Bare Singular Reference to Kinds

According to Chierchia 1998, languages where nouns are marked for number and definiteness are not expected to have bare singular nouns which denote kinds. Hebrew has such examples, so far unnoted, yet the present paper shows it can be accomodated within a semantic typology. I disagree with Schmitt and Munn 1999, who conclude on the basis of similar examples in Brazilian Portuguese that they refute Chierchia's approach and require a syntactic explanation.

Krifka et al. 1995 view a kind as an individual which has objects and pluralities as parts. They define the property $^\cup k$ of being part of the kind k: $^\cup k = \lambda x[\ x \le k]$. $^\cup k$ is a mass property in that it does not differentiate between singular and plural objects. Krifka 1995 proposes that nouns in Chinese are primarily names for kinds, and can be type-shifted by $^\cup$ to denote mass properties. Chierchia 1998 proposes that in English, it is the property denotation of the noun which is primary, and the kind reference which is derived, by a converse operation of the one applicable in Chinese. $^\cap P$ is the kind defined as the largest member of the extension of the property P: $^\cap P = \max_{\le} x\ P(x)$. If P is plural, its extension includes pluralities of objects, and the kind is defined as the largest such plurality. If P is singular, $^\cap P$ is defined only if the extension of P is a singleton, since there is no order relation between objects. But it is inappropriate to define a kind which has a single instantiation in each world. It follows that bare plural nouns can shift to kind reference, but bare singulars cannot, which explains why plurals nouns can be used bare while singulars nouns cannot. Kind reference in the singular depends on the definite determiner, as in *The dog is common/ *Dog is common*. The definite determiner yields what Chierchia calls a "singular kind" by applying to the "massification" of the singular property. In Russian, there are no articles, therefore there is a free type-shift from the property *dog* to the singular kind. The use of bare singular nouns to refer to kinds therefore depends on the lack of definite articles, which also manifests itself in the ambiguity of singular nouns between definite and indefinite readings at the object level. Hindi too is a language with no definite articles where bare singular nouns can refer to kinds, but Dayal 1992 and 1999 views bare singular nouns not as ambiguous, but rather as primarily definite.

Under both Chierchia's and Dayal's analyses, bare singulars denote kinds in languages where they are interpreted as definite at the object level. In Hebrew, bare nouns are not interpreted as definite at the object level, yet bare nouns refer to kinds, alongside definite-marked nouns, even with collective predicates, such as in 3: (similarly to plural and mass nouns)

1.   ha-xaya   haxi gdola be-miSpaxat ha-xatulim ze namer/ha-namer
           the-animal most big   in-family   the-cats   is tiger/the tiger
           'The biggest feline is the tiger.'

2.   namer /ha-namer hu min   mugan
           tiger / the-tiger   is species protected
           'The tiger is a protected species.'

3.   namer /ha-namer mit'asef leyad mekorot mayim b-a-erev
           tiger / the-tiger gathers near sources water in-the-evening
           'The tiger gathers near water sources in the evening.'

Hebrew should therefore be classified with Chinese as a language where nouns primarily denote kinds. The mass property derived from a kind holds of pluralities as well. This is crucial for the interpretation of (3), where this derived property is accomodated in the restriction of a generic operator which relates it to a collective property:

3'.a [[tiger gathers in-the-evening]] = Gn x,s[$^\cup$tiger(x) ∧ in-the-evening(s)][gather (x,s)]

  b [[the-tiger gathers in-the-evening]] = Gn x,s[x ≤ ι $^\cup$tiger ∧ in-the-evening(s)][gather (x,s)]

In episodic sentences, the kind denotation of bare nouns is adjusted to fit predicates which apply to objects. This is achieved by the introduction of an existential quantifier over instances of the kind (Chierchia's Derived Kind Predication (DKP) rule). In English this is true of plurals only, since plurals are the only count nouns to refer to kinds, whereas existential quantification with singular nouns is due to the indefinite article. In Hebrew the DKP applies to both singular and plural bare nouns. The prediction is that we should not find in Hebrew the contrast between singular and plural indefinites noted by Carlson for English. Indeed both have narrow scope relative to negation:

4.a   klavim lo   novxim karega   b   kelev lo noveax karega
       dogs   not bark   now   dog   not barks   now
       'Dogs are not barking.'   'A dog is not barking.'
       ¬ ∃ x [$^\cup$dog (x) ∧ barking (x)]   ¬ ∃ x [sg$^\cup$dog (x) ∧ barking (x)]
                                                (one reading only in Hebrew)

Since properties derived from kinds are mass properties, yet in Hebrew number is clearly a category of the noun, unlike Chinese, DKP introduces for count singular nouns the operator sg which collects the set of atoms of a property into a new, singular, property.

DKP also accounts for the fact that in episodic sentences, indefinites do not denote kinds:

5.a   ha-namer ne'elam   me-ezor-enu
       the-tiger disappeared from-area-our
       'The tiger disappeared from our area.'

  b   namer ne'elam   me-ezorenu
       tiger   disappeared from-area-our
       'A tiger disappeared from our area.' not 'The tiger disappeared from this area.'

6.a   elohim bara   et ha-namer b-a-yom   ha-xamiSi
       god   created   the-tiger on-the-day the-fifth
       'God created the tiger on the fifth day.'

  b   elohim bara   namer b-a-yom   ha-xamiSi
       god   created tiger   on-the-day the-fifth
       'God created a tiger on the fifth day.' not 'God created the tiger on the fifth day.'

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