specificity feature: the former are [+specific], and the latter are [-specific]. It is this difference in specificity, in interaction with an independently motivated specificity condition on Topicalization, that predicts the distribution of generic and existential bare plurals within the sentence. As for the correlation between the interpretation of bare plurals and the typology of predicates, the class of predicates licensing an existential bare plural subject will turn out not to be coextensive with the class of stage-level predicates, contrary to Diesing's claim. The existential interpretation of a bare plural is allowed in the presence of predicates expressing existence, and in the

presence of eventive predicates - presumably because it is these types of predicates that can provide the binder that a [-specific] indefinite NP needs. Existential predicates have been claimed to have an EXIST meaning component that can function as a logical operator of existence (see Szabolcsi (1986)). Eventive predicates, on the other hand, are known to be associated with an existential quantifier which binds (non-selectively) their event variable (see Davidson (1967)). Predicates which neither mean existence, nor have an event variable (that is, essentially non-existential stative predicates) can take a [-specific] argument only if it is bound by a focus operator.

2. Diesing's Theory

As Diesing (1992a; 1992b) observed, the bare plural NP has a generic interpretation in (1a), and an existential reading in (1b) or (1c). (1a) and (1b) are to be mapped into the following logical representations, respectively:

- (2)a. Gen_x [x is a shark] x is dangerous
 b. E_x x a shark /\ x is visible

The generic interpretation of the bare plural NP in (2a) is a consequence of the fact that the NP is bound by a generic operator. The existential interpretation of the bare plural NP in (2b), on the other hand, arises from the existential closure of the given NP. Whether a bare plural NP is subject to binding by a generic operator or is subject to existential closure in logical representation derives from its LF-position - given the following assumptions:

(3) Interpretation Requirement

Bare plurals are variables that must be bound by one of the following:

- a. an overt operator (such as an adverb of quantification)
- b. the abstract operator Gen (generic reading)
- c. existential closure (existential reading) where the domain of existential closure is the VP, and Gen binds all variables that appear outside the VP (forming the restrictive clause)

As a consequence of this interpretation requirement, a bare plural NP occupying a VP-external position at LF will receive a generic interpretation, whereas a bare plural NP occupying a VP-internal position at LF will be assigned an existential reading.

The LF position of a subject, in turn, is claimed by Diesing to depend on the individual-level or stage-level character of its predicate. The correlation is summarized as follows:

(4) Stage-/Individual/Level Contrast

Subjects of stage-level predicates can be mapped into either [Spec,IP] or [Spec,VP]. Subjects of individual-level predicates must stay in [Spec,IP].

(Diesing (1992a, p. 367))

Diesing derives this generalization by stipulating different kinds of inflection heads (AGR_S) for stage-level and individual-level predicates. The Infl associated with stage-level predicates is of the 'raising' type: it does not assign a theta-role to [Spec,IP]. The subject of a stage-level predicate is base-generated in [Spec,VP], but in English, it must raise to [Spec,IP] at S-structure to receive Case. At LF, it either can be lowered into its D-structure position, or can remain in [Spec,IP]. Consequently, the bare plural subject of a stage-level

predicate is predicted to be potentially ambiguous: it can receive existential interpretation when lowered into [Spec,VP], or it can be generic when remaining in [Spec,IP]. Individual-level predicates, on the other hand, are associated with a 'control' type Infl, which assigns a theta-role to [Spec,IP] (the theta-role 'has the property x', where x is the property expressed by the predicate). The lexical NP in [Spec,IP] controls a PRO subject in [Spec,VP], which is assigned a theta-role by the verb. Since [Spec,IP] is assigned a theta-role of its own, the subject in [Spec,IP] cannot be lowered into [Spec,VP] in LF. Hence the bare plural subject of an individual-level predicate is invariably mapped into the restrictive clause of a generic operator, obtaining generic interpretation.

Below I will argue that Diesing's theory is fairly 'costly', introducing otherwise unmotivated assumptions; it does not cover all the relevant facts; and it also makes a number of wrong predictions.

Diesing's theory complicates the machinery of syntax by introducing - without any independent motivation - an additional kind of Infl (AGR_S): a control-type Infl associated with individual-level predicates, as well as a new theta role: that assigned by this kind of Infl to its subject position.

Point (c) of the Interpretation Requirement in (3), stating that the domain of existential closure is the VP, and all variables that appear outside the VP are bound by a Gen(eric) operator, forces the stipulation of invisible object scrambling. The assumptions in (3c) have the consequence that a bare plural NP that is inside the VP at LF cannot receive a generic interpretation. In fact, however, bare plural objects can, and often must, be interpreted generically. For example:

(5) Mary hates sharks.

Diesing claims that the object in (5) occupies a VP-external position at LF; it has been scrambled into a position dominated by IP. The assumption of LF scrambling, however, is not only stipulative; it also runs into a difficulty in the case of German. Consider an example:

- (6) ...weil kein Fischer Haifische hasst
 because no fisherman sharks hates

It is claimed that in the German embedded clause the kein phrase stands at the head of the VP, since kein results from the merger of a VP-external nicht and the determiner of an adjacent VP-internal indefinite NP - see Kratzer (1989). Hence the generic bare plural following the kein phrase is undoubtedly in the VP at S-structure. The Interpretation Requirement requires that it be moved into an IP-dominated position in LF. However, the fact that it is moved only at LF violates the Earliness Principle of Pesetsky (1989), stating that constraints on representations must be satisfied as early as possible on the hierarchy of levels. This is problematic because the constraint imposed by the Earliness Principle on the Interpretation Requirement in (3) is indispensable for Diesing elsewhere: in the derivation of the S-structure position of German bare plural subjects. In German embedded clauses, distributional evidence: the position of the subject relative to sentential particles appearing at the VP-boundary such as ja doch, indicates that an existentially interpreted bare plural subject, e.g. that in (7a), is internal to the VP, and a generically interpreted bare plural subject, e.g. that in (7b), is external to it at S-Structure already.

(7)a. ... dass ja doch Ameisen meine Viola da Gamba zerstören

that ants my viola da gamba destroy

'... that Ants are destroying my viola da gamba'

b. ... dass Ameisen ja doch sechs Beine haben

that ants six legs have

'... that ants have six legs'

In German, where Case requirements do not force the extraction of a subject generated in Spec,VP into Spec,IP, the extraction of the generically interpreted subject of a stage-level predicate is made obligatory at S-structure by the Earliness Principle. It remains unexplained why the Interpretation Requirement is subject to the Earliness Principle in the case of German bare plural subjects, but not in the case of German bare plural objects.

Bare plural objects represent a problem for Diesing's theory from another perspective, as well. The existential or generic interpretation of a bare plural object, too, depends on the type of its predicate (see Laca (1990)) - just as the existential or generic interpretation of a bare plural subject does. Thus in (8a) the predicate hate requires that its bare plural object be interpreted generically, whereas in (8b), the predicate make requires that its bare plural object be understood existentially - at least in its most neutral interpretation.

(8)a. Bosses hate mistakes.

b. Bosses make mistakes.

In the case of subjects, the correlation between the interpretation of the bare plural NP and the predicate is stipulated to be mediated by Infl (AGR_S). This account obviously does not extend to bare plural objects. However, (8a,b) represent a contrast exactly like that in

(1a,b); if (8a,b) and (1a,b) cannot be given a unified account, a generalization is likely to have been missed.

Diesing (1992a), in fact, claims to derive the correlation between the classification of predicates and the interpretation of bare plural subjects. As I will point out below, the predictions her theory makes are empirically inadequate also within this domain. The problems arise, in part, from the fact that the generalization that the theory intends to derive, namely, that the bare plural subject of a stage-level predicate can be either existential or generic, whereas the bare plural subject of an individual-level predicate is always generic, is spurious. Here are a number of facts contradicting it:

i. Individual-level predicates do allow an existentially interpreted VP-internal subject if it is contrastively focussed. In example (9a), the contrastive focus reading is elicited by a superlative, whereas in (9b), by an only associated with the subject.

(9)a. GIRLS know mathematics the best in my school.

b. In this village, only WOMEN have blue eyes.

Both subjects are, in fact, ambiguous (or perhaps vague); thus girls can mean either the kind 'girls', or an unidentified subset of girls. Under the latter, existential interpretation of the subject, (9a) can be true also in a situation in which there are only two girls out of several hundred who know mathematics better than all the boys of the school. Similarly, (9b) can also be true about a village in which only a minority of women, but none of the men have blue eyes. In Diesing's theory, the non-generic readings cannot be derived. Since these bare plural subjects are subjects associated with individual-level predicates, they are generated in [Spec,IP], where they are subject to

binding by Gen. Since their theta-role is different from that of the PRO occupying [Spec,VP], they cannot be lowered into [Spec,VP].

ii. There are individual-level predicates - those expressing existence (in a particular fashion and/or in a particular location) - that can also take a non-contrastive existentially interpreted bare plural subject. For example:

- (10)a. Volcanoes line both sides of the river.
- b. Ancient figures are carved on the walls of the cave.
- c. In this area, hot springs exist.
- d. Fish abound in the lake.

Apparently, predicates meaning 'exist (in a particular fashion and/or in a particular location)' always allow a [-specific] subject, whether its existence in the given fashion/location is temporary or permanent. Diesing's theory provides no means of identifying these predicates and deriving the existential reading of their subject.

iii. There are stage-level predicates that do not allow a non-contrastive existentially interpreted bare plural subject. Such are almost all adjectival predicates. For example:

- (11)a. Children are noisy in the street.
- b. Dishes were dirty.

Even though these predicates express temporary, stage-level properties, their subjects cannot be interpreted existentially - unless they are contrastively focussed, as in (12a,b). Recall, however, that all

predicates, also individual-level ones, allow a non-generic bare plural subject if it is contrasted.

(12)a. CHILDREN are noisy in the yard, not ADULTS.

b. DISHES were dirty, not CUTLERY.

(12a,b) are parallel to (13)duv (12a,b) are parallel to (13), in which subject of an individual-level adjectival predicate is assigned a non-generic reading:

(13) In my class, only GIRLS are good at mathematics.

'The persons who are good at mathematics in my class happen to be girls.'

Notice that the verbal predicate corresponding to noisy does allow the existential reading of its bare plural subject also in case it is not contrastively focussed:

(14) Children are making noise in the yard.

The adjectival predicates allowing a non-focussed existentially interpreted bare subject, on which Diesing's theory is based: available and visible, belong to a small subclass of adjectives. Whereas most adjectival predicates denote the physical, mental or emotional state of the referent of their subject, available and visible express, at least in one of their meanings, its existence. That is, they presumably pattern with the verbal predicates expressing existence, illustrated in (10), which can take an existential bare plural subject even if they are of the individual-level type.

Drunk, naked, and perhaps also sick and hungry also appear to allow, at least marginally, a non-contrastive existentially interpreted bare plural subject. For example:

(15)a. Students were drunk/naked in the pub.

b. ?Children were hungry/sick.

There is evidence, however, that in (15a,b) the main predicate is not the adjective but the existential predicate be. As Emonds (1976, p. 108) demonstrated, the adjectives drunk, naked, and marginally also hungry and sick can have the sense, and share the position, of circumstantial PPs. In such cases they obviously do not function as primary predicates. Compare:

(16)a. Jane is very witty drunk.

b. *Jane is drunk very witty.

In Hungarian, the equivalent of drunk in (16a) is an adjectival stem obligatorily supplied with an adverbializing suffix:

(17)a. Janka részeg.

Jane drunk

'Jane is drunk.'

b. Janka nagyon szellemes részeg-en/*részeg.

Jane very witty drunk-ADV/ drunk

'Jane is very witty drunk.'

Whereas an adjectival predicate allows no copula in present 3rd person singular in Hungarian, an adverbialized adjective must accompany an



overt verbal predicate (which may also be the existential predicate be).

Compare:

(18)a. Gyerekek (*vannak) meztelen-ek.

children are naked -PL

'Children are naked.'

b. Gyerekek *(vannak) meztelen-ül.

children are naked -ADV

'Children are naked.'

In past tense, in which the copula must also be spelled out, the fact that the adjectival predicate accompanies a copula whereas the adverbial accompanies a verbal predicate of existence does not lead to an overt difference:

(19)a. Gyerekek voltak meztelen-ek.

children were naked -PL

'Children were naked.'

b. Gyerekek voltak meztelen-ül.

children were naked -ADV

'Children were naked.'

There is, nevertheless, a crucial fact distinguishing (19a) from (19b): whereas (19a), containing an adjectival predicate, requires its bare plural subject to be interpreted as a contrastive focus, (19b), containing a verbal predicate of existence and an adverbial secondary predicate also allows it to be understood non-contrastively. The non-contrastive bare plural subject of (19b) is obviously licensed by the existential verbal predicate of the sentence. The English (15a,b) must represent similar cases: their primary predicate, licensing a non-

contrastive existential bare plural subject, is a verbal predicate of existence, and the adjectives function as secondary predicates.

Given the wrong predictions that Diesing's theory makes, discussed in (i), (ii) and (iii), the claim that the distribution of generic and existential NPs depends on whether their predicate is individual-level, associated with a control type Infl, or stage-level, associated with a raising type Infl, needs to be revised.

3. An alternative account

In this section, I will propose an alternative explanation of the facts observed by Diesing, which accounts for a wider range of data, in an empirically more adequate way.

The explanation to be proposed is based on the claim that generically and existentially interpreted bare plurals differ in their specificity feature: whereas generic bare plurals are [+specific], existential bare plurals are [-specific].

I assume the specificity notion of Enc (1991). She defines specificity in the framework proposed by Heim (1982) for the description of definiteness. In Heim's theory, an NP is definite if its referential index is familiar, and an NP is indefinite if its referential index is novel. According to Enc, an NP also carries an additional index, which expresses the familiarity or novelty of a discourse referent to which the referent of the NP bears a subset relation. An NP is [+specific] if its second index is familiar, that is, if the referent of the NP bears a subset relation to the referent of an NP previously introduced into the domain of discourse. A definite NP, whose referent always bears an identity relation (an extreme case of a subset relation) to a referent already present in the domain of discourse, is necessarily [+specific]. An indefinite NP, on the other hand, is only specific if it has a

partitive reading, that is, if its referent is included in the referent of an NP previously introduced into the domain of discourse.

Compare the following texts:

- (20)a. Men between 25 and 40 reported themselves at their respective district headquarters on Sept. 1st. Doctors were available.
 b. Men between 25 and 40 reported themselves at their respective district headquarters on Sept. 1st. Doctors wore white overalls.

If in (20a), doctors is interpreted existentially, its referent cannot represent a subset of the referent of men between 25-40. In (15b), in the unmarked interpretation of which doctors is generic, on the other hand, the referent of doctors can very well represent a subset of the referent of men between 25-40. That is, assuming the specificity definition of Enc (1991), the existentially interpreted bare plural in (20a) is [-specific], whereas the generically interpreted bare plural in (20b) is [+specific].

The specificity feature of an NP can also be tested syntactically. Thus an object represented by a [+specific] NP is 'pronominalized' by a definite pronoun, whereas an object represented by a [-specific NP] is 'pronominalized' by an indefinite pronoun. Let us compare pronominal reference to the generic bare plural object of like, and to the existential bare plural object of buy:

- (21)a. Mary likes cats, and Susan likes them, too.
 b. Mary is feeding cats, and Susan is feeding some, too.

If we used a definite pronoun in the second clause of (21b), the second clause would not mean the same that the first one for most speakers: the pronoun would denote not a newly introduced set of cats but the set of

cats mentioned in the first clause. If definite pronouns are inherently [+specific], which is likely, and if a pronoun 'pronominalizing' an NP in a coordinated construction shares the specificity feature of its antecedent, which is plausible, then the facts in (21) show the generic cats of (21a) to be [+specific], and the existential cats of (21b) to be [-specific].

An indefinite NP in the c-command domain of an operator can have wide scope with respect to the given operator only if the NP is [+specific] - cf. Enc (1991). A generic bare plural can have scope over a c-commanding quantifier or modal, which is evidence of its specificity - see (22a) and (23a); an existential bare plural, on the other hand, can be assigned only narrow scope, which indicates its non-specificity - see (22b) and (23b).

(22)a. Many people like books.

b. Many people bought books.

(23)a. Mary wants children to be happy.

b. Mary wants children to be invited.

(22a) means that books in general are such that many people like them; that is, the generic books has scope over many - as is expected in the case of a [+specific] NP. (22b), on the other hand, means that for many people there were possibly different sets of books that they bought; that is, the existentially interpreted books is necessarily in the scope of many people - which falls out if it is a non-specific NP. Similarly, the generic subject of to be happy has scope over the verb want, that is, (23a) means: 'Children in general are such that Mary wants them to be happy'. In (23b), on the other hand, the existential bare plural subject of to be invited has narrow scope with respect to want, that is,

the sentence means: 'Mary wants that there be a set of children invited.'¹ The wide scope of the generic bare plural NP in (23a) falls out if it is [+specific], whereas the necessarily narrow scope of the existential bare plural NP in (23b) is predicted if it is [-specific].

In sum: the semantic and syntactic facts discussed in connection with (20-23) lead to the same conclusion: generic and existential bare plural NPs differ in their specificity feature; the former are [+specific], and the latter are [-specific].

This conclusion predicts Diesing's observation that only existential bare plurals allow subextraction in German: extraction out of a [+specific] generic bare plural is ruled out by the Specificity Condition of Fiengo and Higginbotham (1980).

I claim that it is determined by the specificity feature of a bare plural NP which syntactic positions it can take within the sentence.

It has been common knowledge since the early descriptions of topic-prominent languages (cf. e.g. Kuno (1972), or É. Kiss (1981)) that Topicalization is subject to a specificity condition, namely:

(24) Specificity Condition

A topicalized NP is [+specific].

This condition need not be stipulated; it is a consequence of the fact that the semantic function of the topic is to foreground a referent already present in the domain of discourse, for it to serve as the subject of the subsequent predication. In the theory of Enc (1991), a [+specific] NP differs from a [-specific] one precisely in that the referent of a [+specific] NP is already present (as the subset of a previously introduced referent) in the domain of discourse.

Notice that Topicalization in topic-prominent languages also subsumes Subject Movement: a Predicate-Phrase-external subject and a Predicate-Phrase-external non-subject argument share the same position (see e.g. É. Kiss (1986) for Hungarian, or Vallduví (1993) for Catalan).

That is, under this interpretation, the term Topicalization covers the following type of transformation:

(25) Topicalization

Topicalization is the movement of an argument out of a Predicate Phrase (the VP, or a V-related functional projection) in order to create a predication relation between the moved argument and the Predicate Phrase containing its trace.²

As a consequence of (24), in Hungarian an indefinite NP can only be topicalized if it can be attributed a [+specific], partitive reading. Compare (26a) with (27).

(26)a.??[TopP Egy ismeretlen ember_i [IP be- csengetett t_i]]
 an unknown person PERF rang

'An unknown person rang the bell.'

cf. b. [IP Be-csengetett egy ismeretlen ember]

(27) Sokan álltak a kapu előtt.

many stood the gate before

'Many persons stood in front of the door.'

[TopP Egy ismeretlen ember_i [IP be- csengetett t_i]]
 an unknown person PERF rang

'An unknown person rang the bell.'

That is, a topicalized indefinite is unacceptable unless its referent represents a subset of an already familiar referent, in other words, if it is interpreted as [+specific].

Generic plurals, which are definite in Hungarian, are naturally topicalizable - see (28a,b,c); existential plurals, on the other hand,

are not - see (28d), as their Topicalization would violate the Specificity Condition in (24).

- (28)a. [TopP A kutyák_i [IP meg- ugatják az idegeneket t_i]]
 the dogs PERF bark the strangers

'Dogs bark at strangers.'

- b. [TopP Az idegeneket_i [IP meg- ugatják t_i a kutyák]
 'Strangers, dogs bark at.'

- c. [TopP Az idegeneket_i a kutyák_j [IP meg- ugatják t_j t_i]]
 'Strangers, dogs bark at.'

- c.*[TopP Kutya_i [IP meg- ugatták az idegeneket t_i]]
 dogs PERF barked the strangers

'Dogs barked at the strangers.'

- cf. d. [IP Kutya_i ugatták meg az idegeneket]

That is, as a consequence of condition (24), existential plurals are confined to Predicate-Phrase- (i.e., IP-) internal position. On the other hand, nothing constrains the distribution of generic plurals - as is also clear from (28a,b), which contain both a PredP-external and a PredP-internal generic plural.

Subject Movement into the external subject position in English, and in German embedded clauses is a special case of Topicalization as interpreted above, with a restriction imposed on its target; hence it is also subject to the Specificity Condition in (24). (Assuming the standard English sentence structure, condition (24) applies in English only at LF - presumably by constraining movement into Spec,RefP, a projection dominating IP, as proposed by Stowell and Beghelli (1994). In fact, É. Kiss (1994) presents a large amount of - mainly distributional - evidence indicating that specific and non-specific subjects occupy two different S-structure positions, the former outside IP, and latter in

Spec,IP, in the English sentence, too.) If the distribution of generic and existential bare plurals is, indeed, constrained by condition (24) in topic-prominent and subject-prominent languages alike, then we predict for both language types that generic plurals have a free distribution across sentence positions, whereas existential plurals are confined to the Predicate Phrase. This is precisely what we attested in the German and Hungarian examples discussed above (and, according to É. Kiss (1994), this is what we attest in English, too).³

To check the correctness of the proposed account of the sentence-internal distribution of generic and existential bare plurals, let us consider some German data. Kratzer (1989) observed that there are two types of indefinite objects in German: those that can scramble out of the VP, and those that cannot. Scrambling and Subject Movement in the German embedded clause are sub-types of the Topicalization transformation defined in (25); hence they are subject to the Specificity Condition in (24). As predicted by the Specificity Condition, the objects that can scramble out of the VP are those that can, or must, be analyzed as [+specific]. The objects that cannot scramble, on the other hand, are [-specific]. Compare sentences (64a) and (65a) of Kratzer (1989), rewritten below as (29a,b). The boundary of the VP is indicated by nicht.

(29)a.*Wenn ein Beweis einen Fehler nicht [vp enthält]

if a proof a mistake not contains

b. Wenn ein Kritiker einen Film nicht [vp mag]

if a critic a movie not likes

The object of mögen 'like' in (29b) must be interpreted as [+specific] (for reasons to be discussed below); einen Film means 'a certain film'. The indefinite object that cannot be scrambled out of the VP in (29a),

on the other hand, is [-specific]; it does not denote a particular mistake. If we force a specific interpretation upon it by previously introducing a set of mistakes into the domain of discourse, the sentence will become grammatical. Assume a situation in which teachers correcting a mathematics test receive the instructions in (30a):

(30)a. The students are likely to commit the following three mistakes in the proof:...

b. Wenn ein Beweis einen Fehler nicht [vp enthält], ist
 if a proof a mistake not contains, is
 er passabel.
 it passable

'If a proof does not contain a mistake [one of the mistakes], it can pass.'

The grammatical (30b) differs from the ungrammatical (29a) only in that einen Fehler in (30b) is [+specific] in the sense of Enc (1991): its referent is a subset of a previously introduced set of referents. This fact is clear evidence of the role of Specificity Condition (24) in licensing 'scrambling' out of the German VP.

In fact, Diesing (1992b) also claims that 'presuppositionality' (a notion close to 'specificity') plays a role in determining word order, in as much as only presuppositional (strong) quantifiers are adjoined to IP by Quantifier-Raising at LF; weak quantifiers remain within the VP. This claim fits in with Diesing's Mapping Hypothesis, stating that the VP-external part of an LF representation is mapped into the restrictive clause of the corresponding tripartite semantic structure, as it is the restrictive clause that is known to accomodate the presuppositions of a quantified sentence. Scrambling out of the VP in English and German are claimed to be instances of Quantifier-Raising; hence they are predicted

to affect only presuppositional expressions. Generic bare plurals, though not strictly presuppositional, pattern with presuppositional indefinites in that they also undergo Quantifier-Raising. Non-presuppositional existential bare plurals cannot be Q-raised.

This reasoning is not supported by facts of languages in which Quantifier-Raising takes place visibly, at S-structure, like Hungarian. First, in Hungarian both presuppositional and non-presuppositional quantifiers are subject to Quantifier-Raising. Consider the following sentences. (31a) contains a Q-raised sok 'many' phrase. (31b) is a marked construction, with no Q-Raising performed (or, according to É. Kiss (1986), with the Q-raised quantifier scrambled back into the VP in PF). The quantifier is ambiguous, having both a strong (presuppositional) and a weak (non-presuppositional) reading in both cases.

(31)a. [TopP Mari [IP sok diákot_i [IP meg- buktatott t_i]]]

Mary many student-ACC PERF failed

'Mary failed many students. [The number of students that Mary failed was great./Mary failed a large part of the students.]'

b. [TopP Mari [IP meg buktatott sok diákot]]

'Mary failed many students. [The number of students that Mary failed was great./Mary failed a large part of the students.]'

Furthermore, languages with visible Q-Raising such as Hungarian also clearly demonstrate that generic plurals are not subject to Q-Raising; instead of being adjoined to the Predicate Phrase (IP), they undergo Topicalization. Compare the syntactic positions of the generic plural in (32a) and the quantifier in (32b) relative to a sentence adverbial, whose rightmost possible position is between the topic and the Predicate Phrase:

- (32)a. A diákok véleményem szerint szeretnek utazni.
 the students in my opinion like to travel
 'Students, in my opinion, like to travel.'
- b.*Minden diák véleményem szerint szeret utazni.
 every student in my opinion likes to travel
 'Every student, in my opinion, likes to travel.'
- c. Véleményem szerint minden diák szeret utazni.

The generic plural in (32a) is in [Spec,TopP], the landing site of Topicalization, whereas the universal quantifier in (32b) is adjoined to IP.

The fact that generic plurals undergo Topicalization rather than Q-Raising cannot be specific to languages in which generic plurals bear a definite article; as Krifka et al. (1993, section 2.5.) argue, a generic definite plural is semantically non-distinct from a generic bare plural.

I conclude that the sentence-internal distribution of existential and generic bare plurals across languages is more adequately explained on the basis of their specificity feature and the independently motivated Specificity Condition on Topicalization (24) than on the basis of their presuppositionality feature and an alleged presuppositionality requirement on Q-Raising.

The next question to consider is what the distribution of existential and generic bare plurals with respect to various classes of predicates depends on.

As a first step, let us summarize the facts that have to be accounted for.

- (i) Predicates that mean 'exist (in a particular fashion and/or in a particular location)' allow the referent whose existence they assert to

be represented by a [-specific] NP irrespective of whether its existence in the particular fashion and/or location is temporary or permanent - see (10a-c) above and (33):

- (33)a. There are active volcanoes in the Northern part of the country.
- b. Misprints occur on every page of this book.
- c. Problems exist.
- d. Unfair deals are known to everybody.
- e. Firemen are available/visible.

The preferred (or, in the case of (33a), the only) reading of the bare plural subjects is a [-specific], existential reading. (If the subjects were represented by singular indefinite NPs, their preferred reading would also be a [-specific] reading - as is clear e.g. in the case of A misprint occurs on every page of this book, where the referent of the misprint is likely to vary from page to page.)

ii. Verbal predicates describing an eventuality in the sense of Parsons (1990) (that is, activity, accomplishment, and achievement predicates) can also take an argument represented by a [-specific] NP. For example:

- (34)a. Babies are crying.
- b. Children ran across the street.
- c. Journalists wanted to get acquainted with Mary.

- (35)a. Mary is teaching children.
- b. Mary bought books.
- c. Mary got acquainted with journalists.

The sentences in (34a-c) contain a [-specific], existentially interpreted bare plural subject, whereas those in (35a-c) have a [-specific], existentially interpreted bare plural object.

iii. Adjectival predicates expressing the physical, mental or emotional state of their subject do not allow it to be represented by a [-specific] NP - unless the NP is contrastively focussed. For example:

- (36)a. Children are dirty.
- b. Shoes are shiny.
- c. Girls are good at learning foreign languages.

Children in (36a) must either be interpreted as a [+specific], generic NP, in which case (36) means 'Children in general are dirty', or it must be interpreted contrastively focussed, in which case (36) means 'It is children that are dirty, not some other relevant groups of individuals, e.g. adults.' In the latter case, the specificity feature of the NP children is not determined; it can be either [+specific], meaning 'children in general', or [-specific], meaning 'some children'. The subjects of (36b,c) have similar options of interpretation.

iv. Verbal predicates expressing the physical, mental or emotional state of a referent do not allow an argument represented by a [-specific] NP, unless it is contrastively focussed. For example:

- (37)a. Boys admire athletes.
- b. Athletes impress boys.

In (37a,b), both the subject and the object are understood as [+specific] generic NPs, that is, both boys and athletes both in (37a)

and in (37b) mean 'boys/athletes in general', not 'some boys/athletes' - unless they are contrastively focussed, as is clearly the case in (38a,b):

(38)a. John admires ATHLETES, not FILM STARS.

b. ATHLETES impress John, not FILM STARS.

(38a) can mean either that John admires the kind 'athletes' as opposed to the kind 'film stars', or that 'the persons that John admires all happen to be athletes, not film stars'. Similarly, (38b) can mean either that it is the kind 'athletes' as opposed to the kind 'film stars' that impress John; or that 'those who impress John all happen to be athletes, not film stars'.

Predicates which are ambiguous between an activity reading and a stative reading license a [-specific] argument only under their activity reading - as was observed by Laca (1990). The progressive in (39) indicates that the predicate admire describes an activity, and, accordingly, its bare plural object is interpreted existentially.

(39) Mary is admiring athletes (in the lobby).

These generalizations suggest that it is the distribution of [-specific] bare plural NPs that is constrained; no classes of predicates disallow a [+specific] bare plural NP.⁴ Semantic considerations also lead us to the same conclusion. [+specific] indefinites have been argued by many to be referring expressions (for singular [+specific] indefinites, see Fodor and Sag (1982); for generic plural indefinites, see Carlson (1977; 1982)) and Heyer (1985), and for a subset of them, Krifka et al. (1993)⁵). Generic bare plurals have also been claimed to be variables bound by a generic operator; however, it has been assumed

that their binder is a generally available default generic operator. [-specific] indefinites, on the other hand, are clearly variables in need of a binder. I hypothesize that existential and eventive predicates can take a [-specific] plural indefinite argument because they can provide a binder for it. The operators associated with existential and eventive predicates are obviously absent in the case of non-existential predicates expressing a state. The question, naturally, is what kind of operators they are.

Szabolcsi (1986) argues that the lexical meaning of all predicates expressing existence or availability (in a particular fashion) contains a meaning component EXIST, which can be identified with a logical operator of existence. It is presumably this operator that serves as the binder of the non-specific indefinite argument of existential predicates.⁶

The question still remains what enables predicates expressing an eventuality, as opposed to predicates expressing a state, to license a [-specific] indefinite. Parsons (1990), following Davidson (1967), attributes to all non-stative predicates an event argument, which is represented by a variable bound by an existential operator. It would be intuitively plausible to link the possibility of a [-specific] indefinite argument to the presence of an existentially bound event variable, assuming that the existential operator binding the event variable non-selectively also binds the indefinite NP arguments of the given predicate. After all, if there exists an event, its participants must also exist. The fact that the existential operator binding the event variable allows for more than one occurrence of the given event also fits in with the use of a [-specific] indefinite NP: the use of an indefinite has the effect that the denotation of the given NP can vary with every occurrence of the given event; for example, if Children shouted under my window, the denotation of children can be different at

every shouting event. Since stative predicates lack an event argument, in stative sentences no non-selective binder is available for the binding of a [-specific] indefinite.⁷

The fact that stative sentences do allow a [-specific] indefinite NP if it is contrastively focussed is not surprising if contrastive focus is analyzed as a logical operator, as suggested e.g. in Szabolcsi (1983); in such sentences it is presumably the focus operator that binds the [-specific] indefinite NP.

5. Summary

I have demonstrated that whether a bare plural subject is assigned a generic or an existential reading is not a consequence of the individual-level or stage-level nature of its predicate, contrary to Diesing's claim. In Diesing's theory, the explanation of the alleged correlation between the classification of predicates as individual-level or stage-level, and the interpretation of their bare plural subject as generic or existential is built on two sets of stipulations. The first one concerns syntactic structure. It is assumed that individual-level predicates, as opposed to stage-level ones, are associated with a particular kind of Infl: a control Infl, assigning a theta role to [Spec,IP], and controlling a PRO in [Spec,VP]. The second set of stipulations concern the mapping of the LF representations of sentences onto logical representations. It is assumed that the VP-external material is to be mapped into the restrictor of an operator, whereas the VP-internal material is to be mapped into the nuclear scope in a Heim-style tripartite logical structure. The fact that the consequences derived from these stipulations are empirically inadequate removes all the motivation for the control-type Infl hypothesized by Diesing, and

also casts doubt on her proposal concerning the mapping of LF onto logical structure.⁸

The alternative account proposed in this paper has a wider coverage than Diesing's theory: it explains the distribution of plural indefinite subjects and objects alike, both within the sentence and with respect to various classes of predicates. The account is based on the independently motivated claim that generic bare plurals are [+specific], and existential bare plurals are [-specific]. The fact that [-specific] indefinite NPs are confined to the Predicate Phrase is derived from an independently existing specificity condition on Topicalization. It is argued that a [-specific] indefinite NP is licensed by predicates that can provide a binder for the variable that it represents. Two such predicate classes have been identified: predicates meaning existence, whose EXIST meaning component can function as a logical operator, and verbs expressing an eventuality, whose event argument is associated with an existential operator that can function as a non-selective binder. Predicates not belonging to these two classes can take a [-specific] bare plural if it is bound by a contrastive focus operator.

Notes

1 The following example of Kratzer (1980) is intended to prove that non-generic bare NPs can have wide scope:

- (i) John wanted to put salt in the dough because he
confounded it with sugar.

But the wide scope salt in (i) is a contrastive focus; what has wide scope is the focus operator.

2 On syntactic predication, see Williams (1980) and Rothstein (1983).

3 Given that in the proposed framework, VP-internal generic plural objects are not forced to leave the VP in LF, the LF-position of a bare plural NP does not necessarily give a clue as to its generic or existential nature. This, however, cannot prevent the construction of the logical representation of the sentence; the specificity feature of the NP does provide the necessary information.

4 Except, of course, be in the there is construction. Hungarian is known to have a larger set of indefiniteness predicates - see Szabolcsi (1986); these, however, are all light verbs which need to incorporate an argument. They require a [-specific] argument because presumably only [-specific] NPs can be incorporated.

5 In arguing for the referential analysis of generic plurals, É. Kiss (1993) points out that generic plurals do not trigger any Weak Crossover effect. Compare:

- (i)a. Their_i subjects want to know everything about
present-day monarchs_i.
- b. Their_i future subjects want to know everything about
Charles and Diana_i.
- c.*His_i subjects want to know everything about every
present-day monarch_i.
- d.*His_i subjects want to know everything about a
a monarch_i.

The generic present-day monarchs in (ia) can co-refer with the pronoun their without binding it; that is, it patterns with the referential Charles and Diana in (ib), instead of the universally quantified every present-day monarch in (ic) or the generically bound a monarch in (id). A monarch in (id) can bind his only if it denotes a particular monarch, that is, if it is referential.

6 Szabolcsi (1986) also extends her claim to verbs of creation, whose meaning can be paraphrased as 'cause to exist in a particular location and/or in a particular fashion'. She points out, however, that in the case of verbs of creation, as well as in the case of existential predicates more complex than be, the EXIST meaning component can also be pushed into the background, and e.g. the 'in a particular fashion' component can be highlighted.

7 The event argument plays a different role in Kratzer's account of the distribution of generic and existential bare plural subjects (see Kratzer (1989)). She claims that stage-level predicates have an event argument, whereas individual level predicates that do not have one. That is, she attributes an event argument to a set of predicates overlapping with, but not identical to, the set of eventive predicates of e.g.

Parsons (1990), including, among others, also adjectival predicates expressing a temporary state. In Kratzer's theory the event argument licenses a VP-internal subject by functioning as the external argument of the predicate, thus keeping the subject out of the Predicate-Phrase-external position.

8 Diesing's mapping hypothesis has also been criticized from a semantic point of view in de Swart (1993).

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