Another look at Italian generic sentences

Alda Mari

In J. Herschensohn (ed.) Romance Linguistics 2010. Amsterdam, John Bejnamins.

Another look at Italian generic sentences

Alda Mari
Institut Jean Nicod, CNRS, Paris

Abstract. In this paper we reconsider the interpretation of indefinite singular generics and definite plural generics in Italian. We show that these two types of statements cannot be associated with the traditional distinction between definitional vs. accidental generalizations. In particular we argue that indefinite generic statements are associated with a variety of interpretations that can be unified by reconstructing a hidden abilitative verbal operator triggered by the imperfective interpretation of the present tense. We distinguish between two types of abilities as well as between the overt abilitative modal and the covert one. We correctly derive the prediction that indefinite singular generics cannot be combined with accidental properties, which are perfective in nature. We analyze definite plurals as entering the logical form with a situation variable that is responsible for the fact that definite plural generics are compatible with accidental properties.
Key words: indefinite singular generics, plural definite generics, Italian, abilities.

1 Introduction

This paper focuses on the interpretation of indefinite singular generic (IS) (1-a) and definite plural generic (DG) sentences (1-b) in Italian.[1].

(1) a. Un leone ha una coda
A lion has a mane
b. I leoni hanno una coda
The lions have a mane

The uses of IS and DG sentences in Romance languages correspond, respectively, to those of indefinite generic (2-a) and bare plural generics (BP) (2-b) sentences in English.

(2) a. A lion has a mane
b. Lions have a mane

[1] Definite singular are used in Italian for direct reference to kinds and are not considered here. Plural indefinites can only be used in very limited environments in generic sentences and will not be considered in this paper (see, e.g., de Swart, 1991; Farkas and de Swart, 2007; Dobrovie-Sorin and Laca, 1998; Dobrovie-Sorin and Mari, 2007 for discussion).

Like ISs[2] and BPs in English, ISs and DGs in Romance do not express the same kind of generalizations. ISs have been claimed to express law-like statements and to be compatible with essential properties only as the contrast in (3-a)-(3-b) illustrates. BPs have been noted to be compatible with both essential properties (4-a) and accidental generalizations (4-b) (Lawler, 1973; Dähl, 1975). The same observations hold for ISs ((5-a) vs. (5-b)) and DGs ((6-a) vs. (6-b)) in Italian. It is now standardly admitted that (5-b) is ruled out because popular is a non-definitional property of madrigals.

(3) a. A madrigal is polyphonic
b. *A madrigal is popular
(4) a. Madrigals are polyphonic
b. Madrigals are popular
(5) a. Un madrigale è polifonico / *A madrigal is polyphonic*
b. *Un madrigale è popolare / ***A madrigal is popular*
(6) a. I madrigali sono polifonici / *'The' madrigals are polyphonic*
b. I madrigali sono popolari / *'The' madrigals are popular*

Much disagreement remains when it comes to the analysis of these statements.

Firstly, it is not settled whether ISs and BPs/DGs must receive a unified treatment in terms of generic quantification. Secondly, it remains to be established that the above-mentioned characterization of ISs as only able to express law-like statements is correct and to what extent. Thirdly, assuming that the meaning of the determiner determines the interpretation of the sentence, it cannot be taken for granted that one single analysis can extend to all languages. Taking into account the meaning of the determiner, we end up with two very different logical forms for the two types of statements. We consider ISs in section 2, DGs in section 3. Section 4 concludes the paper. We focus here on Italian. The same results extend to French.

2 IS sentences

2.1 Tripartite structures

Most of the current approaches of ISs are based on the tripartite structure in (7).

(7) GEN [restrictor] [matrix]

There are two views of GEN. On the extensional analysis of GEN (see in

[2] ISs stands for singular indefinite generic sentences ; DGs for definite plural generic sentences and BPs for bare plural generc sentences.

particular Farkas and Fugioka, 1983; de Swart, 1991), GEN means essentially always'. It is argued that GEN is triggered by a silent *when*-clause, on the basis of the following argument. (8-a) is interpreted as in (8-b). When a *when*-clause occurs with an overt AdvQ (8-c), the *when*-clause is considered to provide the restriction for the AdvQ. GEN is a silent AdvQ that must have its own restriction. A silent *when*-clause provides its restriction.

(8) a. Fido barks
b. Fido barks (when he is hungry)
c. Fido usually barks when he is hungry

The resulting LF for (8-a) is as follows:

(9) ALWAYS s [in(s; Fido)][barks(s; Fido)]
Always in relevant situations, Fido barks

According to the analyses of indefinites that have adopted this view, indefinites are treated as generalized quantifier operating over a domain of individuals with an existential interpretation. The existential quantifier is in the scope of GEN and thus individuals are indirectly bounded to situations.

(10) a. A dog barks
b. ALWAYSs [∃x dog(x) & in(x, Fido)][barks(x, s)]

Aside from some other shortcomings (see in particular Rimell, 2004; Ferreira, 2005) this analysis fails to explain why ISs are incompatible with temporary states when AdvQ is silent (11-a), but are instead compatible with them when AdvQ is overt (11-b).

(11) a. *Un madrigale è popolare
A madrigal is popular
b. Un madrigale è sempre popolare
A madrigal is always popular

In the intensional analysis of GEN, (12-a) is interpreted as in (12-b). An *if*-clause is reconstructed that provides the restriction for GEN. GEN is interpreted as an intensional unselective universal quantifier meaning 'must' (Krifka *et al.* 1995). On the assumption that indefinites contribute a variable ranging over individuals (Kamp, 1981; Heim, 1982), that variable can be bounded by GEN.

In accordance with this view, assume a classical modal framework in which W is a set of worlds, D is a domain of entities and ≤ is an ordering source on worlds according to normality. Modal bases (i.e., the domains of worlds) are of various types, and can be circumstantial, deontic, … For (12-a), in which the modal base is circumstantial and most normal worlds are quantified over, the resulting interpretation is given in (12-c).

(12) a. A dog barks
b. If something is a dog, it must barks
c. $\forall w'_{\leq} w,x[dog(x,w')][barks(x,w')]$
Paraphrase: in all normal worlds, if something is a dog, it barks.

Menedez-Benito (2005) has noted that this view predicts for (13-a) that a Ferrari goes at 200 km/ph in all accessible worlds, even though it only does in some worlds, and one should assume that (13-a) is synonymous with (13-b) rather than (13-c).

(13) a. Une Ferrari va a 200 km/ph
A Ferrari goes 200 km/ph
b. Una Ferrari può andare a 200Km/ph
A Ferrari can go at 200 Km/ph
c. Una Ferrari deve andare a 200Km/ph
A Ferrari must go at 200 Km/ph

Although the observation is *prima facie* correct, Krifka *et al.* (1995:54) did not fail to note that not all IS sentences can be paraphrased by 'can' as the contrast in (14-a) - (14-b) illustrates. Contrary to (14-a), (14-b) is odd.

(14) a. Una barca galleggia
A boat floats
b. ??Una barca può galleggiare
??A boat can float

Menedez-Benito (*ibid.*) argues that the silent 'can' in (13-a) and (14-a) is only compatible with 'inner dispositions'. In this respect, it is different from an overt 'can' that is not restricted to such dispositions.

However, this view cannot extend to all kinds of ISs because inner dispositions are not always available as in (15), where a silent 'can' cannot be reconstructed. In this instance we are thus left without directions for the interpretation of (15).

(15) Un idraulico guadagna molti soldi
A plumber earns a lot of money

The account presented in this paper solves this puzzle.

More generally, both the extensional and the modal account, as presented in Krifka *et al.* 1995, are not at ease with the fact that ISs do not form a uniform class of statements. While some of them provide definitional statements as in (16),

others cannot be considered as definitional (17-a), (17-b)[3].

(16) Un madrigale è polifonico
A madrigal is polyphonic

(17) a. Un calciatore guadagna molti soldi
A football player earns a lot
b. Una tartaruga vive a lungo
A turtle lives a long time

These two types of statements behave differently with regard to tolerance to exceptions, and clearly the first ones (like (16)) are more resistant to exceptional individuals: if a madrigal is not polyphonic, it is not a madrigal. The latter ones (like (17-a) and (17-b)) are more permeable to them. There certainly are football players who do not earn a huge amount of money (e.g., in the third Italian league, in Africa) and turtles that do not live a long time span.

Moreover, as the authors themselves observe, the modal account that they propose makes some unsuitable predictions. For (17-b), they explain (Krifka *et al. ibid.* p. 56) that,

"… This sentence evokes a kind of "realistic" modality in which the laws of biology holds. However, the worlds in which no turtle ever dies a premature death are biologically highly abnormal …"

Another potential problem for the modal account as it is stated in Krifka *et al.* (*ibid.*) is that, allowing for the use of any type of modal base, it cannot rule out temporary properties (18), because in most circumstantially normal worlds it is true that raps are popular.

(18) *A rap is popular

In the analysis that follows, we espouse an intensional view. We propose though a new account that is not based on the reconstruction of a restrictive clause (neither a *when* or *if* clause) but that is grounded on the notion of ability or disposition. We tease apart cases in which the modality is overt from those in which it is covert, and provide first an analysis for the latter cases.

2.2 IS sentences as abilitative statements

If there is no sentential GEN, the generic interpretation must arise in a different manner.

Carlson (1977), Rimell (2004) (see also Boneh and Doron, 2008) propose

[3] These cases are also problematic for 'in virtue of' theories (Greeberg, 2002). For (16), these theories explain that IS statements express that a madrigal is polyphonic in virtue of some intrinsic property. It is however difficult to establish in virtue of what intrinsic property a soccer player earns a lot of money.

for habitual sentences like *John walks to school* that there is a silent HAB that does not take sentential scope. HAB is associated with the imperfective interpretation of the present tense.

As many scholars have observed in previous studies, in the absence of a spatio-temporal location, the present tense in English has a generic interpretation (Kenny, 1975; Declerck, 1988). It is thus legitimate to distinguish a perfective interpretation of the present tense, which depends on the quantification of situations for its interpretation and an imperfective interpretation of it[3]. The same contrast arises in Italian.

(19) a. Un bambino beve il latte nella sala d'attesa (perfective present tense)
A child drinks (the) milk in the waiting room
b. Un bambino beve il latte (imperfective present tense)
A child drinks (the) milk

In both Carlson's (1977) and Rimell's (1994) accounts, **HAB** is an ***inductive*** generalization operator. Here, in connection with indefinite generics, we do not claim that there is a silent HAB that provides inductive generalization, but rather a silent **AB** which provides ***intensional*** generalizations. In order to clearly distinguish the two, we note HAB_{ext} and AB_{int} the operators that provide inductive generalizations and intensional generalizations, respectively. A semiformal representation of (19-b) can be seen in (20).

(20) AB_{int} (fly)(a bird)

Before getting to the question of what AB_{int} is and how indefinites are interpreted in generic statements, we begin by answering the immediate question of why there should be an extensional operator in (21-a) but an intensional one in (21-b).

(21) a. Anna va a scuola a piedi
Anna walks to school
b. Un bambino va a scuola a piedi
A boy walks to school

It has been extensively argued that indefinites lack their own reference and have existential meaning only with presentational verbs (22) or in a context where there is quantification over spatio-temporal location (19-a) (Chierchia, 1995; McNally, 1998; Dobrovie-Sorin, 2004).

(22) Un uomo è entrato e mi ha parlato (∃ reading)
A man entered and talked to me

When quantification over spatio-temporal location is missing, as in generic statements, the indefinite lacks specific reference (see also Cohen, 2001 on this).

It is impossible to achieve an inductive generalization about entities whose reference is not determined in a model. Entities with non-determined reference can instead be attributed a capacity, that is to say a principle such that, for a given entity, regulates its behavior. Thus, uttering 'a bird flies' does not commit to the fact that some birds fly repeatedly, but only to the fact that if a bird exists, that bird has the ability to fly. This bird needs not be an actual one.

Granted that generic indefinites can be attributed a disposition (or capacity[4]) but not a habit, we now turn to the semantics of abilities.

2.3 AB_{int} and the semantics of abilities

Whereas habits describe observed regularities, abilities have an explanatory value. They exist independently of their manifestations and are such that, if exercised, can lead to successful action. The semantics of abilities is a very complex matter to which we cannot render justice in this paper, which is dedicated to the distinction between ISs and DGs.

2.3.1 Capacity in potentia and capacity in acto Here we espouse the standard view that abilities are a certain type of possibility (e.g., Aristotle, *De Interpretatione*; Kenny, 1963). Along the lines of the distinction made in Aristotle, we distinguish the 'capacity *in potentia*' and the 'capacity *in acto*' (Arstt. On interpretation XXIII,a,8):

" … 'Possible' itself is ambiguous. It is used, on the one hand of facts and of things that are actualized; it is 'possible' for someone to walk, inasmuch as he actually walks, and in generally we call a thing 'possible' since it is now realized. On the other hand, 'possible' is used of a thing that might be realized; it is possible for someone to walk since in certain conditions he would … "

The 'capacity *in acto*' is in fact a 'necessary' capacity as Aristotle himself claims a few paragraphs later. A capacity *in acto* holds in virtue of the existence of the bearer of the capacity. The analysis of the capacity *in acto* then comprises a form of entailment of the form (23), and in this respect our analysis agrees with most of the available approaches. (P and Q are, respectively, the properties denoted by the NP and the VP).

(23) $\forall x(P(x) \rightarrow Q(x))$

This entailment, explains Aristotle, always holds, provided that worlds are nomologically and alethically similar to the actual world (e.g. fire burns in all worlds in which the fire has the physical properties that it has in the actual world). (cf. *infra*, (25)).

Moreover, because the capacity *in acto* is necessarily exercised as long as the bearer of the capacity exists, the temporal extent of the property coincides with the temporal existence of the bearer. This does not require that the property

[4] Here we use the terms dispositions, capacity and ability indistinguishably from each other.

be 'permanent'. Permanency is a consequence of this requirement: the property holds during the 'life' of the bearer. As a further consequence, the property does not have to hold in a spatio-temporally bounded situation. As a result, when in IS sentences the verb is stative, it can denote the capacity is *in acto*.

Capacity *in potentia* can either be expressed by a stative verb (24-a)-(24-b) or by an eventive one (24c). However, as we have already mentioned (see Kenny, 1975), when the property expressed in the present tense is not relativized to a particular spatio-temporal situation, the present tense gives rise to a generic interpretation. More specifically, it gives rise to the abilitative interpretation of the sentence. Since an ability is a permanent state of the entity that possesses it, we assume that, in this case, the eventive predicate is coerced into a stative via AB_{int} (24-c)[5].

When the capacity *in potentia* is expressed by an eventive predicate turned into a stative, the capacity is exercised only in particular circumstances. In both these cases, the capacity *in potentia* is not actualized by the mere existence of the bearer of the capacity and some other conditions must be met.

(24) a. Una tartaruga vive a lungo
A turtle lives a long time span
b. Un giocatore di calcio guadagna molti soldi
A soccer player earns a lot of money
c. Una Ferrari va a 200km/ph
A Ferrari goes at 200km/ph

The question then arises of what is the modal base for AB_{int}. Here we propose that the worlds that are quantified over are those in which all impediments are absent. The conditional (see *infra*) expressed by the generic sentence is evaluated 'in abstracto', that is to say in worlds in which accidents and irregularities are absent.

2.3.2 An abilitative modal base: absence of impeding conditions Absence of impeding conditions is to be carefully distinguished from normalcy conditions. Normalcy conditions have been argued to be of two sorts. They can correspond to some observed regularities in the actual world (à la Cohen, 1999), or to some explicative principle (à la Nickel, 2009).

Assume first that normal worlds are those in which the regularities available in the actual worlds are also present (hence we understand 'normalcy conditions' in an *inductive* way, as observed regularities in the actual world). According to this view, the intended interpretation of (24-a) cannot be derived because under normal circumstances, given the actual world, turtles die very young because they are eaten by predators.

Assuming instead that 'normalcy conditions' are some type of *explicative*

5 That the generic reading arises when the property is not bounded to particular spatio-temporal locations, will allows us to predict that stative predicates that denote properties holding in particular spatio-temporal locations (i.e. stage-level statives, see e.g. Fernald, 2000) are not acceptable with a generic interpretation (see comment to (30), *infra*).

principle, we fall short of an explanation for (24-b) because there is no regulatory principle intrinsic to being a soccer player that justifies his earning a lot of money.

Impeding conditions are thus a very weak form of restriction over possible worlds. This reflects the fact that they are associated with a silent operator (namely AB_{int}) and when a silent operator is used, it generally has a weaker interpretation than overt ones, because covert operators are there by default.
We now turn to the implementation of the account.

2.4 IS statements: Analysis

This distinction between the capacity *in acto* and capacity *in potentia* gives rise to different types of entailments. Because capacity is a modal notion, quantification over worlds will be used. In particular we will be using universal quantification over possible worlds. This is straightforwardly justified in the case of capacities *in acto*, which are 'necessary capacities'.

As for capacities *in acto*, the existence of the bearer entails the existence of the ability. The set of worlds quantified over are thus simply restricted to circumstantially accessible worlds.

(25) Capacity *in acto*
$\lambda w \ \forall w'[[Acc(w',w)] \rightarrow \forall x[P(x,w') \rightarrow Q(x,w'))]]$
Paraphrase: Given a world of evaluation w, for all worlds w′, if w' is accessible from w, then for all x, if x is P in w′, then x is Q in w′.

Regarding the analysis of capacity *in potentia*, universal quantification is restricted to worlds in which there are no impeding conditions.

(26) Capacity *in potentia* with a stative (24-a)
$\lambda w \forall w'[[No{-}impedements(w',w)] \rightarrow$
$\forall x[P(x,w') \rightarrow Q(x,w'))]]$
Paraphrase: Given a world of evaluation w, for all worlds w′, if w' is accessible from w with no impediment to the exercise of the capacity, then for all x, if x is P in w′, then x is Q in w′.

In (24-a) impeding conditions are the presence of predators, lack of food, etc. In the absence of these impeding conditions, a turtle has a long life span. Similarly for (24-b), in the absence of impeding conditions (e.g., playing in the third African league), a soccer player earns a lot of money.

When the capacity *in potentia* is expressed by an eventive coerced into a stative, a situation variable is used to signal that the capacity, in worlds in which there are no-impeding conditions, has instantiations in specific spatio-temporal situations. In (24-c) if the Ferrari in not broken (impeding condition), then in some relevant circumstances, the Ferrari goes at 200 km/ph. C is a predicate that relates situations, individuals and worlds, and which returns contextually relevant situations in which x is involved in world w (see also Greeenberg, 2002).

(27) Capacity *in potentia* with a coerced event (24-c)
λw∀w′[[No−impedements(w′,w)] →
∀xs, [(P(x,w′) & C(x,w’,s)) → Q(x,w′))]]]
Paraphrase: Given a world of evaluation w, for all worlds w′, if w’ is accessible from w with no impediment to the exercise of the capacity, then for all x, if x is P in w′ and x is in some relevant situation s in w′ then x is Q in w′.

2.5 Some other consequences of the account

In analyzing ISs as abilitative statements, the account grasps a variety of judgments that ISs can express. As noted above, ISs are not always definitional. The notion of capacity *in acto* requires unrestricted quantification over circumstantially accessible worlds. As for the ’capacity *in potentia*’, instead, worlds in which the generalization holds are worlds in which there is no impediment.

As we have noted, restriction to these worlds does not amount to restriction to ’normal worlds’ and we have shown above how these two notions differ.

2.5.1 Difference between overt ‘can’ and covert AB_{int} The restriction of lack of impeding conditions pending on covert modality is weaker than the one pending on the overt abilitative modality. In fact, it has been observed that the overt abilitative modal ’can’ is associated with an inference of ’effort,’ according to which there are specific conditions under which the action is carried out (Kenny, 1963; and more recently, e.g., Giannakidou and Staraki, 2010). This inference is absent when the abilitative interpretation is reconstructed. This explains the contrast in (14-a)- (14-b) repeated in (28-a)- (28-b). As noted in Krifka *et al.*, (28-a) and (28-b) are not synonymous and (28-b) is in fact odd.

(28-b) implies in fact that a boat floats only in worlds where it has to overcome some impediment, and it is therefore odd.

(28) a. Una barca galleggia
A boat floats
b. ??Una barca può galleggiare
??A boat can float

This argument also grasps the subtle difference in the interpretation of (29-a) and (29-b). This first asserts that, provided there are no impediments (e.g. the Ferrari works properly, there are no speed limit restrictions etc), in some particular situations (e.g. those in which the driver wants to), the Ferrari goes at 200km/ph. The latter implies instead that the Ferrari achieves a peculiar goal that requires that specific conditions be met (e.g. that a special technology be used etc). (29-b) is thus also associated with an inference that the goal achieved is

exceptional and this inference is absent from (29-a)[6].

(29) a. Una Ferrari va a 200 km/ph / *A Ferrari goes at 200 km/ph*
b. Una Ferrari può andare a 200 km/ph / *A Ferrari can go at 200 km/ph*

2.5.2 Incompatibility with temporary statives The account predicts that an indefinite cannot be combined with predicates denoting accidental properties.

(30) *Un rap è popolare
**A rap is popular*

Accidental properties are bounded to spatio-temporal locations and are thus perfective in nature. A rap is 'popular' in a certain location, and likely, for a certain time. Unlike an eventive predicate in the present tense, a stative that denotes a spatio-temporally bounded property (e.g., McNally, 1998; Fernald, 2000), cannot have an imperfective interpretation. Hence AB_{int} cannot be reconstructed and the interpretation cannot be carried out[7].

To make the sentence acceptable, a temporal adverb or a *when*-clause is used. In these cases de Swart (1991) analysis applies (e.g., Dobrovie-Sorin (2004) for French). (See (10-b) for the analysis of (31-a)-(31-b)).

(31) a. Un madrigale è sempre popolare
A madrigal is always popular
b. Un madrigale è popolare quando è suonato bene
A madrigal is popular when it is well played

2.5.3 IS statements are not definitional It has been often noted in the Romance linguistic literature that indefinite statements have a prescriptive use (Corblin, 1987; Carlier, 1996; Mari, 2008) or a moral flavor (Cohen, 2002).

(32) Una pianta ha bisogno di acqua per vivere !
A plant needs water to live !

It has also been argued that ISs are definitional, that they express rules and regulations and that they lack propositional content (Cohen, 2001). Burton Roberts (1977) observes for *A gentleman opens doors for ladies* that "if Emile does not as a rule open doors for ladies, his mother could utter [it] and thereby successfully imply that Emilie was not, or was not being a gentleman". Mari and Martin (2009) develop an account along these lines and argue that the sentence asserts what it means to be a gentleman. If one does not satisfy the property of opening doors for ladies, it is concluded that one is not being a gentleman.

[6] For a detailed discussion on abilitative modality, see Mari, Beyssade, Del Prete (forthcoming).
[7] We are not claiming here that accidental properties enter the logical form with an event argument. Instead, we assume that they need a that a spatio-temporal locatation be (c)overtly specified in order to be used.

This view undermines the fact that exceptional individuals can still be accommodated in ISs. (33-a) is compatible with the fact that although there are football players (in the third Italian league, for instance) who do not earn a lot of money, they are still football players. What defines a football player is not his earning a lot of money. Similarly, for (33-b), turtles that do not live a long time are certainly turtles.

(33) a. Un giocatore di calcio guadagna molti soldi
A soccer player earns a lot of money
b. Una tartaruga vive a lungo
A turtle lives a long time span

It is nonetheless correct that, in some cases, ISs have a prescriptive use. However, ISs with prescriptive use usually have an overt quasi-modal or modality as in (32) or (34).

(34) Une jeune femme doit bien se comporter
A young lady must behave well

In these cases the modal analysis straightforwardly applies (12-c). Here the choice of the modal base is determined by the modal itself (see Krifka *et al.*, 1995). In (32) the quasi-modal 'to need' (*aver bisogno*) is deontic and the prescriptive use is enhanced by the deontic reading of the modal. The sentence is thus analyzed as 'it is necessary that plants get watered' (see (12-c), with a denotic modal base). In cases which have been argued to have a prescriptive use and in which there is no overt modality, the role of prosody has been very much undermined. These statements can be turned into a rule only if they are turned into imperatives by the appropriate intonation. An analysis of prosody is outside the scope of this paper[8].

2.5.3 ISs do not express inductive generalizations The account that we have proposed here also does not espouse the view that indefinite generic sentences can express inductive generalizations (as suggested in Putnam, 1975). One could argue that it is legitimate to assume that in order to utter (24-b), the speaker must have heard of rich soccer players. Assuming that in the actual world there are regularities that hold for a reasonable amount of time, the speaker is entitled to conclude that a soccer player is rich also at the time of the utterance. As already pointed out, the view that ISs express inductive generalizations would predict that a turtle lives a short time span since most turtles in the actual world die young. Our account does not commit us to this view.

[8] On the relation between deontic modality and imperatives, see Portner, 2009.

3 DG sentences

3.1 The questions

It has been noted that DGs express inductive generalizations in the same way that BPs do in English.

(35) a. (En.) Italians eat pasta
b. (It.) Gli Italiani mangiano la pasta
The Italians eat pasta

Relatedly, it has been noted that DGs better tolerate exceptions than ISs. The following is a perfectly acceptable discourse in which John is introduced as a true exception to the rule (Mari and Martin, 2009).

(36) A. I professori nella mia università portano la cravatta.
B. Ma no, guarda Giovanni.
A. 'The' professors in my university wear a tie. B. No ! Look at John !

This fact is straightforwardly explained in Farkas and de Swart's (2007) account. The authors have argued that DGs compare two sets of individuals. They state that plural definites have determined reference, namely, the value assigned to these discourse referents in the model must be fixed (hence the use of '!' in (37-b)). Since Farkas and de Swart assume that GEN is interpreted as meaning 'in most situations', it quantifies over situations. In their analysis, sentence (37a) means that in most situations, if there are hungry dogs in there, dogs are dangerous.

(37) a. I cani affamati sono pericolosi
The hungry dogs are dangerous
b. GENs,x[!dogs(x) & Pl(x) & hungry(x) & in(x,s)][dangerous(x,s)]

However, definite plurals are compatible with a variety of uses, and, depending on which use is targeted, DGs tolerate different types of exceptions.

1. Assume that I am reporting about the habit of actual professors in my university. In this case (38), exceptions as individuals are allowed.

(38) Scenario 1: Description of the habit of professors in my university
Nella mia università, i professori portano la cravatta tranne Gianni
In my university, the professors wear a tie but John

2. Assume instead that I am stating how professors behave in a university. In this case, exceptions as individuals cannot be accommodated, but only exceptions as classes (39).

(39) Scenario 2: general fact about professors in university
I professori portano la cravatta, tranne quelli associati/*Gianni
*In my university, the professors wear a tie, but the associate ones/*John*

Since DGs express generalizations that BPs express in English, one can wonder whether a unified analysis can be given to both. Two types of analyses have been provided for BPs.

One type of analysis treats them as indefinites. They are thus argued to provide a variable that gets bound by a universal intensional quantifier (Greenberg, 2002). This analysis cannot apply to Romance languages because definites do not provide a free variable but are referential expressions. Two main arguments illustrate this point. Firstly, differently from bare plurals in English, definite plurals in Italian cannot be used in 'there' constructions.

(40) a There are dogs behind the fence
b. ??Ci sono i cani dall'altra parte della barriera

This can be explained if one admits that definites assert (à la Russel) or presuppose (à la Frege-Strawson, see recently Zucchi, 1995) the existence of their referent. In both cases, their meaning would be incompatible with the 'there constructions' that introduce a new entity.

Secondly, in generic sentences, DGs have a more restricted use than BPs. As well known (see Kratzer, 1989), sentence (41) can have two interpretations. On the interpretation in (41b) the sentence is about typhoons and asserts that they arise in this part of the pacific. On the interpretation in (41c) the sentence is about this part of the pacific and states that there are typhoons in it. In this second case typhoons is interpreted existentially. These interpretations are available in English on the assumption that bare nouns introduce a variable that can be bounded either by GEN or the existential quantifier.

(41) a. Typhoons arise in this part of the pacific
b. GEN x (typhoons(x)) ∃1 (this part of the pacific(1) & arise-in(x,1)
c. GEN 1 (this part of the pacific(1) ∃x (typhoon (x) & arise-in (x,1))

The same sentence in Italian can only be about individual typhoons and does not have the interpretation in (41c). Only the interpretation in (41b) is available with definite plurals. Hence these cannot be treated as providing a variable in the way BPs do.

Another analysis treats BPs as denoting kinds at least in their generic interpretation (see e.g. Cohen, 2001). One can then suggest that like BPs, DGs also denote kinds.

There are two different ways of representing kinds. One the Carlsonian view, these are singular entities. Cohen (2001) has pointed out the problem of this view: BPs are about individuals and not about kinds (which are singular entities).

Kings are generous is for instance about individual kings and not about the kind 'king'.

Farkas and de Swart (2007) have also defended the idea that BPs denote kinds, but have proposed to treat kinds as plural individuals. It has also to be noted that these individuals need not be member of a kind, as the contrast between (42-a)-(43-a) and (42-b)-(43-b) shows.

(42) a. (Fr.) ??Le CD est fragile
The CD is fragile
b. (Fr.) Les CDs sont fragiles
The CDs are fragile (Beyssade, p.c.)

(43) a. (It.) ??Il CD è fragile
The CD is fragile
b. (It.) I CDs sono fragili
The CDs are fragile (Beyssade, p.c.)

In their unified treatment of BPs and DGs in English and in Romance, Farkas and de Swart propose (*ibid*.) that GEN quantifies over situations (see (37-b)), and obtain the exact same set of readings for both and it is not clear how they would disallow reading (41c) for DGs. We have already mentioned the shortcomings of assuming generic quantification over situations. Here we adopt Farkas and de Swart's view that DGs refer to maximal entities, but offer a different analysis of the sentence which does not rely on GEN as quantifying over situations by default.

In the account we propose here, *situations* are also attributed a prominent role, but in a manner that accounts for the fact that DGs are only about individuals and not about situations.

3.2 DGs: analysis

We adopt the Russelian view and the recent Schwarzschild's (2009) implementation, according to which definites denote a fixed set of elements in a situation and come equipped in the logical form with a situation variable. Along with Kratzer (2002) we assume that situations are parts of worlds. Situations and worlds are thus introduced as variables that wait to be bounded. On the two above-mentioned interpretations of DGs, they can either be lambda abstracted or they can be bounded by the universal quantifier (GEN). The resulting analysis for the uses of DGs is given in (44) and (45). (As in Farkas and de Swart (2007), the distributive predicate induces universal quantification over individuals in the maximal sum ιX.)

(44) $\lambda w,s\ \iota X(P(\iota X,s,w) \ \&\ \forall x \in \iota X\ Q(x,s,w))$
For a given world w, a situation s and the maximal sum X, the maximal

sum is P in s,w, and for all elements x in X, x is Q in s,w.

(45) $\forall w' \leq_w, s\ \iota X(P(\iota X,s,w') \rightarrow \forall x \in \iota X\ Q(x,s,w'))$[9]
For all worlds w' which are maximally similar to w, for all situations s and the maximal sum X, if the maximal sum is P in s,w', then, for all elements x in X, x is Q in s,w'.

In (44) the generalization is *about individuals* in the actual world in a given situation. For (38) it states that, given the set of professors in my university, every professor wears a tie. Because it is entailed that there are actual individuals, actual exceptional individuals can be accommodated.

In (45) the generalization is *about worlds and situations*. The existence of actual individuals is not entailed, and this explains why in (39) it is difficult to accommodate actual individuals as exceptions.

In a third configuration, the world is lambda abstracted and the situation variable is universally bounded (46). Here the generalization is *about situations of the actual world* (see (46)). It states that if a member of the maximal sum X satisfying property P is involved in s, then it is also Q in s. The existence of actual individuals in actual situations of the actual world is not entailed. However, since situations are parts of worlds, one cannot know what goes on in a particular situation unless one has observed it. Regularities about situations in the actual world are generally derived on the basis of induction. Hence the existence of actual x*s* is inferred.

In this case, as in (44), it is thus possible to accommodate exceptions, as actual individuals. The general strategy for such accommodation is along the lines proposed by Lasersohn (1999), who argues that all types of precise measures (like 'all' or 'maximal sum') are compatible with a pragmatic halo which allows approximating (without necessarily reaching) the limit.

(46) $\lambda w, \forall s\ \iota X(\forall x \in \iota X(P(x,s,w) \rightarrow Q(x,s,w)))$
For a given world w, for all situations s and the maximal sum X, for all elements x in X, if x is P in s,w then x is Q in s,w.

(47) I madrigali sono popolari
The madrigals are popular

The present account derives the prediction that definites are compatible with accidental properties because they provide the spatio-temporal location that accidental properties need to be used.

4. Conclusion

[9] This rule of interpretation is in essence that proposed by Farkas and de Swart (2007). Here we obtain the same result without assuming that GEN quantifies by default over situations and that there is a sillent 'always'.

In this paper we have proposed a new LF for ISs and DGs in Italian. For the first ones, we have introduced a new verbal quantifier AB_{int} that is analyzed as an abilitative modal. AB_{int} is triggered by the imperfective interpretation of the present tense that arises in the absence of any specification of a spatio-temporal location.

Adopting the Aristotelian distinction between capacities *in acto* and capacities *in potentia*, we have shown that covert AB_{int} has a different interpretation than the overt abilitative modal 'can'. In particular its modal basis is restricted to worlds in which there are no impediments, and it is not associated with an inference of effort.

We also argued that IS statements are not all definitional, and it is legitimate to wonder whether, ultimately, they are able to express inductive generalizations. As for uttering 'a soccer player earns a lot of money', it is likely that the speaker has heard of rich soccer players.

Knowing how the generalization is achieved, however, is a separate question from knowing what the sentence asserts. Its truth-value is computed uniquely from the meaning components, and ISs turn out to be true even in the absence of actual individuals in the world of evaluation w.

ISs are thus correctly predicted to be incompatible with predicates denote temporary states. These are by nature perfective and bounded to spatio-temporal locations.

As for DGs, we have argued that plural definites enter in the logical form with a situation variable that is responsible for their being compatible with non-definitional statements. Assuming that situations are parts of worlds, we have also shown that by differentiating the operations on worlds and situations, various interpretations of DGs can be derived.

References

Boneh, Nora and Doron, Edit 2008. "Habituality and the Habitual Aspect". *Theoretical and Crosslinguistic Approaches to the Semantics of Aspect*. Ed. By S. Rothstein, 321-348. Amsterdam: John Benjamins.

Burton-Roberts, Noel 1977. "Generic Sentences and Analyticity". *Studies in Language 1*.155-196.

Carlier, Anne 1996 "Les gosses, ça se lève tôt le matin". *French Language Studies* 6. 133–162.

Carlson, G.N. (1977). *Reference to kinds in English*. PhD diss. University of Massachusetts, Amherst.

Chierchia, Gennaro 1995. "Individual-level predicates as inherently generics". *The Generic Book*. ed by G. Carlson and J. Pelletier, 176-223. Chicago UP.

Cohen, Ariel. 1999. "Generics, frequency adverbs and probability". *Linguistics and philosophy 22*.221-253.

Cohen, Ariel 2001. "On the generic use of indefinite singulars". *Journal of Semantics, 18*.183-209.

Corblin, Francis 1987. *Indéfini, dèfini et démonstratif*. Genève: Droz.

Dähl, Osten 1975. "On generics", in E.L. Keenan (ed.) *Formal semantics of natural language.* Cambridge, CUP, 99-111.
Declerck, Reenaat 1988. "Restrictive When-clauses". *Linguistics and Philosophy 11*.131-168.
Dobrovie-Sorin, Carmen 2004. "Generic plural indefinites and (in)direct binding". *Handbook of French Semantics*, ed by F. Corblin and H. de Swart , 55-70. Stanford: CSLI.
Dobrovie-Sorin, Carmen and Laca, Brenda 1998. "La génericité entre la référence à l'espèce et la quantification générique". *Actes de Langues et Grammaires III*. 165-179.
Dobrovie-Sorin , Carmen and Mari, Alda 2007. "Quantification and objecthood: the case of generic plural des-indefinites in French". *Proceedings of Nels 37*.
Giannakidou, Anastasia and Staraki, Elena 2010. "Rethinking Ability: Ability as Modality and Ability as Action". *Talk at Genius 2*, Paris.
Greenberg, Yael 2002. "Two types of quantificational modalized genericity and the interpretation of bare plurals and indefinite singular NPs". *SALT XII*. 104-123.
Farkas Donka and Sugioka, Yukiko 1983. "Restrictive If/When clauses". *Linguistics and Philosophy 6*.225-258.
Farkas, Donka and de Swart, Henriëtte 2007. "Article choice in plural generics". *Lingua 11 (9)*.1657-1676.
Ferreira, Marcelo 2005. *Event Quantification and Plurality*. Ph.D. Dissertation, MIT.
Heim, Irene 1982. *The Semantics of Definites and Indefinites Noun Phrases*. PhD Thesis, University of Amherst.
Kamp, Hans 1981. "A Theory of Truth and Semantic Representation". *Formal Methods in the Study of Language*. ed by J. Groenendijk, T. Janssen and M. Stokhof, 277-322. Amsterdam (Mathematisch Centrum).
Kenny, Antony 1975. *Will, Freedom, and Power*. Oxford: Blackwell.
Kratzer, Angelika 1989. "Stage and Individual level predicates". Papers on Quantification. University of Massachusetts, Amherst.
Kratzer, Angelika 1991. "Modality". *Semantics: An International Handbook of Contemporary Research*. ed. by A. von Stechow and D. Wunderlich. Berlin: de Gruyter, 639-650.
Kratzer, Angelika 2002. "Facts: particulars or information units ?". *Linguistics and Philosophy 25*.655-670.
Krifka, Manfred *et al.* 1995. "Genericity. An Introduction". In Carlson and Pelletier (eds). *The Generic Book*. Chicago, CUP.
Lasersohn, Peter 1999. "Pragmatic halos". *Language 75*.522-551.
Lawler, John M. 1973. *Studies in English Generics*. Ph.D. Dissertation, University of Michigan, Ann Arbor: University of Michigan Papers in Linguistics.
Mari, Alda (2008). "Analyticity under perspective: indefinite generics in French". In Grønn, A. (ed.). *Proceedings of SuB12*, Oslo, 414-429.
Mari, Alda and Martin, Fabienne 2009. "Generic (In)definites and the analythic/synthetic distinction". *Talk at Genius 1*, Paris.

Mari, Alda, Beyssade, Claire and Del Prete, Fabio (forthcoming). An introduction to Genericity. In Mari, Alda, Beyssade, Claire and Del Prete, Fabio (eds.), *Genericity*. Oxford, OUP.

Menendez-Benito, Paula 2005. *The grammar of choice*. PhD MIT.

McNally, Louise 1998. "Stativity and theticity". *Events and Grammar*, ed. by S. Rothstein, 293-307. Dordrecht: Kluwer.

Nickel, Bernhard 2009. "Ways of Normality". *Linguistics and Philosophy 31*. 629-648.

Portner, P. 2009. *Modality*. Oxford: OUP.

Putnam, Hilary 1975. "The meaning of meaning". In H. Putnam Mind, Language and Reality (Philosophical Papers, vol. 2), 215-271. Cambridge: CUP.

Rimell, Laura 2004. "Habitual Sentences and Generic Quantification". *Proceedings of WCCFL 23*.

Schwarzschild, Roger 2009. 'Variable Enriched Logical Forms', *EALING*, Paris.

de Swart, Henriëtte 1996. '(In)definites and genericity', *Quantifiers, deduction and context. Stanford*, ed. By M. Kanazawa, C. Pinon, and H. de Swart, 171-194. CSLI.

Zucchi, Sandro 1995. "The Ingredients of Definiteness and the Definiteness Effect. *Natural Language Semantics 3*.33-78.