THE MANIFESTATION OF GENERICITY IN THE TENSE ASPECT SYSTEM OF HEBREW NOMINAL SENTENCES

0. INTRODUCTION

This paper proposes a general account of the semantic interpretation of syntactic structures in Hebrew present tense nominal sentences, and offers an explanation for the descriptive generalization, suggested in Greenberg 1998, concerning these sentences. In Greenberg 1998 I showed that, contrary to what has been previously thought, the obligatory vs. optional presence of the Pronominal copula in such sentences (called Pron following Doron's 1983 terminology, and henceforth) does not correlate with the interpretation of the sentence as identity or predicative, respectively. Instead, I showed that there are predicative sentences where Pron is not optional but rather obligatory present, or obligatory absent, and suggested that this variation correlates with the obligatory interpretation of the sentence as generic and nongeneric, respectively.

In the present paper I extend this generalization to all possible distributions of Pron in predicative sentences, including the cases where the presence of Pron is optional. I argue that the presence of Pron in such sentences is always associated with genericity, and suggest an explanation for this syntactic-semantic interface, based on Dahl's (1995) work concerning the manifestation of genericity in tense-aspect systems and Rothstein’s 1995 analysis of the Syntax of sentences with and without Pron.

The paper is organized as follows. After briefly reviewing the generalization proposed in Greenberg 1998, and the data supporting it (in section 1), I show in section 2 that extending this generalization to cover the distribution of Pron in general is both theoretically and empirically desirable. In section 3 I discuss two problems that such an extended generalization faces and offer their solutions, and in section 4 I propose an explanation for the general correlation between Pron and genericity. Finally, in section 5 I show that the distribution of Pron in identity sentences cannot be covered by the extended generalization concerning its behavior in predicative sentences, since in the former kind of sentences it is governed by a different mechanism. Section 6 summarizes this paper.
1. THE OBLIGATORY PRESENCE / ABSENCE OF PRON AND THE GENERIC / NONGENERIC INTERPRETATION OF THE SENTENCE

1.1. The Distribution of Pron in Hebrew Nominal Sentences and the Predicative / Identity Distinction

Present tense nominal (or copular) sentences in Hebrew, i.e. those whose main predicate is not verbal, but instead nominal, adjectival or prepositional, have some distinctive properties, and are discussed in e.g. Doron 1983, Rapoport 1987, Rothstein 1995 and Shlonsky 2000. Specifically, such Hebrew sentences differ from their English and other Germanic counterparts in two main respects. Firstly, the copula in these Hebrew sentences has the form of a third person pronoun. Doron 1983 shows convincingly that this "pronominal" copula (called Pron in her terminology and henceforth) is not verbal, but is, instead, the realization of Agreement features, with no tense or aspect features, which is located in Infl.

Secondly, unlike the situation in English, there are cases where this pronominal copula can be omitted from the sentence without causing any ungrammaticality. Thus, both the +Pron (1a) and the -Pron (1b) are grammatical:

(1) a. rina hi xaxama
       rina 3fm.sg.wise
       “Rina is smart”

       b. rina xaxama
           Rina wise
           “Rina is smart”

Doron 1983, however, shows that, unlike the predicative sentences in (1), Pron is obligatorily present in identity sentences, as can be seen in (2). This descriptive generalization is followed in Rapoport 1987 and Rothstein 1995:

(2) dani *(hu) mar-cohen
       Danny 3ms.sg. Mr. Cohen
       “Danny is Mr. Cohen”

Doron 1983, Rapoport 1987 and Rothstein 1995 took the predicative vs. identity distinction, and hence also the optional vs. obligatory presence of Pron, to depend on the predicativeness vs. argumenthood of the post copular element in the sentence, respectively, and provided theories to explain this correlation (in terms of fulfilling requirements of theta assignment, Case assignment and the predication relation requirement, respectively).

In Greenberg 1998, however, I showed that the distribution of Pron in predicative sentences has a much more varied pattern, which the predicative/identity approach to the distribution of Pron cannot handle. Specifically, this approach has no way to account for the obligatory presence of Pron in clearly predicative
sentences such as (3)^2, it’s obligatory absence in sentences like (4), the difference in grammaticality between the minimally contrasting (5a) and (5b) (where the change is in the pre-copular, rather then the post-copular, element), and the meaning difference, noted by Bendavid 1971 between the +Pron and -Pron versions in (6):

(3) a. ‘orvim *(hem) (yecurim) Sxorim ravens 3ms.pl. creatures black “Ravens are black (creatures)”

b. pariz *(hi) be-carfat Paris 3fm.sg. in-France “Paris is in France”

(4) a. rina (*hi) yafa ha-yom Rina 3fm.pretty today “Rina is pretty today”

b. rina (*hi) re’eva ‘axSav Rina 3fm.sg. hungry now “Rina is hungry now”

(5) a. zmaxim *(hem) yerukim plants 3ms.pl. green “Plants are green”

b. ha-zmaxim ha-‘elu (hem) yerukim the-plants the-these 3ms.pl. green “These plants are green”

(6) a. ha-Samayim hem kxulim the sky 3ms.pl. blue “The sky is generally blue / blue by its nature”

b. ha-Samayim kxulim the sky blue “The sky is blue now/today”

1.2. The Distribution of Pron and the Generic / Nongeneric Distinction

In Greenberg 1998 I claimed that the obligatory presence and absence of Pron in (3)-(4), as well as in many other present tense predicative nominal sentences, intuitively correlates with the high and low degree of permanence ascribed to the relationship between the subject and predicate in the sentence, respectively, and suggested that the best way to make this intuitive distinction precise is in terms of
the generic/nongeneric distinction (and not, e.g. in terms of Carlson’s 1977 stage/individual level distinction). More specifically, I suggested the following generalization:

(7) The Distribution of Pron

a. Sentences in which Pron is obligatorily present can be interpreted as generic only.

b. Sentences in which Pron is obligatorily absent can be interpreted as nongeneric only.

The kind of genericity involved is quantificational-modalized genericity, or, in Krifka's 1987 terms, “I-genericity”, in which the sentence expresses a nonaccidental generalization over situations and (possibly) individuals. Following Krifka 1987, Wilkinson 1991 and Chierchia 1995, 1998, among others, I assume that the semantic structure of such sentences is headed by the generic operator Gen - a universal unselective modal quantifier, binding world variables, individual variables introduced by indefinites (if there are any in the sentence), and situation variables introduced by the main predicate of the sentence. Besides their modalized nature, such I-generic sentences have a “tripartite” semantic structure, just like sentences with quantificational adverbs like usually, containing the unselective quantifier, a “restrictive clause”, where the restriction on the quantifier is represented, and a “nuclear scope”, where the main assertion is made. Chierchia’s 1995 representation of the generic sentence Birds fly in (8a), which I wrote more explicitly in (8b), is a representative of this modal-quantificational approach to genericity:

(8) a. Gen s,x [bird (x) & C(s,x)] [fly (s,x)]

b. ∀s,x,w’ [bird (x) in w’ & C(s,x) in w’ & R(w’,w)] [fly(s,x) in w’]

The variables s,x, and w’ in (8b) stand for situations, individuals and worlds, respectively. C is a contextually filled variable, which restricts the situations quantified over to those which contain, or involve an individual (e.g. an individual bird) and which are also contextually relevant (e.g. ones where the birds involved are awake). The relation R(w’,w) is some accessibility relation, which restricts the worlds quantified over to those which are relevant for the evaluation of the sentence, i.e. those accessible from the world of evaluation in the appropriate manner. The interpretation of Birds fly, according to this representation is roughly “Every contextually relevant situation, involving every bird, in all worlds which are appropriately accessible from our world (e.g. where what is known in our world holds), is a situation where such a bird flies”.

Turning now back to the generalization made in (7) above, the idea is, then, that sentences in which Pron is obligatorily present (oblig.+Pron, henceforth) are necessarily quantificational generic, and are associated with Gen, whereas those in
which Pron is obligatorily absent (oblig.-Pron, henceforth), are those which cannot
be interpreted as such, and which cannot be headed by Gen. This implies that
subject-predicate strings in which Pron optionally appears (i.e. which can be either
+Pron or -Pron) are not limited to one of the interpretations but can have both a
generic and the nongeneric reading. The following two sections illustrate how this
generalization is confirmed.

1.3. Oblig.-Pron Sentences Are Nongeneric Only

The generalization in (7), together with the independent assumption (see e.g. Krifka
1987, Krifka et al 1995, Chierchia 1995, among others) that genericity and
episodicity are mutually exclusive, account for the fact that many oblig.-Pron
sentences are those expressing episodic statements, asserted to be true in limited
temporal intervals only. This can be seen again in the temporally modified sentences
in (4a) and (4b ) above, as well as in sentences like (9a,b), where episodicity is
strongly implied by the nature of a the clearly stage level predicate (expressing
typically transitory properties):

(9) a. dani (?hu) ‘ayef
Danny 3ms.sg. tired
"Danny is tired"
b. rina (?hi) Stuya
Rina 3fm.sg. drunk
"Rina is drunk"

The generalization also accounts for the fact that Pron is obligatorily absent
when the nominal sentence functions as the antecedent of a When-clause, even if the
predicate is individual level, as in the underlined part in (10):

(10) kSe dani (?hu) Samen, hu holex la-rofe Selo
When-Danny 3ms.sg. fat, he go to-doctor his
“When Danny is fat, he goes to his doctor”

According to generalization (7b), Gen cannot be present in the semantic
structure of the underlined nominal sentence in (10), as indicated by the obligatory
absence of Pron in it. The reason is that, as independently argued by e.g. Kratzer
1995, When-clauses like (10) are represented as tripartite structures containing an
unselective universal operators, restrictive clause (containing the material in the
antecedent of the When-clause) and a nuclear scope (containing the material in the
consequence of the When-clause. If a Gen quantifier was present in the antecedent
of the When-clause (e.g. in the representation of “Danny is fat” in (10)), then the
semantic structure of the whole When-clause would be: \( \forall s [Gen s [C(s,Danny)]
[fat(s,Danny)] [goes to his doctor (s,Danny)], in which the unselective Gen binds
the situation variable in the antecedent, which forms the restriction of the whole when-clause. In such a case, however, the implicit outer universal quantifier, which is independently introduced by the When-clause itself, has no variable to bind in the antecedent (since Gen binds the only free variable in it), and hence the structure is ruled out due to vacuous quantification. This problem is similar to the one created when an overt adverb of quantification is added to the antecedent of a When-clause in English as in # “When Danny is usually fat, he goes to the doctor”.

Generalization (7b), then, successfully accounts for all the cases of oblig.-Pron sentences.

### 1.4. Oblig.+Pron Sentences Are Generic Only

The class of oblig.+Pron sentences is much more heterogeneous than that of oblig.-Pron just discussed. First, we have classic generic sentences with bare plural and indefinite singular subjects, as in (11a) and (11b), respectively:

(11) a.  ’orvim *(hem) (yecurim) Sxorim ravens 3ms.pl. (creatures) black
"Ravens are black (creatures)"

b.  ’orev *(hu) (‘of) Saxor a raven 3ms.sg. (bird) black
"A raven is (a) black (bird)"

Such sentences are traditionally analyzed as quantificational, I-generic by e.g. Krifka et al 1995 and Chierchia 1995), and are represented as in (8) above, where the relevant accessibility relation, \((R(w’,w)\) in the representation) is most reasonably an epistemic one, which gives us the words where what is known in general, or what is known w.r.t. ravens, is true. Following Kratzer’s 1981 work on nongeneric modality, however, Krifka 1987 and Krifka et al 1995 show that the relevant accessibility relation for generic sentences is not limited to epistemic ones but can vary and be deontic, as in “A boy doesn’t cry”, linguistic as in “A bachelor is an unmarried man”, and even mathematical, as in “Two and two are four”. As seen in (12a)-(12c), generalization (7a) correctly predicts all such generic sentences to be oblig.+Pron:

(12) a. rvak *(hu) ‘iS Se-lo hitxaten bachelor 3ms.sg. man that-not got married
"A bachelor is a man who didn’t get married”

b. yeled tov *(hu) yeled menumas boy good 3ms.sg. boy polite
"A good boy is a polite boy"

c.  Stayim ve-‘od Stayim *(hem) ‘arba  
two and-more two 3ms.pl. four  
"Two and two are four"

(11) and (12) contrast with subject-predicate strings as in (13a), with a definite subject, and (13b), with an explicit nonmodal quantificational adverb, which are, indeed, not necessarily generic (although they can be given such an interpretation), and in which Pron optionally appear, as correctly implied by generalization (7):

(13) a.  ha-‘orvim Seli (hem) Sxorim  
the ravens mine 3ms.pl. black  
"My ravens are black"

b.  ‘orvim (hem) tamid Sxorim  
ravens 3ms.pl. always black  
"Ravens are always black"

Another type of oblig.+Pron sentences are those in (14), with an explicit nominal quantifier:

(14) a.  kol yalda ??(hi) ‘amica  
every girl 3fm.sg. brave  
"Every girl is brave"

b.  harbe ‘orvim ??(hem) Sxorim  
many ravens 3ms.pl. black  
"Many ravens are black"

Carlson 1989 and Kratzer 1989 show that similar subject-predicate strings in English can have a generic reading, where the predicate denotes a property true of every potential member of the subject set (i.e. of every member of the subject set in all accessible possible worlds). For the Hebrew sentences in (14a) and (14b), however, the generic reading seems to be the only one possible. Among other things this is indicated by the fact that (14a) entails the counterfactual in (15):

(15)  ‘im hayiti yalda, hayiti ‘amica  
if were-I girl, were-I brave  
"If I were a girl, I would be brave"

In contrast, subject-predicate strings in which the quantifier is restricted to a specific domain, do not necessarily predicate a property of every potential member of the subject set, but have the option of predicating the property of every actual...
member of the subject set, i.e. they can express nongeneric, accidental generalizations. For example, a sentence like "Every girl in my class is brave" can either assert that it happens to be the case that every actual girl in my class is brave (a nongeneric statement), or every actual and potential girl in my class is brave (a generic statement), maybe due to some requirement saying that only brave girls are accepted to this class. This optionality of generic reading, indicated by the fact that such a sentence does not necessarily entail the counterfactual in (16), is what leads to the optionality of Pron in the Hebrew version of this sentence, seen in (17), as correctly implied by the generalization in (7):

(16) If I were a girl in this class, I would be brave

(17) kol yalda ba-kita Seli (hi) ‘amica 
    every girl in the class mine 3fm.sg. brave
    “Every girl in my class is brave”

Finally, there are also sentences (like (18a) and (19a)) with definite or proper name subjects which are oblig.+Pron. These contrast with the sentences in (18b-c) and (19b), respectively, where Pron is optional:

(18) a. ha-xaya ha-zot *(hi) zebra
    the animal the this 3fm.sg. zebra
    ”This animal is a zebra”

b. ha-xaya ha-zot (hi) yafa
    the animal the this 3fm.sg pretty
    ”This animal is pretty”

c. ha-‘iS ha-ze (hu) more
    the man the-this 3ms.sg. teacher
    ”This man is a teacher”

(19) a. pariz ??(hi) be-carfat
    Paris 3fm.sg. in France
    ”Paris is in France”

b. ha-rofe Seli (hu) be-carfat
    the doctor mine 3ms.sg. in France
    ”My doctor is in France”

(18a-c) show that the relevant factor responsible for the obligatoriness of Pron does not lie in the stage/individual level distinction, since the predicates in (18a), (18b) and (18c) are all classic individual level. Nor should this factor be attributed to the lexical category of the predicate, since both (18a) and (18c) have nominal
predicates. Instead, (18a), is generic only, and thus oblig.+Pron, because it asserts that the property denoted by the predicate is inherent, or essential of the individual denoted by the subject, and that in some sense it "defines" what this animal is. If this animal is a zebra in this world, it would necessarily be a zebra in all worlds close enough to ours, (where entities do not change their identity all of the sudden). In contrast, this animal can be pretty, and this man can be a teacher, without any necessary implication of inherentness, so changing these properties does not necessarily change their inherent properties, or "identity". Similarly, the oblig.+Pron (19a) is generic only since being in specific locations (as in France) is taken to be an essential property of stationary objects like cities (e.g. Paris). In modal terms: if Paris is in France in our world then it would continue to be in France in all worlds close enough to ours (where, e.g. cities do not start walking). This is of course not necessarily true when the subject denotes a mobile object as in (19b). The obligatoriness of Pron in (18a) and (19a), then, correlates with the obligatory interpretation of the sentences as generic, i.e with the obligatory presence of Gen in their semantic structure.

In order to allow for the presence of the unselective Gen in sentences like (18a), however, we have to reject Kratzer’s 1995 claim that individual level predicates do not have an event/situation argument, and instead follow Condoravdi 1992, de-Swart 1994 and Chierchia 1995 and 1998, among others, who take both individual and stage-level predicates to introduce such a variable into the representation. If we don’t make this move the generic quantifier in (18a) will have no variable to bind (since there is no indefinite introducing an x variable around), and it will be wrongly predicted to be ill-formed due to vacuous quantification. (18a), then, is represented as ∃s,w’ [C(s,this animal) in w’ & R(w’,w)] [zebra (s,this animal) in w’], and paraphrased as “Every contextually relevant situation, involving this animal, in all appropriately accessible worlds, is a situation where this animal is a zebra”.

1.5 A Problem: Oblig.+Pron Sentences With a Proper Kind Predication Reading

The following sentences constitute a problem for the claim that the semantic structure of all oblig.+Pron sentences is necessarily headed by the generic quantifier Gen:

(20) a. livyatanim kxulim *(hem) yecurim nedirim
whales blue 3ms.pl. creatures rare
"Blue whales are rare creatures"

b. ‘ishun *(hu) hergel mesukan
smoking 3ms.sg. habit dangerous
"Smoking is a dangerous habit"

c. kaduregel *(hu) misxak populari
football 3ms.sg. game popular
“Football is a popular game”

Although these oblig.\textit{+Pron} sentences are intuitively understood as generics, trying to represent them as quantificational generics leads to the wrong results. For example, representing (20a) as a quantificational generic we get the representation:

\[
\forall s,x,w' \left[ \text{blue whale}(x) \text{ in } w' \& C(s,x) \text{ in } w' \& R(w',w) \right] \left[ \text{rare creature } (s,x) \text{ in } w' \right],
\]

paraphrased as “Every situation involving every blue whale in all accessible worlds is a situation where this blue whale is a rare creature”. But of course, and as pointed out by many theories (starting with Carlson 1977), this representation gives us the wrong meaning of sentences like (20a), since no specific, individual whale can be a rare creature. Instead, the predicate “rare creature” applies to the whole kind “blue whales”, i.e. it is “kind level”, in Carlson’s 1977 terms. A similar representational problem holds for the sentences in (20b) and (20c), which clearly do not assert that all smoking situations in all accessible worlds are dangerous habit situations, or that all individual football games are popular, respectively, but rather, that the abstract kind of activity “smoking” is a dangerous habit, and that football is a popular kind of game. As suggested in, e.g. Carlson 1977, Wilkinson 1991, and Chierchia 1998, this latter intuitive interpretation is captured by representing sentences like (20a, 20b and 20c) as Proper Kind Predication structures (or “kind-generics”, for short), in which the generalization is made through predicating a property directly of a kind, instead of using a generic operator for quantifying over every individual instance of the kind. For example, (20a) and (20b) will be represented as in (20a’) and (20b’), respectively (where bold letters indicate a kind term):

(20a’) rare creatures (blue whales)
\textit{Paraphrase: The property of being rare creatures holds of the kind “blue whales”.}

(20b’) dangerous habit (smoking)
\textit{Paraphrase: The property of being a dangerous habit holds of the kind of activity “smoking”.

Thus, although the data in (20) further supports the correlation between oblig.\textit{+Pron} sentences and the obligatory generic reading, it indicates that our original definition of “generic only” as “necessarily quantificational generic” cannot be true anymore. Instead, the generalization is that oblig.\textit{+Pron} sentences are either quantificational-generic, with a structure as in (8) above, or “kind generic”, with a structure as in (20a’) and (20b’).

1.6. Why Pron?
We see, then, that the generalization in (7) is indeed born out. The natural question to ask now is why is the generic/nongeneric distinction, which is semantic in nature, syntactically manifested through this pronominal copula in Hebrew?

In Greenberg 1998 I gave a preliminary answer to this question, based on Rapoport’s 1987 and Rothstein’s 1995 claim that +Pron and -Pron sentences differ structurally. According to these two theories, not only is Pron located in Infl, but its presence is, in fact, an indication that a Infl node is present, and its absence is an indication that the Infl node is absent. That is, according to Rapoport and Rothstein +Pron sentence are full clauses, i.e. IPs, whereas -Pron sentences do not have an IP structure at all, but are, instead, XP structures, or “matrix small clauses” (in Rapoport’s terms). This implies also that the subjects of +Pron and -Pron sentences are located in different positions. Specially, the former are in the external, specIP position, whereas the latter are in the internal, specXP position. Following these claim we can now rephrase the generalization in (7) above as in (21) (where the term “generic” is now understood as either quantificational, or kind generic):

(21) The Distribution of Pron

a. Oblig.+Pron sentences, whose subject is necessarily in the external, specIP position, can be interpreted as generic only.

b. Oblig.-Pron sentences, whose subject is necessarily in the internal, specXP position, can be interpreted as nongeneric only.

Interestingly, there are reports on similar correlations, between the external/internal position of the subject and the generic/nongeneric reading of the sentence, respectively, in other languages, such as German (in Diesing 1992) Dutch (Reuland 1988), and Scottish Gaelic (Ramchand 1996). Thus, once the generalization about the distribution of Pron is phrased in more syntactic terms, as in (21), it can be seen as part of a wider, cross-linguistic semantic - syntactic interface pattern. This eventually may lead to a more explanatory account of the correlation in Hebrew.

This concludes my review of Greenberg 1995. I will now turn to examine the possibility of extending the generalization in (21) to all possible distributions of Pron, and offer an explanation for this extended generalization.

2. EXTENDING THE GENERALIZATION TO ALL POSSIBLE DISTRIBUTIONS OF PRON

2.1. Theoretical Desirability of an Extended Generalization
Despite the success of (21) to make some order in the apparent messy distribution of \textit{Pron} in Hebrew predicative sentences, this generalization is still partial, dealing only with obligatory presence and absence of \textit{Pron}, and descriptive, since it does not provide yet any explanation for the correlation between the obligatory external/internal position of the subject, and the obligatory generic/nongeneric interpretation of the sentence. The most obvious and natural step to make now in order to understand this correlation, is to have an extended generalization, focusing not only on the obligatory presence/absence of \textit{Pron}, but on its presence/absence in general. Such a generalization will describe a more general correlation between the syntactic structure of the sentence, in terms of the external or internal position of the subject, and its semantic structure, which results in a generic or nongeneric reading, respectively, and will allow us to arrive at an explanation of this correlation.

Such an extended generalization, saying roughly that all +\textit{Pron} sentences are generic and all -\textit{Pron} ones are nongeneric, seems to be highly desirable, since it can naturally subsume the original generalization in (21) (e.g. if all +\textit{Pron} sentences are generic, then it follows naturally that all oblig.+\textit{Pron} are obligatorily generic). In addition, if, as suggested in the previous section, we want to make use of the syntactic difference between oblig.+\textit{Pron} and oblig.-\textit{Pron} sentences, in order to arrive at an explanatory account of the syntactic-semantic interface in Hebrew nominal sentences, we cannot afford to ignore the semantic structure of sentences where the presence and absence of \textit{Pron} is optional (like (6a) and (6b) above, respectively), since, syntactically, such sentences are exactly the same as the ones where the presence and absence of \textit{Pron} is obligatory, respectively. An extended generalization will relate to the semantic structure of all syntactically-identical sentences.

In this section I will make this natural step, and claim that, in addition to being theoretically desirable, an extended generalization, accounting for all possible distributions of \textit{Pron}, is empirically motivated, and should be represented along the following lines:

(22) The Distribution of \textit{Pron} (Extended Generalization)

\begin{itemize}
  \item[a.] The semantic structure of +\textit{Pron} sentences (with subject in specIP) is headed by a generic operator (thus expressing generic statements).
  \item[b.] The semantic structure of -\textit{Pron} sentences (with subject in specIP) is not headed by a generic operator (thus expressing nongeneric statements).
\end{itemize}

There are two immediate and serious apparent problems with this proposed extended generalization, which prevented me to argue for its truth in Greenberg 1998. The first is the fact pointed out in section (1.5), that “kind generic” sentences appear as +\textit{Pron} sentences in Hebrew, but seem to lack a generic operator. The second is the fact that -\textit{Pron} sentences with individual level predicates seem to
express generic statements, and appear synonymous to their minimally contrasting $+\text{Pron}$ counterparts. In section 3 I examine these problems in more detail, and offer their solutions. Before doing that, however, let me turn first to data supporting the generalization in (22).

2.2. Empirical Support for the Extended Generalization

The most clear kind of data supporting (22) is BenDavid’s 1971 observation, mentioned in section 1.1, about the semantic difference between minimally contrasting $+\text{Pron}$ and $-\text{Pron}$ versions of the Hebrew *The sky is blue*. I repeat BenDavid’s examples and glosses here:

(23) a. ha-Samayim hem kxulim
the sky 3.ms.pl. blue
“The sky is inherently blue, blue by its nature”

b. ha-Samayim kxulim
the sky blue
“The sky is blue today / at the moment”

That is, as predicted by the extended generalization in (22), the $+\text{Pron}$ version is perceived as more generic, and the $-\text{Pron}$ one as more episodic (i.e. nongeneric). This correlation is not limited to this subject-predicate string, but shows systematically with many other predicates which are “ambiguous” between the permanent and the episodic readings (roughly between the stage and individual level readings), as seen below:

(24) a. Tiheye be-Seket ! dani ‘achani
be in-quiet ! Danny nervous
"Be quiet ! Danny is nervous (now)"

b. tihe ye-be-Seket ! dani hu ‘achani
be in-quiet ! Danny 3ms.sg. nervous
"Be quite ! Danny is a nervous person"

(25) a. ha-nacig Seli be-carfat
the representative mine in-France
“My representative is in France (now)"

b. ha-nacig Seli hu be-carfat
the representative mine 3ms.sg. in-France
“My representative is located in France (generally)”

(26) a. ‘aba Seli Sikor
father mine drunk
"My father is drunk (now)"

b. ‘aba Seli hu Sikor
father mine 3ms.sg drunk
"My father is an alcoholic"

As can be seen from the glosses, there is a clear meaning difference between the minimally contrasting sentences in (24)-(26). In general, the predicates in such +Pron sentences always denote permanent properties, whereas the prominent reading of those in the -Pron sentences is more episodic. Consequently, the +Pron and -Pron versions are appropriate in different situations. For example, I will appropriately say (24a) to somebody who knows Danny, but doesn't know that he is nervous now, whereas the +Pron in (24b) will be more appropriately directed to a listener who does not know Danny. This is because (24b) "defines" who Danny is, i.e. what kind of person he is, i.e. asserts that nervousness is an inherent property of his. (25a) is appropriate as an answer to the question “where is your representative now?”, whereas (25b) will more appropriately answer the question “where is your representative located?”. The word Sikor in Hebrew is ambiguous between the adjective “drunk” and the noun “alcoholic”, and as predicted, the first, more episodic reading arises when Pron is absent, and the second, more permanent reading is more appropriate when Pron is present.

The contrast between the +Pron and -Pron sentences in (23)-(26), then, can be clearly taken as a generic/nongeneric distinction, and as such, it seems to empirically support the generalization in (22) above.

3. TWO PROBLEMS WITH THE EXTENDED GENERALIZATION

However, as pointed out above, the theoretically desirable and empirically supported extended generalization faces two serious problems. I will now discuss these two problems in more detail and suggest a solution for each of them.

3.1. Giving a Unified Representation to All +Pron Sentences

3.1.1. The Problem

As mentioned in section (1.5) above, although all oblig.+Pron sentences are indeed understood as generic, some of them, namely the “kind-generic” ones in (20) above, are traditionally represented as Proper Kind Predication structures, and trying to represent them as their quantificational, I-generic counterparts yields the wrong interpretation. Thus, we seem to have two distinct schematic semantic structures for oblig.+Pron sentences: quantificational (for sentences such as in (11) above), seen in (27a), and nonquantificational, (for sentences such as in (20) above), seen in (27b): (where P stands for property denoted by the subject, Q, for the property denoted by the predicate, and P (in (27b)) stands for a kind term):
The Manifestation of Genericity in Hebrew Nominal Sentences

(27) a. \[\forall x, s, w'[ P(x) \text{ in } w' \& C(s, x) \text{ in } w' \& R(w', w)] [Q(s, x) \text{ in } w']\]
   (e.g. *Ravens are black*)

   b. Q(P)
   (e.g. *Blue whales are rare mammals*)

Thus, the impossibility of representing oblig. +Pron sentences like (20a,b,c) with a Gen operator seems to refute generalization (22a). The best we can say is that all +Pron sentences are either quantificational generic or “kind generic”. But this leaves us in a rather descriptive position. It is not clear why a single syntactic construction will manifest two different semantic structures.

3.1.2. The Solution

In Greenberg 1995 I hypothesized that the fact that both quantificational and kind generic sentences have the same syntactic manifestation in Hebrew nominal sentences (namely as +Pron) indicates that despite the widely held view, they may share a semantic characteristic which should be represented formally. In this section I will show that this is true, suggest what this common semantic characteristic is and give a unified semantic structure to both the “kind generic” and quantificational generic sentences which pattern in Hebrew as +Pron.

Consider again the English correlates of the oblig. +Pron sentences discussed in section 1. Those in (28) are analyzed as quantification generic and those in (29), as Proper Kind Predication structures, i.e. as “kind generic”:

(28) a. Ravens are black (creatures)
   
   b. A raven is a black creature
   
   c. A bachelor is an unmarried man
   
   d. A good boy is a polite boy
   
   e. Two and two are four
   
   f. Every boy is brave
   
   g. This animal is a zebra
   
   h. Paris is in France

(29) a. Blue whales are rare creatures
   
   b. Smoking is a dangerous habit
c.  Football is a popular game

My intuition w.r.t. to these sentences is that all of them express some sort of definition. Crucially, even the “kind generic” cases in (29) seem to express some kind of definitional, nonaccidental statements, namely statements which are taken to be true general, in other sets of circumstances (i.e. other worlds), besides the actual one. Crucially, unlike what happens with quantificational genericity, this “definitional flavor” is not felt with any “kind generic” sentence. The well known “kind generic” sentences in (30) (discussed by e.g. Carlson 1977 and Krifka 1987) seem to describe specific, accidental, state of affairs, and predicate an accidental property of their kind denoting subjects.

(30) a.  Rats reached Australia in 1876

   b.  Man sat foot on the moon in 1975

Thus, the “definitional flavor” felt with the sentences in (29), is not an integral part of “kind genericity” and capturing it requires adding some component to the representation in (27b) above. The natural candidate for this component is modality, i.e. turning the traditional, simple Proper Kind Predication in (27b) into modalized Proper Kind Predication. In other words, my claim is that the sentences in (29) express, not merely that a certain property is true of the kind in the actual world, but rather that this is some sort of necessity. I.e. that predication holds in other worlds as well, specifically, in all worlds where e.g. the essential properties of the kind are preserved, or, the worlds where the language is interpreted as in our world.

This means, that instead of the traditional representation of (29a)-(29c) as in (27b) above, they should be represented now as in (31):

(31)    Modalized Kind Predication:  \forall w' [R(w',w)] [(Q(P) in w')]

Paraphrase:  In all worlds accessible from our world (w.r.t. the way the language is interpreted, what we know, etc.), the property Q is true of the kind P.

Now the intuitive semantic similarity between the English correlates of the oblig.+Pron sentences in (28) and those in (29), namely the fact that both express some kind of nonaccidental, “definitional” statements, can be formally captured. The representations of both kinds of generics contain now a universal modal operator, restricted by some accessibility relation. What forces, then, the obligatory presence of Pron in (29a-c) is not the mere kind predication, but it’s modalized, “definitional” dimension. This is supported by the fact that kind predication structures which are not modalized, and express accidental statements like the sentences in (30), appear in Hebrew as -Pron, as can be seen in (32):

(32)  drorim ‘aforim (*hem) nedirim kan ba-zman ha-‘axaron
sparrows gray 3ms.pl. rare here in-the-time the-last
"Gray sparrows are rare here lately"

Both the structures of the quantificational-generics in (27a) and the modalized kind generics in (31) are headed, then, by a universal modal operator. This is what captures the “definitional” flavor of all oblig.+Pron sentences, and by extension, all +Pron sentences. The difference between the two structures is that, in the case of quantificational genericity, this quantifier binds also x and s variables, provided by the main predicate and indefinite NPs (if there are any), respectively, whereas in the case of modalized kind genericity, the universal quantifier binds worlds only. Crucially, however, in both cases we have a tripartite semantic structure headed by a universal quantifier over worlds.

We may hypothesize, then, that it is the presence of this universal modal operator which triggers the presence of Pron, where this operator can be either unselective (in the case of quantificational-generics sentences), or selective (in the case of modalized kind generics). However, this hypothesis makes the wrong predictions. If the presence of a selective universal modal operator can trigger the presence of Pron, then we predict that a sentence with a semantic structure as in (33), should be necessarily surface as +Pron:

(33) ∀w’ [R(w’,w)] [nice(Rina) in w’]

This structure, paraphrased as “In all accessible worlds Rina is nice”, is exactly the structure, given by e.g. Kratzer 1981, to epistemic modalized sentence like “Rina must be nice”, (or the deontic “Rina should be nice”, depending on the accessibility relation). In Hebrew, however, such sentences can easily appear as -Pron, as can be seen in (34):

(34) rina betax nexmada /'ayefa
Rina must nice / tired
"Rina must be nice/tired"

We need to find a way, then, to distinguish the modal operator of the kind generic sentence, in (31), from that of the nongeneric one, in (33). Intuitively, unlike the selective modal operators in structures like (33), the modal operator in the modalized kind predication in (31) gives us a different meaning, namely - a modalized generic meaning. This is also true for the modal operator in the quantificational generic (27a). Thus, we need to give a unified characterization to generic modality, namely to semantic structures which, unlike the nongeneric modality in (33), are not only modalized (i.e. involve quantification over worlds different from ours), but in addition give us a feeling of “generalization”. Crucially, where it does not matter whether this feeling is a result of explicit universal quantification over situations or entities, or a result of directly ascribing a property of a kind.
The way to do this, I suggest, is to claim that unlike the selective modal operator of nongeneric modality (as in (33)), generic modality is, in fact, always unselective, although this unselectivity is not manifested and cannot be seen where, because of the nature of the sentence, the world variable is the only one available for quantification. Specifically, in case we have modalized Proper Kind Predication, it is indeed only the world variable which is available for quantification, since neither the s, nor the x variables are available. The problem of binding the x variable in kind predication was already pointed out above. Shortly, predicates of kinds cannot apply to individuals, as can be seen again from the oddness of the semantic structure in (35b):

(35) a. Blue whales are rare mammal
b. $\forall x,s,w' \left[ \text{blue whale (x) in w'} \& C(s,x) \text{ in w'} \& R(w',w) \right] \left[ \text{rare mammal (s,x) in w'} \right]$

Paraphrase: “# Every situation involving an individual blue whale, in all accessible, close enough worlds is a situation where this individual blue whale is a rare mammal”

Nor is any situation variable available for quantification, i.e. we cannot have a structure as in (36b), where the situation variables involves whole kinds, instead of individuals):

(36) a. Football is a popular game
b. $\forall w',s \left[ C(s, \text{football}) \text{ in w'} \& R(w',w) \right] \left[ \text{popular (s,football) in w'} \right]$

Paraphrase: # Any relevant situation involving the kind of game football, in all accessible worlds, is a situation where this kind of game is popular.”

The oddness of this reading seems to result from the fact that the ‘C’, or the “involve” relation can hold between situations and normal individuals (like people, entities, locations or instances of this kind of game (i.e. specific games) etc.), but not between situation and kinds, which are, in fact abstract entities. That is, it will be odd to have a situation involving the kind of game football (and not instances of this kind, i.e. specific football games). Similarly, it is odd to think of a situation involving the whole kind “blue whales” (instead of individual blue whales)10.

What we get, then, is the following: +Pron sentences correlate with semantic structures headed by a universal modal unselective operator. In case of I-generic sentences, the unselective nature of this operator is manifested, and, in addition to the world variable, it binds s and, when an indefinite NP is present, also x variables.
In case no s or x variable is available for quantification, the unselective nature is not manifested, and the operator binds only the world variable. Specifically, this latter situation occurs only when we have modalized kind predication. This is what gives us the feeling of generic modality - i.e. a combination of “nonaccidentalness” (i.e. modality) and generalization, and crucially, even in such structures the operator is unselective in nature, since if there were an available variable it would bind it.

In contrast, although nongeneric modal operators, like must and should, also quantify over worlds only, they are truly selective operators, since there are clearly other variables available for quantification, which they do not quantify over (e.g. the s variable introduced by the predicates nice or tired in (34))\textsuperscript{11}. It is the combination of the universality, unselectivity and modality of the operator heading the semantic structures, which makes them express “generic modality”, which we more intuitively feel as “definitional” flavor, and which correlates with the presence of Pron in Hebrew.

3.2. The Meaning of -Pron Sentences with Individual Level Predicates

3.2.1. The Problem

Having given a unified representation to all +Pron sentences, in which they are analyzed as headed by a universal modalized unselective Gen operator, we now have to handle the second problem. This problem concerns -Pron sentences whose main predicate is unambiguously individual level, as in (37a)-(38a), and which, at least on the surface, seem to have the same meaning as their minimally contrasting +Pron sentences in (37b)-(38b):

a. dani more le-'anglit
   Danny teacher to-English

b. dani hu more le-'anglit
   Danny 3ms.sg. teacher to-English
   (both:)”Danny is an English teacher”

(38) a. rina nexmada
   Rina nice

b. rina hi nexmada
   Rina 3fm.sg. nice
   (both:)”Rina is nice”

There is no obvious difference between the interpretation of the -Pron (a) and the +Pron (b) sentences in (37) and (38). Remember that until now the semantic difference between +Pron and -Pron sentences was mainly manifested as a permanent/episodic distinction (see again the contrasts in (24)-(26) above). But in this sense there is no difference between the +Pron and -Pron sentences here, since
the -Pron sentences seem to express statements which are as permanent as the +Pron ones. On the surface this seems to indicate that such -Pron sentences express generic statements just like their +Pron counterparts.

This conclusion is supported by Chierchia’s 1995 claim that the presence of individual level predicates is always an indication of genericity. For him, all individual level predicates are systematically associated with a generic operator, i.e. they are inherently generic. Indeed, one of Chierchia’s motivations for systematically associating individual-levelhood with genericity is the attempt to capture the tendential stability (i.e. permanence) of sentences with individual level predicates through the well-established tendential stability of generics.

But, if any sentence with an individual-level predicate, even -Pron sentences as in (37a) and (38a), is interpreted as generic, then part (b) of our extended generalization in (22) cannot be true anymore. What is worse, if generic statements can be equally expressed by both +Pron and -Pron sentences, then we cannot explain the fact that a subject-predicate strings which only have a generic interpretation cannot occur as -Pron (i.e. are oblig.+Pron), as shown in section 1.4 above.

3.2.2. The Solution

My claim is, however, that despite the similarity between the +Pron and -Pron pairs in (37-38), they express different statements. Specifically, whereas the +Pron sentences express indeed generic statements, i.e. assert nonaccidental statements, the -Pron counterparts do not.

A first clue pointing out that this claim is right comes from the distinction between sentences like (18a) above, repeated here as (39), and (18a-b) above, repeated here as (40a-b):

(39) ha-xaya ha-zot *(hi) zebra (=”This animal is a zebra”)

(40) a. ha-xaya ha-zot (hi) yafa (=”This animal is pretty”)
    b. ha-’iS ha-ze (hu) more (=”This man is a teacher”)

As explained in section 1.4 above, what semantically distinguishes between these sentences is the fact that in (39) the predicate expresses a property which is inherent or essential of “this animal”, or, in more formal terms, it expresses that the statements is true, not only in the actual world, but in other worlds as well, namely all worlds where “this animal” does not change its identity. In contrast, the predicates in (40a-b) do not necessarily express inherent properties of their subjects. Even if they are permanently true in our world, we can find lots of worlds very close to ours where this animal is not beautiful, where this man is not a teacher (or even he was a teacher and stopped doing that etc.). Of course, one can claim that being beautiful is inherent of this animal and that being a teacher is inherent of this man,
but crucially, and unlike the situation in (39), this is not the only option. This
distinction suggests, then, that what is responsible for the optionality of Pron in (40)
is the optionality of the “inherent” or modalized reading, and that “permanence”, or
tendential stability in this world does not necessarily entails “generic”, or cross
world persistence.
I suggest, then, that unlike the generic modal unselective quantification
associated with the +Pron version of the Hebrew “Rina is nice”, the -Pron version
of this sentence simply assert that the property expressed by the predicate is true of
the denotation of the subject in the actual world for a long time. This claim seems to
be intuitively supported by the following distinction:

(41) a.  rina (??hi) nexmada. ‘afilu ba-macavim haxi kaSim hi titnaheg kaxa
Rina 3fm.sg. nice. Even in-the situations most difficult she will-behave
like this
“Rina is nice. Even in the hardest situations she would behave like
that”

b.  rina ?(hi) nexmada. ‘afilu ba-macavim haxi kaSim tihye kazot
Rina 3fm.sg. nice. Even in-the situations most difficult she will-be
like this
“Rina is nice. Even in the hardest situations she would be like that”

The predicate in the +Pron sentence, cannot be interpreted as merely “such a
behavior”, but rather as what Rina is, i.e. as an integral and inherent part of her
identity. This is why Pron is inappropiate in (41a), and seems to be needed in
(41b). In contrast, the predicate in the -Pron version is understood simply as one of
Rina’s properties, and as such is more neutral. Properties can be manifested in
various ways, among which, a certain kind of behavior, in this case Rina’s behavior.
Such -Pron sentences, then, express that the individual denoted by the subject
has the property denoted by the predicate, in the actual world. Assuming the
independently motivated claim, discussed in section 1.4 above, that all predicates
(including individual level ones) have a situation/event argument, the representation
of the -Pron version of “Rina is nice” in (38a), will be (42), where the s variable is
bound by default existential closure in the usual way (following Heim 1982 and
subsequent work):

(42)  rina nexmada: ∃s [nice (s) & theme(s) =Rina]

In contrast, the +Pron version of this sentence (in (38b)) is represented
with a generic operator binding this situation variable, as in (43):

(43)  rina hi nexmada: ∀s,w’[C(s, Rina) in w’ &R(w’,w)]
     [nice (s,Rina) in w’]
Notice, however, that although the different representations in (41) and (42) seem to capture the modalized vs. "extensional" distinction between +Pron and -Pron sentences, they are not enough to explain the strong similarity between the +Pron and -Pron versions, in terms of tendential stability, or permanence. Specifically, it is not clear how we get this tendential stability in the case of the -Pron (42).

Remember that Chierchia’s 1995 idea is to let a generic operator bind the s variable of all individual-level predicates. But this solution is exactly the one we want to reject: like Chierchia we want to capture the similarity between +Pron and -Pron sentences with individual level predicates (mainly - in terms of permanence or tendential stability), and to let the situation variable of such predicates to be present in both kinds of sentences. But we want to reserve generic quantification of this situation variable for the +Pron sentences only. This means we have to find another way to capture tendential stability in -Pron sentences with individual level predicate.

The solution to this problem lies in adopting the independently motivated claims made by De-Swart 1994 and Condoravdi 1992, among others, concerning the representation of sentences with individual level predicates in English. Like Chierchia 1995, and contra Kratzer 1995, these theories claim that individual-level predicates have an event/situation variable just like their stage-level counterparts. Unlike him, however, they achieve the “tendential stability” of these predicates, not through generic quantification over the s variable, but rather by postulating special pragmatic requirements on it. In Condoravdi’s terms, the individual-level predicate has a default inference of temporal persistence, which means that “if an eventuality is going on at time t, and you have no information that it is not going on at some later time t’, then infer that it is going on at that later time t’ as well”(p.9). As a result of this inference the eventualities of individual level predicates have a continuous temporal distribution (i.e. they are tendentially stable, in Chierchia’s terms), but crucially, this holds only in the absence of any information to the contrary. That is, this is a default inference, or some kind of pragmatic implication, which can be canceled. According to both Condoravdi and de Swart, this special requirement on the s variable is what prevents, in the normal case temporal modification of individual level predicates (as in #John is tall today), as well as adverbial quantification over individual-level predicates (as in #John is usually tall) (since quantification needs a plurality of events, and the default inference implies that the situation introduced by the predicate is unique and single).

Assuming, then, the truth of Condoravdi’s and de Swart’s claims, we will now represent the -Pron version of “Rina is nice” like this:

(44) \[ \text{rina nexmada} : \exists s \ [\text{nice}(s) \ & \ \text{theme}(s) = \text{Rina})]. \]

Default inference (i.e. implication) : “if an s is going on at time t, and you have no information that it is not going on at some later time t’, then infer that it is going on at that later time t’ as well”(Condoravdi, p.9).
Paraphrase: There is a situation whose agent is Rina, and it is a nice situation, and the implication is that it is a continuous, or long situation.

This independently motivated representation accounts now for all the properties of -Pron sentences with individual-level predicates. Firstly, it accounts for their similarity with minimally contrasting +Pron sentences. Both sentences express tendentially stable statements, but for different reasons. In the case of +Pron sentences this results from the presence of the Gen operator, whereas in the case of -Pron sentences this is a result of the independently motivated default inference of the predicate of the sentence. In addition, the representation of -Pron sentences is nonmodalized as desired. More importantly, focusing on the default nature of the “temporal persistence inference” in (44), i.e. the idea that this temporal persistence can be easily canceled, we can naturally account now for the fact that, although such -Pron sentences express permanent statements, they can relatively easily temporally modified. In contrast, since tendential stability is entailed by the generic quantification, i.e. it is part of the meaning (and not an implication), we can account for the fact that it cannot be canceled, thus we predict that Pron will be obligatorily absent in such temporally modified sentences. As seen in (45) these two predictions are born out:

(45) a. rina nexmada ha-yom  
Rina nice the-day  
"Rina is nice today"  

b. * rina hi nexmada ha-yom  
Rina 3fm.sg. nice the-day  

In addition, the representation of -Pron sentences with individual level in (44) naturally accounts for the fact that unlike the +Pron sentences -Pron sentences can serve as the antecedents of when-clauses (i.e. their situation variable can be quantified over by the unselective quantifier associated with when-clauses, once the “temporal persistence” implication is canceled), as in (10) repeated here as (46):

(46) a. kSe dani Samen, hu holex la-rofe Selo  
when Danny fat he goes to-the doctor his  
“When Danny is fat, he goes to his doctor”  

b. * kSe dani hu Samen, hu holex la-rofe Selo  
when Danny 3ms.sg. fat he goes to-the doctor his  

Finally, the representation of -Pron sentences above correctly predicts that the semantic similarity, or near synonymy between minimally contrasting +Pron and -Pron sentences will be most strongly manifested when the predicate is individual-
level and when the sentences are uttered “out of the blue” (i.e. when “no information to the contrary is available”).

To summarize, the fact that -Pron sentences can be temporally modified and can function as antecedents of when-clauses is an indication that even when they are not temporally modified, and when they seem to be very similar in meaning to their +Pron counterparts, their semantic representation is different. Arguing that minimally contrasting +Pron and -Pron sentences with individual level predicates should be given an equivalent semantic representation, cannot account for contrasts as in (45) and (46)\(^\text{13}\).

4. BACK TO THE SEMANTIC-SYNTACTIC INTERFACE PROBLEM.

We now have solutions to the two apparent problems with the extended generalization: All +Pron sentences can be given a unified representation headed by a Gen operator (which is true for both quantificational generic, and “definitional kind generic” sentences). In contrast, -Pron sentences are given a different semantic representation, with no Gen, which captures the differences between them and +Pron sentences, as well as the similarity in certain cases (namely “out of the blue” utterances with individual level predicates). Combining these two solutions we can now argue for the truth of the hypothesized extended generalization in (22) above, concerning the distribution of Pron in Hebrew predicative sentences. Assuming again Rapoport’s and Rothstein’s syntactic analysis reviewed above, this extended generalization looks now like this:

(47) The Distribution of Pron in Hebrew Present Tense Nominal Predicative Sentences:

a. +Pron sentences, namely full IP clauses with external subjects, are semantically tripartite structure headed by a universal modal, unselective operator, and are interpreted as generic and modalized.

b. In contrast, -Pron sentences, namely XP clauses with internal subjects, are not headed by such a Gen operator, and are interpreted as accidental \(\text{and extensional.}\)

In Greenberg 1995 I showed that three syntactic-semantic interface theories, namely Chierchia 1995, Diesing 1991 and Ramchand 1996, cannot be used to explain the semantic - syntactic correlation in Hebrew. Assuming the truth of the generalization in (47) it now becomes clear why this is the case. All three theories posit interface mechanisms which are true for unselective tripartite quantification in general, including both generic and adverbial quantification. However, in Hebrew the factor which triggers the interface (i.e. the presence/absence of Pron, and hence the different positions of the subject) is not the mere unselectivity of the operator, or
the tripartite structure of the sentence, but more specifically, the presence of a
generic operator, i.e. an operator which is universal, modal and unselective, which
yields a generic “definitional” interpretation. This can be seen again from the fact
that, unlike generic sentences, sentences like (13b) above, headed by the universal,
unselective, but nonmodalized always, as well as those like (34) above, headed by a
universal, modal, but selective operator must, can both appear as -Pron sentences.

What can be the reason, then, for the specific type of interface we find in
Hebrew? I.e. Why should the presence of this specific modalized operator in the
semantic structure trigger the external position of the subject and the surfacing of
Pron?

A comprehensive answer to this question is beyond the scope of this paper.
However, the direction in finding the answer seems to lie in Dahl’s 1995
observation about the way genericity is manifested in the tense-aspect system of
various languages. On the basis of examining the behavior of 65 languages Dahl
concludes that, if a language has an overt marking for genericity, the strongest
tendency is that this marker will be manifested as minimal marking in terms of tense
and aspect. That is, the generic marker is the least marked in terms of tense and
aspect. In many cases this minimal marking is located in the natural place for
marking tense and aspect, namely in the verbal system or in the inflection.

Dahl suggests that the direction for explaining this tendency lies in concentrating
on the “atemporal” nature of genericity, i.e. the fact that generic modalized
sentences express truths which are not bound to specific times or worlds, but are (as
their name suggest) general in nature. This “atemporal” nature, whatever it’s formal
representation will be, seems to conflict with explicit tense and aspect marking of
the sentence, and this seems to be the intuitive reason for the “minimal marking”
tendency.

No matter now how the explanation for this intuitive generalization is eventually
formulated, the distribution of Pron in Hebrew predicative sentences seems to be
covered by it. As pointed out in the beginning of this paper, according to Doron
(1983), Pron is a the realization of an Infl node, which has only agreement features -
without no tense or aspect marking. In our terms now, when a Hebrew nominal
sentence has a generic reading, i.e. when it is associated with a modal generic
operator, which is semantically atemporal in nature, the Infl node is indeed marked
in the most minimal way for tense and aspect, i.e. it is not marked for them at all.

One may claim, however, that as far as marking for tense and aspect is
concerned, -Pron sentences behave exactly like their +Pron counterparts, since they
are not marked for tense and aspect either. Consequently, taking the minimal tense-
aspect marking as the relevant realization of genericity may be the wrong move to
make, since it leads to the false prediction that generic sentences would surface as
either +Pron and -Pron.

Assuming Rapoport’s 1987 and Rothstein’s 1995 claim, however, mentioned in
section 1.5 above, that -Pron sentences lack an Infl node, we correctly predict the
difference between +Pron and -Pron sentences, while preserving the assumption
that it is the minimal tense aspect marking which is responsible for this difference. The idea is that only in +*Pron* sentences the minimal tense aspect marking is a property of an overt marker, namely Infl, i.e. only +*Pron* sentences have an overt marker for genericity, namely a lexicalized Infl node which is explicitly marked as atemporal. This overt atemporal marker is the reason that such sentences are taken to be generic, and to conflict with e.g. temporal modification. In contrast, -*Pron* sentences lack an Infl node altogether, and thus, have no overt marker in which the lack of tense aspect marking will be manifested. This absence of an overt atemporal marker with -*Pron* sentences seems to be the reason for the fact that such sentences are semantically more neutral, so their situation variable is compatible with existential closure, temporal modification or adverbial (nonmodal) quantification.

5. IDENTITY SENTENCES

We have, then, a generalization which captures correctly the behavior of *Pron* in present tense nominal predicative sentences in Hebrew. This generalization however, does not deal at all with the behavior of *Pron* in identity sentences. As pointed out in section 1 above, and as shown by Doron 1983, *Pron* is obligatorily present in such sentences, as can be seen in (2), repeated here as (48):

(48)  dani *(hu) mar cohen
       dani 3ms.sg. Mr. Cohen
       “Danny is Mr. Cohen”

The question which is naturally raised now is weather this kind of oblig.+*Pron* sentences are part of the pattern describe d by generalization (47), i.e. whether we can show that, like the predicative oblig.+*Pron* sentences discussed in section 1.4 above, identity sentences are also interpreted as generic only. Alternatively, it may turn out that identity sentences cannot, or should not be represented as generic, and then the question is whether this refutes generalization (47).

Starting with the first alternative, the idea that classic identity sentences like (48) are generic may seem strange at first sight, but the intuition behind it lies in the fact that, similar to the relationship expressed by sentences like “This animal is a zebra”, the identity relationship, or the property of being identical to oneself, seems to be a one which is true not only in the actual world, but in all possible close enough worlds as well. That is, intuitively, being Mr. Cohen seems to strongly “define” the identity of Danny in (48).

However, despite the intuitive appeal of this idea, the main problem with it is that, in fact, an identity relationship can be very temporary and accidental, and consequently, identity sentences can be relatively easily temporally modified. Crucially, however, even in such a case, and in contrast to temporally modified predicative sentences (as in (49)), *Pron* continues to be obligatorily present in them, as can be seen in (50) (brought to my attention by Edit Doron):
Identity sentences, then, are \textit{\textit{+Pron}} even when they are clearly nongeneric. On the surface this fact seems to refute generalization (47). However, a closer look at Rothstein’s 1995 theory, briefly discussed in section 1.6 above, allows us to maintain generalization (47), by claiming that the behavior of \textit{Pron} in identity and predicative sentences should not be grouped together, and is governed by different mechanisms.

As mentioned above, Rothstein agrees with Rapoport 1987 that \textit{+Pron} sentences are full clauses whereas \textit{-Pron} sentences are matrix small clauses. This implies that all \textit{+Pron} sentences, both predicative and identity ones, have the same structure, namely full clauses with external subjects. On the surface this is indeed the case. Rothstein, however, claims that these two kinds of sentences differ in their derivations. We know that in predicative sentences, \textit{Pron}, i.e. the Inf node, is optional. Thus, although it need not appear, it may be generated and in such a case it selects for the (matrix) small clause, consisting of the subject and predicate. In this case the whole I’ node (consisting of the Inf and the main predicate) becomes an open constituent which needs to be saturated. Then the subject of the small clause raises to specIP to saturate it, leaving a trace behind, and \textit{Pron} realizes the Inf node. This derivation is seen in (51). (51b) is the D-structure and (51c) - the S structure.

\begin{enumerate}
\item \begin{enumerate}
\item dani hu nexmad
  Danny 3ms.sg. nice
  “Danny is nice”
\item [hu [dani nexmad]$_{sc}$]$_{i}$
\item [dani, [hu [ti nexmad]$_{sc}$]$_{i}$]$_{IP}$
\end{enumerate}
\end{enumerate}

Rothstein claims that in contrast to \textit{+Pron} predicative sentences, in identity sentences, where the post copular element is an argument and not a predicate, the Inf node cannot have a small clause as a complement, simply because there isn’t any around (two argument cannot constitute a small clause). This means that the structure of identity sentences (like (48)) cannot be the same as (51c). Instead, in such sentences the Inf node selects for the post copular NP, and the subject is base generated in specIP, saturating the I’ node. The DS of (48) is thus (52), i.e. it is identical to it’s SS:
Thus, according to Rothstein’s theory, subjects of identity sentences and predicative +Pron ones get to be external in different ways. The former are base generated in specIP, whereas the latter are raised there.

Rothstein does not discuss reasons for the generation of Infl, and consequently for the presence of Pron, in predicative sentences (e.g. the Hebrew versions of “Danny is nice”). In fact, in neither, nor Doron’s 1983 and Rapoport’s 1987 theories there is an explanation for the possible presence of Pron in such sentences, i.e. for why the Hebrew Grammar generates predicative +Pron sentences, in addition to the perfectly grammatical -Pron ones. Based on the discussion of Dahl’s 1975 research in the previous section of this paper however, we can now suggest such an explanation. What triggers the generation of the Infl node in such sentences, and hence the presence of Pron is the desire to express a generic statement (rather than merely a permanent one). In such a case the presence of the generic, i.e. the universal modal unselective operator, is syntactically manifested by the presence of the Infl node which is minimally marked for tense and aspect, thus explicitly indicating that the whole sentence is atemporal in nature, i.e. generic. This Infl node is realized as Pron.

In contrast to the generation of Infl in predicative sentences, the Infl node in identity sentences does not “choose” to be generated or not, based on the interpretation of the sentence as generic or not (as in predicative sentences). Rather, it’s obligatory generation is due to the operation of a more syntactic mechanism, namely the predication relation requirement. The implication is that the behavior of Pron in identity sentences is not supposed to be covered by generalization (47), and consequently, the presence of Pron in the temporally modified (50) does not undermine this generalization.

6. SUMMARY AND CONCLUSIONS

In this paper I have extended the generalization, proposed in Greenberg 1998, concerning the syntactic-semantic interface in a subset of Hebrew present tense nominal sentences, to the whole range of such sentences, and offered an explanation for this interface. The claim made in this paper is that in this kind of Hebrew predicative sentences there is a semantic - syntactic correlation between the presence of a Gen, i.e. a universal modal unselective operator, in the semantic structure, and the presence of Pron, i.e. the Pronominal copula realizing the Infl node in the syntax. I showed that, contra to the traditional analysis of kind genericity, this modalized Gen operator is present in the semantic structure of some “kind generic” sentences (those expressing “definitional” predication of a kind, and realized as +Pron in Hebrew). I further claimed, contra to Chierchia’s 1995 theory, that not every sentence with an individual level predicate is automatically represented as generic and that, the tendential stability expressed by -Pron sentences with such predicates does not result from genericity, but rather, following de-
Swart’s 1994 and Condoravdi’s 1992 theories, from the special default inference associated with the situation argument of individual-level predicates. I suggested an explanation for the correlation between Pron, namely the realization of an “atemporal” Infl, and genericity, which is “atemporal” in nature, following Dahl’s 1995 research about the manifestation of genericity in the tense-aspect system of many natural languages. Finally, I followed Rothstein’s 1995 claims concerning the different D-structures of predicative and identity sentences in Hebrew in order to explain why the behavior of Pron in the latter kind of sentences cannot be covered by the generalization concerning its behavior in the former kind.

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NOTES

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2 The oblig.+Pron sentences here, as well as all the one discussed below can appear without Pron when they are uttered with contrastive stress on the predicate, or a strong intonation break after it.

3 See e.g. Chierchia 1995 who discusses the nonmodal nature of quantificational adverbs.

4 Such sentences are acceptable if the quantifier kol is given contrastive stress.

5 Dowty 1979 (p.173-4) reports that a similar contrast in sentences with locative VPs (between subjects denoting stationary or mobile objects) correlates with a simple/progressive aspect shift in English.

6 Two comments are in need here. First, it is widely held that bare plurals can function either as indefinites (in I-generic sentences as in (11) above), as kind referring, in kind predication structures as in (20). Some theories (like Wilkinson 1991, Krifka et al 1995) take BP to be genuinely ambiguous between indefinites and kind referring, whereas others (e.g. Chierchia 1998) assume that BP NPs are uniformly and basically kind referring, although they can be type-shifted into indefinite expressions. I do not go into this debate here.

Secondly, the exact interpretation of proper kind predication is in debate, and is dependent, of course, on the exact definition of kinds. Recently Chierchia 1996 followed by Dobrovic-Sorin & Laca 1996, defined kinds as some special “totality or collectivity of instantiations”, and consequently - Proper Kind Predication as a special case of collective, or group predication. Dobrovic-Sorin & Laca show that such a representation successfully captures the fact that similarly to normal group predication, the relationship between the kind and its instances are less predictable than the ones in normal quantification over members of a set.

7 Thanks to Edit Doron for pointing out this example to me.

8 Representing sentences with generically interpreted bare plural subjects as modalized kind predication is independently suggested in Delfitto 1997.

9 The deontic is verbal, so it is not relevant here since Pron is always absent with verbal predicates.

10 What this means, then, is that the situation variable of kind level predicates (or those which function as kind level) probably does not work like the situation variable of predicates applying to individuals. In any case, even if one accept a reading as in (36), where we get situations involving whole kinds, it will not change my point that modal kind predication is basically unselective.

11 Kratzer 1995 claims that although epistemic modals verbs are indeed selective operators, root ones (e.g. deontic) are unselective. To support this claim she points out that the indefinite subject in (i) has an
existential reading under the epistemic reading of must, but a universal one where must is understood deontically. (Must is a necessity modal, traditionally represented as a universal operator over worlds):

(i) A car must be in the garage

Notice however, that the universal reading of the indefinite subject is preserved even when the deontic modal verb is may (a possibility modal, traditionally represented as an existential quantifier over worlds):

(ii) A car may be in the garage

This fact seems to indicate that the universal reading of the subject in (i) does not result from being bound by the modal operator must, and thus that this modal verb is not unselective, as Kratzer argues. Rather, it seems that in both (i) and (ii) an implicit generic quantifier is present, besides the overt modal verbs, which leads to the universal interpretation of the subjects.  
12 Thanks to Susan Rothstein for pointing out this example to me.

13 A problem which I cannot completely solve now is the fact that sentences with definite generic subjects, as in (i) can appear as -Pron:

(i) ha-ze'ev (hu) mesukan
    the wolf 3ms.sg. dangerous
    “The wolf is dangerous”

    At least on the surface, such sentences seem to be as “definitional” as the other oblig.+Pron sentences we discussed. A possible way to explain the fact that Pron is optional in them is to claim that the definitional flavor in sentences like (i) does not result from modal quantification, as with the other +Pron sentences, but from the fact that definite generic refer to the prototype of the kind, in this case, the prototypical wolf. This hypothesis may be supported by the fact, noted already by Carlson 1977, that unlike bare plural and indefinite singular subjects (see (ii) and (iii)), definite generic subjects are inappropriate when denoting “non-well-established kinds” (since presumably only “well established kinds” have prototypes), as can be seen from the contrast between (iv) and (v):

(ii) A green bottle has a narrow neck
(iii) Green bottles have narrow necks.
(iv) The coke bottle has a narrow neck
(v) ??The green bottle has a narrow neck
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