CDD: 149.946

PLURAL SENTENCES AND SEMANTIC AMBIGUITY*

RICHARD VALLÉE

Department of Philosophy,
Faculty of Arts,
4-115 Humanities Centre,
University of Alberta,
EDMONTON T6G 2E5
CANADA

rvallee@gpu.srv.ualberta.ca

Plural sentences are commonly assumed to be semantically ambiguous, *and to have a collective, a distributive or an intermediate reading. I criticize this view and argue that the distributive/collective/intermediate distinction is better seen not as a case of semantic ambiguity, characteristic of sentences or words as types. I suggest a* minimalist *view taking the collective/distributive/intermediate distinction to be truth-conditionally irrelevant, and merely qualifying utterances of true* simpliciter *plural sentences. The intuitions underlying the idea that plural sentences have different readings find an echo in our understanding of singular sentences like "Peter played a duet". I explore this topic. My view of the readings of plural sentences can account for these intuitions. If I am right,* number, *connected to lexical items and sequences of lexical items in natural languages reveals how underinformative sentences are, and underlines the role of interpretation in linguistic communication.*

Problems and project. Number is pervasive in natural languages: all sentences are either singular or plural. We are very careful of number in our use of language: one does not say "The neighbor will come for lunch", when one expects all the tenants in the building for lunch. Philosophers of language assume that the number aspect of singular sentences is easy to deal with and do

© *Manuscrito* 1999. Published by the Center for Logic, Epistemology and History of Science (CLE/UNICAMP), State University of Campinas, P.O. Box 6133, 13081-970 Campinas, S.P., Brazil.

not pay much attention to it. They also neglect the semantical and ontological problems plurals raise[1]: the age old distributive/collective distinction is still in the dark, inferences from plural sentences ("Peter and Paul lifted the piano") to singular sentences ("Paul lifted the piano") are largely ignored, and belief reports made by using plural sentences, like "The Greeks believed that Zeus is a God" and "Peter believes that John, Paul and Harry lifted the piano", are never taken into account in the philosophical literature. Number does not have high priority on the agenda of philosophers of language. Linguists, on the other hand, have been busy trying to account for the semantics of plural sentences (Hoeksema (1981); Lasersohn (1990), (1995); Landman, (1989); Gillon (1987), (1992); Schwartzchild (1996); Link (1998)).

I want to explore *number* in natural languages. I will focus, first, on the semantics of plural sentences. The latter are commonly assumed to be *semantically ambiguous* between a distributive and a collective reading (Gillon, Lasersohn, Hoeksema, etc.). Call this the Semantic View. But is semantic ambiguity so widespread? I shall argue that it is not. In the following pages, I offer arguments against the Semantic View and conclude that the distributive/collective distinction is better seen not as a case of semantical ambiguity, characteristic of words or sentences as types. I then suggest a *minimalist view* taking the collective/distributive distinction to be truth-conditionally irrelevant and as merely qualifying *utterances* of true plural sentences. On this perspective, the collective/distributive distinction is pragmatic in nature. But my program has a wider scope. The singular is my second topic of discussion. I contend that the intuitions underlying the idea that plural sentences have different readings are echoed in our understanding of utterances of singular sentences. However a semantic

* I would like to thank Brian Garrett for helpful comments on an earlier version of this paper.

[1] Massey's "Tom, Dick, and Harry, and all the King's Men (*American Philosophical Quarterly*, vol. 13, nº 2, 1976) stands as an exception.

© *Manuscrito*, 1999.

analysis of the collective/distributive distinction has no grip on these intuitions. My pragmatic view of the interpretations of utterances of plural sentences also accounts for our intuitions concerning utterances of singular sentences. If I am right, *number*, connected to lexical items and sequences of lexical items, is underinformative in natural languages – or not as informative as we think in our most philosophical moments. Thus, my view underlines the role of interpretation in linguistic communication.

Plural sentences. Consider plural sentences like:

(1) All men are mortals.
(2) Gilbert and Sullivan wrote operas.
(3) We are *The Rolling Stones*.

I take it as uncontroversial that a plural sentence concerns *more than one* object and is made true by these objects. For instance, the sentence (2) is true if and only if two objects, namely Gilbert and Sullivan, wrote operas. I here take the paradigmatic objects to be tri-dimensional, spatially continuous, spatio-temporally located entities. For example, you, I, Gilbert, Sullivan, my car, and my computer are objects. Plurally quantified terms quantify over objects, while plural pronouns and sequences of proper names refer to objects.

Our intuitions with respect to utterances of plural sentences are sophisticated. Suppose that I utter (2). Did my utterance convey that Gilbert and Sullivan wrote operas together, or that Gilbert wrote operas, on the one hand, and Sullivan wrote operas, on the other hand? The philosophical tradition takes care of these intuitions by enshrining them in the semantics of plural sentences. We are all familiar with the so-called distributive and collective readings of plural *sentences*, but let me remind you of that distinction.

A plural sentence in a *distributive reading* concerns *each and every* object referred to by a plural pronoun or a sequence of

proper names, or quantified over by a quantified term. Assuming that the reading is truth-conditionally relevant, a plural sentence is distributively true if and only if the predicate is true *of each and everyone* of these objects. Here, the property expressed by the predicate is said to *distribute* over each object referred to or quantified over. For instance, the sentence (1) is true in a distributive reading if and only if *each and every* man is mortal. A plural sentence in a *collective reading* concerns the objects referred to, or quantified over, *considered as a single entity* and is true if and only if these objects, *considered as a single entity* (I will call it a group), have the relevant property. In that case, the predicate does not distribute over the objects and it is false that each object has, or has to have, the relevant property. For example, the sentence (2) is true in a collective reading if and only if Gilbert and Sullivan, *together*, wrote operas. In other words, (2) is true if and only if the group formed by Gilbert and Sullivan wrote operas[2]. It is not required that each object composing that group wrote operas. The predicate then applies only to that group. As Massey (1976) mentions, groups are like paradigmatic objects in many respects: they can write operas, lift pianos and play music. Intuitions concerning the truth-conditions of plural sentences appear to distinguish objects and groups of objects. A plural sentence can be collectively true and distributively false; it can also be collectively false and distributively true. For example, under one reading "The men lifted the piano" is sometimes collectively true but distributively false – if they did it together; in another situation, it could be the other way around – if each of them on different occasions lifted the piano alone. As it goes, two utterances of "The men lifted the piano" can differ in truth-conditions. Suppose that you hear an utterance of "The men lifted the piano". You have first to assign it a reading – collective or distributive – in order to know its truth-conditions.

[2] The group is an object. The sentence remains plural even if concerning, then, a single object.

Of course, a plural sentence can be true in both a collective and a distributive reading. Under that description, the collective/distributive readings are truth-conditionally relevant and should be reflected in the semantics of the sentences.

Let us define:

Collective Reading of a Plural Sentence
A plural sentence *S* is true collectively if and only if the group of objects referred to or quantified over satisfies the predicate.

Distributive Reading of a Plural Sentence
A plural sentence *S* is true distributively if and only if *each* of the objects referred to or quantified over satisfies the predicate.

Characteristically, in a standard description of the truth-conditions of the relevant readings of these sentences one finds more than one might expect, to wit, what is added by "the group" and "each of". Because of the difference in truth-conditions, and the close ties betweeen meaning and truth-conditions, the collective/distributive distinction is widely considered to be semantical in nature. Indeed, according to a fairly common view plural *sentences* are *semantically ambiguous*, having either a collective or a distributive interpretation[3]. This is the core of the Semantic View. Hearing an utterance of "The men lifted the piano", you have to disambiguate it in order to know its truth-conditions, just like you have to disambiguate an utterance of "Harry went to the bank" in order to know its truth-conditions. One could add reading indicators, *c* for collective and *d* for distributive, and get the following singular propositions expressed by (2):

[3] See Massey (1976) for example.

<[,]$_d$, wrote operas>
<c[,], wrote operas>

where Gilbert and Sullivan fill the blanks. When considering plurally quantified terms, like "All the men lifted the piano", one could add the indicator to the relevant quantified variable, as in "(x_d) (man $x_d \rightarrow$ lifted piano x_d)", for a distributive reading, and "(x_c) (man $x_c \rightarrow$ lifted the piano x_c)", for a collective reading. One then gets distinct objects referred to or quantified over, namely our paradigmatic objects and entities formed by grouping these objects. The latter I called groups. If plural terms refer, or denote, such objects are sometimes the proper referents, or denotations, of these terms. Ontology is widely considered to be concerned with truth-makers. If the Semantic View is right, our ontology then contains *both* our simple, paradigmatic objects and more complex entities, or objects, formed by the latter[4]. The first makes singular sentences and plural sentences read distributively true; the second makes plural sentences read collectively true[5].

As Gillon (1987) emphasizes, the collective/distributive readings do not exhaust the possible interpretations of plural sentences. Take:

(4) Crosby, Stills, Nash and Young played tonight.

where Crosby played with Nash, Stills with Young, Crosby with Stills and Young but none of them ever played by himself, and the four of them never played together. That sentence would be true

[4] One must see these complex entities as objects. But one should also carefully distinguish them from the simple objects making true singular sentences or plural sentences read distributively.

[5] Some sentences read distributively seem to be made true by complex entities. For example, "The men and the women live in the same building" distributes over the group of men and the group of women. I will neglect these cases.

neither in a distributive nor in a collective reading; yet, the sentence (4), or an utterance of (4), would be true. The collective/distributive distinction cannot capture all these readings. I will call these readings of plural sentences *intermediate readings*. The latter involve subsets or, as I prefer to say, subgroups of objects referred to or quantified over – for example, Crosby and Stills, Nash and Young, and Crosby and Nash.

Unfortunately, the collective and intermediate readings of plural sentence are not captured by standard semantics. Consider sentence (1). The latter's logical form is "(x) (man $x \rightarrow$ mortal x)", and is true if and only if for all values of x, if x is a man, then x is mortal. Consider now "All the men in that room lifted the piano", whose logical form is "(x) (man in that room $x \rightarrow$ lifted the piano x)". It is true if and only if, for all values of x, if x is a man in that room, then x lifted the piano. The universal quantifier captures neither the collective reading, nor the intermediate reading of the initial sentence. Universal quantification is desperately singular in nature. In that sense, it fails to account for a quite natural collective reading of "All the men in that room lifted the piano". Such a fact prompted the introduction of group quantifiers (Massey (1976)).

Sequences of proper names, as in (2), must sometimes be read as complex terms referring to groups. As we saw, "Gilbert and Sullivan" does not always flatly refer to both composers, but is sometimes a special noun phrase designating the group formed by these two persons. But the philosophical literature is silent on the semantic behavior of sequences of proper names. Finally, plural pronouns, like "we" and "they", are ignored (but see my (1996)).

Here, then, is our first problem: Why should we accept the Semantic View? And can we account for the many readings of plural sentences without taking the latter to be semantically ambiguous?

Singular sentences. Let us now turn to my second topic: singular sentences. Consider:

(5) Peter lifted the piano.

Since the sentence is singular, we are tempted to read into it unequivocal truth-conditions: it is true if and only if *Peter* lifted the piano. Call this the *semantically given truth-conditions.* According to the semantic tradition, all utterances of (5) have the same, semantically given, truth-conditions. However, the ontological intuitions behind the collective/distributive readings of plural sentences are also at work in our understanding of utterances of singular sentences like (5). These intuitions concern ontological information *prima facie* not semantically provided by a singular sentence but, so to speak, "packed" into our understanding of an utterance of that sentence. More specifically, they concern group membership. Hearing an utterance of (5), we take it to be true if and only if *Peter* lifted the piano. That is, we assign to that utterance its semantically given truth-conditions. In a natural understanding of an utterance of (5) it goes without saying, and it is assumed, that Peter lifted the piano alone – that is, not as part of a group. Suppose that Peter did it alone. The utterance of (5) is then uncontroversially true. However, nothing in the semantics of the sentence carries the idea that he did it *alone.* The semantics of (5) is indeterminate with respect to that reading of the utterance.

Suppose that you see Peter lifting the piano *with the help of Paul and John,* and that none of them, alone, would have been able to do it. The day after you tell a friend, who asked what Peter did yesterday, that Peter lifted the piano. Is your utterance of (5) true? One may hesitate here. According to some, it is true but misleading: the utterer misinforms the addressee; according to others it is plainly false: Peter did not lift the piano, the group formed by Peter, Paul and John did. Following the semantics of singular sentences, one single object allegedly satisfies the predicate, with no regard to its satisfying it by itself or as part of a

group. Remember that the singular sentence is indeterminate with respect to whether or not Peter did it alone. In our example, the object satisfies the predicate in so far as it is part of a specific group satisfying it. But the singular sentence is semantically indeterminate with respect to that reading. The singular sentence "Peter played a duet" provides a clear case of that type of problem. Can Peter really play a duet? Unless he is unusually gifted, one is tempted to say no and to take all utterances of that sentence to be literally false[6]. But we are charitable interpreters: yes, he can play a duet if he is with someone else. We easily make sense of an utterance of such a sentence. Coming home after the evening, Peter can tell his wife "I played a duet". She will take that utterance to be true and will probably ask him "with whom?". She will not take the utterance to be false, and then ask him with whom! Coming home after a party, a teenager can tell her parents "I danced the tango all night". As we know, no one can dance the tango by themself. But telling the teenager that she said something false would be very narrow minded. Her parents will take the utterance to be true, and wonder who she met. How can we make sense of our assigning truth to these utterances?

Methodology. With that in mind, let us go back to the alleged semantic ambiguity of plural sentences. I will assume three principles in my discussion. First, I assume that the semantic notions of truth and falsity are unqualified: an utterance, a sentence, or a proposition is *simply true* or *false*. Call it the True Simpliciter Principle. Second, as a general policy advocated by Kripke (1977), it is better, all things being equal, *not* to postulate semantic ambiguities in natural languages. Call this the Principle of Minimal Ambiguity.

[6] As a figure of speech, say metonymy, it could be used to mean something true, but we are here concerned with literal interpretations.

Finally, let me introduce the Principle of Ontological Economy. The truth of "Peter is sick" depends upon an object, Peter, having a property, being sick. As a principle of ontological commitment, I will rely on Quine's famous dictum:

> To be is to be the value of a bound variable in a true sentence

According to linguists (Gillon (1987), (1990); Feldman (1989); Lasersohn (1990)), plural sentences, because of the possibility of collective readings, require the introduction of new entities in the universe of discourse: groups, sets, sets of sets, pluralities, mereological objects, and what not. If the ambiguity is semantic, these new entities are sometimes the denotations, or referents, of plural terms, making true plural sentences under one reading. For example, Gilbert and Sullivan, would make the sentence (2) true under a distributive reading, while the group containing both would make it true under a collective reading. To restrain ontological prolixity one can rely on a version of Ockham's Razor, the Principle of Ontological Economy:

> One should not postulate *new types* of entities without necessity.

Now, at first sight, the semantic ambiguity view goes against the Principle of Minimal Ambiguity, taking plural sentences to be semantically ambiguous, and the Principle of Ontological Economy, requiring new types of entities to account for the truth-conditions of plural sentences.

Truth. The literature on plural sentences is replete with the idea that a sentence can be *distributively true* and *collectively false.* The semantic view apparently introduces *qualified* truth: a distributive truth is a new type of truth. But is this so?

This raises problems when one considers complex sentences like "The men lifted the piano *and* the kids were watching", where the first sentence is read collectively and the second one distributively. Does the complex sentence echo the qualification we introduced? If so how should it be qualified? And how is our familiar truth-functional "and" to be interpreted? Once one takes plural sentences to be semantically ambiguous, "distributively true" and "collectively false" become misleading expressions. What is collective, or distributive, is the meaning or interpretation of the sentence, not the type of truth. A plural sentence read distributively is just true or false, as is any plural sentence read collectively. So, from now on I will say that a plural sentence read distributively, or collectively, is true or false.

Ambiguity. Semantics is concerned with the conventional meaning of lexical items and their contribution to the truth-conditions of sentences as types. Let us say that a lexical item is semantically ambiguous if, and only if, it has attached at least two semantic values, namely meanings, by the linguistic conventions of the language. A single sentence containing an ambiguous lexical item expresses at least two different truth-conditions. For example, "founder" can mean either "one who establishes an organization" or "one who melts metal or glass" (Gillon (1987)). The sentence "A founder is a hard worker" is true if and only if one who establishes an organization is a hard worker, or if and only if one who melts metal or glass is a hard worker. Are plural sentences semantically ambiguous between a collective, a distributive and an intermediate reading? Are they assigned three meanings by the linguistic conventions of the language? If so, where should the ambiguity be located? In the referring terms or in the quantified terms? In the predicates? I will take referring terms and quantified terms to be ambiguous. But arguments against the idea that plural predicates are ambiguous in the relevant sense can easily be provided.

Most of us are uncomfortable with the idea that a quantified term like "The men" in "The men lifted the piano" is semantically ambiguous, like "founder" is ambiguous, merely because the sentence can be given a distributive or a collective reading. The same goes for the predicate "lifted the piano". *Prima facie*, none of the words occurring in "The men lifted the piano" is semantically ambiguous – that is, *prima facie* none has two meanings attached by the linguistic conventions of English. So, to be explicit, the noun phrase, or the predicate phrase, cannot be determined ambiguous just because the sentence they are embedded in have more than one "interpretation", for that "interpretation" may be pragmatic, not semantic.

Were there two meanings, it would be possible to disambiguate a sentence like (2) through a sentence without modifying the meaning of the initial sentence. Intuitively, "Harry went to a financial institution" shares one of the meanings of "Harry went to a bank". But arguing that the sentence resulting from plural sentence's disambiguation, a sentence reflecting the truth-conditions given for the collective reading, for example, does share one of the meanings of the initial sentence, is question begging. Intuitively, "Gilbert and Sullivan wrote operas *together*" does not share one of the meanings of "Gilbert and Sullivan wrote operas". Does (2) semantically mean (under one interpretation) what "Gilbert and Sullivan wrote operas *together*" means? Our intuitions are at best unclear at that point and cannot back the semantic ambiguity thesis. If it is semantically ambiguous, under one interpretation "Gilbert and Sullivan wrote operas *together*" is redundant since the sequence of proper names or the predicate, "wrote operas", can be read collectively. But it is apparently not[7]. Finally, "We wrote operas" and "They wrote operas" would be semantically ambigu-

[7] An argument using a criterion of redundancy has been used by Harnish (1976) and is discussed in Gillon (1987). Gillon's counterexamples will not be discussed here. I find them inconclusive. In any case, my argument is grounded on synonymy rather than redundancy.

ous between a collective and a distributive reading. However, the view that words like "we", "they" or "wrote operas" can semantically carry that ambiguity strikes me as implausible, and the backing intuitions are unreliable[8].

Locating the possible readings of a plural sentence in the meaning of the referring terms or the quantified terms, or in the meaning of the predicate, making them semantically ambiguous and having different meanings, is also implausible because of the intermediate readings. Putting *all* the readings, collective, distributive and intermediate, in the possible meanings of the referring terms or the quantified terms, or in the possible meanings of the predicate, would make them multiply semantically ambiguous[9]. For example "Crosby, Stills, Nash and Young played tonight" would be multiply semantically ambiguous. It is apparently not. Plural noun phrases, and predicates, can hardly be said to be ambiguous in that sense.

Finally, learning the vocabulary of a language, one learns the meanings of ambiguous terms, and knowing one of the meanings of an ambiguous term is unhelpful in knowing another. For example, "cranes" can mean a type of bird or a type of machinery. But learning that it means a type of bird is unhelpful in learning that it also means a piece of machinery. As it goes, if you know one of the meanings of "cranes", you might totally ignore that it has another meaning, and you may have no clue of the latter or even of the existence of the latter. Learning the meanings of "cranes" as a word for a type of bird and a piece of machinery is similar to learning two words. Now, someone learning the language does not plausibly learn all the readings of the plural head noun phrases, or predicates, as one does when learning the meanings of semantically ambiguous terms, especially when we consider "we" and "Crosby, Stills, Nash and Young" and the intermediate

---

[8] But see Gillon (1990) for a different view.

[9] As Gillon (1989) acknowledges.

readings of the sentences in which they occur. The semantic ambiguity view does not fit our notion of semantic ambiguity[10].

There is a more severe problem. If plural referring terms or the quantified terms are semantically ambiguous, the anaphoric pronouns linked to them refer to their referent or what they quantify over. Now consider:

(6) Peter and Paul lifted the piano. They are strong.

and assume that "Peter and Paul lifted the piano" is read collectively[11]. In (6), under one reading "they" is clearly anaphoric with "Peter and Paul" and its semantic value depends upon the latter. If "Peter and Paul" refers to a group of individuals, "they" should also refer to that group and the second sentence would have a compulsory collective reading. However, the collective reading is not constrained and the second sentence, under a distributive reading, is perfectly acceptable. Consider also:

(7) Peter and Paul are musicians. They will perform tonight.

and assume that the first sentence is read distributively, that the pronoun occuring in the second sentence is anaphoric with the head noun phrase of the first sentence, and that its semantic value depends upon the latter's. If so, the second sentence is bound to be read distributively. Once again, that reading is not constrained and the second sentence is naturally read collectively. The same goes for predicate ambiguity. Assume that "lifted the piano" in (6) is read collectively and denotes a group of individuals. If so "they", since it is semantically linked to what makes the first sentence true, would refer to that group. As a consequence, the sec-

[10] Lasersohn (1989) shares that intuition.

[11] I do not use examples where an anaphoric pronoun is naturally read referentially and where its antecedent is a quantified term because these cases are very controversial.

ond sentence would have a constrained reading, but it does not. The semantic ambiguity view cannot account for these examples.

From a naive point of view, evidence in favor of the Semantic View is dim, while arguments against it are strong. Finally, Kripke's methodological principle goes against the view that plural sentences are semantically ambiguous between collective, distributive, and intermediate interpretations[12]. All things considered, unless *compelling* data are offered, one should be reluctant to accept the semantic ambiguity view. In any case, a view *not* postulating semantic ambiguities should be preferred. I think that such a view can be offered.

Who Needs Plural Entities? Are there groups? Does *language* commit us to that type of entity? Ontology is connected to *categories* of linguistic expressions. For example, the linguistic category of a singular term is linked to the ontological category of an object; the linguistic category of a one-place predicate is linked to the ontological category of a property, and so on. Objects and properties are types of entities. The latter are relevant to the truth of sentences. Let us call anything discriminated by a linguistic category and truth relevant an ontological category. There is, at first sight, no ontological category connected to the singular/plural distinction: the latter does not define a category of linguistic expressions. Strictly speaking, the plural and the singular merely distinguish *one* and *more than one* object, not between two types of objects. I take the singular/plural distinction to be a linguistic distinction, but one not distinguishing ontological categories, as singular terms and predicates do, that is, one not distinguishing types of

[12] See Gillon (forthcoming) for a critical examination of the hidden operator hypothesis, according to which every plural noun phrase or predicate contain a phonetically null operator modifying the denotation of the noun phrase or the verb phrase, taking it either distributively or collectively. I need not address that view to make my point and take Gillon's criticisms to be convincing.

entities and one being ontologically inert. Within the plural, one might find an ontological distinction, but obviously such a distinction is not connected to a linguistic distinction. Plurals are not a type of linguistic item fit to introduce unequivocally a new ontological category. If a plural, under one interpretation, introduces a new ontological category, as it does according to the Semantic View, this category should raise suspicion.

Let me be more metaphysical: each object in what I called a group is plausibly related to the others through relations, going from the simplest – pure addition, as in "The cars consume more gas than the buses", where the cars are added to form the sum of cars, as are the buses to form the sum of buses – to the more complex – as in "Crosby, Stills, Nash and Young played tonight", where one supposes complex relations without which there is no group. I suspect that the collective objects or groups referred to by plural noun phrases are often understood as such objects. Suppose that I utter "Crosby, Stills, Nash and Young played tonight" and that the latter sentence is intended as collective. The group referred to includes Crosby, Stills, Nash and Young. Now, the components of that group entertain very specific relations without which there is no specific group. I take it that these relations, in addition to the objects, define the group. But the *semantics of the plural noun phrases* is not sufficiently rich to reach these relations and, as a consequence, a specific group or a plural object built through them. It just distinguishes between one and many, and is not sophisticated enough to look in the "many" so as to regroup objects into specific groups or what not. I will come back to that point later on.

One is better, on methodological as well as on metaphysical grounds, not to consider plural sentences as being semantically ambiguous and sometimes introducing groups.

Ambiguity and Utterance. Is there an alternative analysis of the collective/distributive/intermediate distinction? Let me suggest one. Gillon (1987), (1990) argues forcefully that plural sentences are

semantically ambiguous. First, he defines ambiguity in the following way:

> A sentence is ambiguous if and only if, with respect to a given state of affairs, the sentence can be both truly affirmed and truly denied (Gillon (1987), p. 202).

emphasizing that this criterion neither locates the source of the ambiguity nor gives the relevant readings[13]. Second, he characterizes generality and indeterminacy, and argues convincingly that the collective/distributive reading cannot be seen as a case of generality. He argues less convincingly that it is not a case of indeterminacy, and concludes that ambiguity is forced upon us. I will not discuss the details of his argument but I will question the criterion of ambiguity.

Gillon's criterion of ambiguity is inconclusive for establishing that the ambiguity depends upon the semantics of the sentence because it grounds it on *affirming*, a speech act, opening the door for utterance "ambiguity" rather than sentence ambiguity. Gillon's criterion does not distinguish between semantic ambiguity and utterance "ambiguity". Suppose that I say "The men lifted the piano". One could argue that the *utterance*, rather than the *sentence*, can be read one way – distributively – or another – collectively. However, the utterance rather than the sentence would then be "ambiguous" – being readable one way or another. I want to explore the idea of utterance "ambiguity".

Pragmatics deals primarily with utterances and the non-truth-conditional aspects of utterances. For example, Grice's conversational implicatures – what the speaker intentionally conveys

[13] According to Gillon (1990) demonstrative and indexical sentences are ambiguous. Let me disagree. Indexicals and demonstratives are not semantically ambiguous, their linguistic meaning is stable, but are used to express different propositions in different contexts. Hence, their meaning and truth conditions come apart.

by uttering a sentence, but is not part of the meaning of the sentence – is a classic example. Let us say that in the case under examination, we would have a case of pragmatic "ambiguity": the utterance, rather than the sentence, should be read one way or another, and the relevant reading would not be part of the meaning, or truth-conditions, of the sentence. *Sentences* as types are semantically ambiguous and here, at best, Gillon's criterion leads to the idea that *utterances* are read one way or another. Pragmatic "ambiguity" is of no consequence with respect to the meaning or truth-conditions of plural sentences. By Gillon's criterion, the ambiguity of utterances of plural sentences is not bound to be semantic, since it could be a pragmatic matter.

Let me add some detail. Suppose that I tell you that the men lifted the piano. You then have information about the world: the piano was lifted by the men. Suppose that I add that they did it together. You have new information about the world: they did it together. Following the Semantic View, the sentence uttered gave you both pieces of information in one breath. I have the intuition that knowing that a plural sentence is true gives some information about the world, and that knowing that it is distributive, or collective, gives additional information. The second sentence - "They did it together" - did not disambiguate the first, rather it gave us additional information regarding what happened. I want to preserve that intuition. Taking the first piece of information to be semantically given by my utterance, i.e. "The men lifted the piano" and the second to be non-semantically given by my utterance would preserve that intuition.

Plural Sentences and Their Utterances.

Let us say that:

Non-specific Reading of an Utterance of a Plural Sentence
An utterance of a plural sentence *S* is true if and only if the objects – referred to/quantified over – satisfy the predicate

The non-specific reading of utterances of plural sentences just relies on the *prima facie*, semantically given, truth-conditions of the sentence, with no regard to the collective, intermediate or distributive readings. For example, "Crosby, Stills, Nash and Young played tonight" is true if and only if Crosby, Stills, Nash and Young played tonight. It accounts for the first piece of information I gave you – the piano has been lifted by the men. All utterances of plural sentences have a non-specific reading. i.e. have semantically given truth-conditions. Call the distributive, collective and intermediate readings specific readings of utterances of plural sentences.

> *Collective Reading of an Utterance of a Plural Sentence*
> An utterance of a plural sentence *S* has a collective reading if and only if the objects making true that utterance in a non-specific reading form a group

> *Distributive Reading of an Utterance of a Plural Sentence*
> An utterance of a plural sentence has a distributive reading if and only if *each* of the objects making true that utterance in a non-specific reading satisfy the predicate

> *Intermediate Reading of an Utterance of a Plural Sentence*
> An utterance of a plural sentence has an intermediate reading if and only if the objects making true that utterance in a non-specific reading are grouped in subgroups

An utterance of a plural sentence true in a non-specific reading has, in addition to this reading, a specific reading. Gillon (1987) specifies that "a word is indeterminate with respect to a property just in case the property is neither the word's connotation nor a species of word's connotation. For example, the word "square" is indeterminate with respect to being any particular size, and the word "mother" is indeterminate to being of any particular ethnic

origin" (Gillon (1987), p. 201). I contend that plural sentences, and utterances of plural sentences in a non-specific reading, are indeterminate with respect to group membership, or non-group membership, that is, with respect to the collective, distributive and intermediate readings: their meaning does not determine one reading or another. The words "we" and "they", for instance, in no way fix a specific reading for utterances of plural sentences in which they occur. If an utterance of a plural sentence is true, then it can be assigned a specific reading.

Assume that an utterance of the sentence (4) is true in a non-specific reading and take three utterances of the latter. One can then give these utterances specific readings. The first utterance could be said to be *intended* distributively, the second one to be intended collectively, and the third to have an *intended* intermediate reading. In the present perspective, I would say that the utterances are all true, and that one can *qualify* the *intended interpretation*, or the specific reading, of these true utterances. The intended interpretation of the utterance is not always the content of an occuring communication intention. The intended interpretation accounts for the second piece of information I gave you – that the men did it together for example. The difference in qualification can be analyzed by relying on utterance, rather than sentence ambiguity, and by focusing on the objects making true an utterance of a plural sentence in a non-specific reading. Note that plural sentences, or utterances of a plural sentence in a non-specific reading, are true (or false) independently of the intended interpretation. Indeed, one could intend one's utterance of "Crosby, Stills, Nash and Young played tonight" as distributive, and get it wrong – because they played together – with no consequence with respect to the truth of the sentence: Crosby, Stills, Nash and Young played tonight. The sentence, or the utterance of that sentence, is true – the first piece of infomation one gives is true – but the intended interpretation is false – the second piece of information one assumes is wrong. Under a semantic approach

to the distributive/collective distinction, one would have uttered a false sentence; under a minimalist approach, one uttered a true sentence, but the intended interpretation is wrong. I want to emphasize that the intended interpretation is not always the content of a communicative intention. It is just the one the speaker would agree with were we to ask.

Partitions[14]. Consider an utterance of a true plural sentence. One *qualifies* the intended interpretation by *partitioning* the objects making that uttered sentence true. Partitioning is a mental act. We see objects, and sometimes consider them as a group when we believe that there are relevant relations between these objects. The partition is the result of considering these objects as having these relations. For example, the men making true an utterance of "The men lifted the piano", in a collective interpretation, coordinate their efforts, aim at the same result, and so on. Take a *partitioner* to be a structure containing slots for (i) single items, (ii) groups of two and more items, and (iii) groups of two and more items as well as single elements, and fit for receiving objects referred to or quantified over. A partitioner has the following structure:

```
<  >,<  >,<  >,<  >,<  >,<  >,<  >.......
<  ,  >,<  ,  >,<  ,  >,<  ,  >.....
<  ,  ,  >,<  ,  ,  >,<  ,  ,  >,<  ,  ,  > .....
<  ,  ,  ,  >,<  ,  ,  ,  >,<  ,  ,  ,  >,<  ,  ,  ,  >.....

<<  >,<  ,  >>,<< >,<  ,  >>,<<  >,<  ,  >>,<<  >,<  ,  >>
<<  ,  >,<  ,  >>,<<  ,  >,<  ,  >>,<<  ,  >,<  ,  >>,
.....
.....
.....
<< >>
```

[14] The notion of a partition can be found in Gillon (1987).

The brackets are enclosing objects – < > forms a singleton, while < , > forms a group, enclosing what are commonly seen as two objects. The reasons for putting them together, or for not putting them together, do not show in the partition, that is, the relations between these objects are not made explicit in the partition. The brackets enclosing a single object capture the distributive reading of plural utterances, the brackets enclosing more than one object capture the intermediate and collective readings of plural utterances. The groups lack structure, since the relations these objects entertain are not given by the meaning of the uttered sentence. In a non-specific reading of an utterance of a plural sentence, the objects are not partitioned and the truth-conditions are those of the sentence. In specific, distributive, collective or intermediate, readings of utterances of plural sentences, each object referred to or quantified over fits in one or more free slots in the partitioner. It needs to fit in more than one to account for qualifying the truth of utterances of sentences like "Rodgers, Hammerstein and Hart wrote operas", where neither wrote an opera by himself, and where Rodgers and Hammerstein wrote some, while Hammerstein and Hart wrote some others (Gillon (1992)). The result of letting slide into a partitioner the objects making true an utterance of a plural sentence in a non-specific reading is a partition. For example, "Peter, Paul and Mary" is a sequence of referring terms, each component of which refers to an object. These objects could be left untouched, or they could be structured by a partitioner in order to qualify the intended interpretation of the utterance of a plural sentence. In the latter case, one builds a partition out of these objects and gets, for example:

<<Peter> , <Paul> , <Mary>>.

or

<<Peter>, <Paul , Mary>>

or

<<Paul>, <Peter , Mary>>

or

<<Paul, Peter, Mary>>

The first case, where *all* items are isolated, corresponds to the distributive reading, and the last one, where *none* are isolated, corresponds to the collective reading. One cannot say that the predicate is true of these objects – the singleton or the many groups – since the predicate applies to prepartitioned objects. The predicate is true of the objects, and one qualifies the intended interpretation of the utterance by partitioning the latter. A distributively true utterance is, basically, an utterance of a plural sentence true in a non-specific reading whose truth-makers are distributed as singletons; a collectively true utterance is an utterance of a true plural sentence whose truth-makers are distributed to form a group. Other cases are intermediate readings. A distributively false utterance of a plural sentence – or an utterance of a sentence false under a distributive reading – is merely an utterance of a true plural sentence which cannot be qualified as distributive. One does not want to say that an utterance of "The men lifted the piano", because «false» in distributive reading, is false! Since the utterance of one and the same sentence can be qualified as both collective and distributive, one is allowed to partition the objects making true an utterance of a plural sentence more than once. We do not need a new category of object fit to make sentences true, but a non-linguistic way of putting together familiar truth making objects in order to *qualify* the intended interpretation of utterances. Partitioning the objects referred to/quantified over achieves that aim. The reasons for letting the objects slide in one room or another are irrelevant as far as semantics is concerned.

The partition has two important features. First, it is not linked to the *semantics* of a noun phrase or a predicate. It depends upon a partitioning of the objects semantically given by the referring terms or the quantified terms, or denoted by the predicate, and making the utterance true. A partitioning is done by relying on non-linguistic knowledge. In that sense, it is independent of the language: the partitions are not echoed in the semantics of a language, no term refer to it, and as expected, they are truth-

conditionally irrelevant. Second, partitions, in contrast with truth-conditionally relevant entities, are created *ad hoc* in order to qualify particular utterances. I am not arguing that the category of a single partitioned object – < > – or a group < , > – is *ad hoc*, but rather that particular partitions, singletons or groups, are. In that respect, partitions do not have the stable aspect of objects making sentences true.

One could argue that when the men lifted the piano together, they performed a collective action and that the agent who performed that action is a collective agent. The next step is to argue that "the men" then refers to or denotes that agent, then considered as an object. A lot of problems are buried under this view. I do not deny, neither do I accept, the existence of collective agents. If there are such, then I would like to insist they have certain features. Collective agents are groups of agents entertaining rather sophisticated relationships without which that group would not qualify as a collective agent – the men who lifted the piano collaborated together and coordinated their efforts. This group forms an entity lacking the persistence of familiar objects. Obviously, plural noun phrases and sentences are blind to these relations and, hence, silent on whether or not "the men" refers to or denotes such an agent. The partition is also blind to this aspect of these objects, i.e. to their entertaining sophisticated relationships. But partitioning is plausibly *sometimes* linked to the category of a collective agent, that is, to objects and to specific relations entertained by these objects, as in the case of "the men" in the example under examination. What we consider as a group could really be a group. However, reading a plural term as quantifying over a collective agent is putting more in the referent than is semantically provided, that is, it is introducing non-semantically specified relations among the objects quantified over. The additional relations are intuitively there, and to my mind ground our tendency to partition the objects one way or another. Still, I want to insist that

collective agents, for instance, have characteristic relations that goes beyond the grasp of the meaning of plural terms.

A partition can be determined for each utterance of plural sentences, giving either a collective, a distributive or an intermediate reading. I call the relevant partitioning the intended interpretation of the utterance. When all utterances of a true plural sentence are properly qualified at one and only one partition, the interpretation of an utterance of that sentence is overdetermined – for example, the interpretation of the plural sentence "The students gathered in the office" is overdetermined – ; when different utterances of a true sentence are properly qualified at different partitions, the interpretation of that sentence is underdetermined – for example, the interpretation of an utterance of "They are rich" is underdermined. In the first case, there is one and only one plausible intended interpretation; in the second case, there is more than one.

Understanding a plural utterance is then a two-step process. The first one, semantic, gets the non-specific reading. When the utterance is true, the second one, non-semantic, reaches an intended interpretation, that is, a partition. My view, therefore, allows us to preserve the idea that a sentence can be both plural – concerning more than one object – and used to make an utterance about what is seen as a single object – when read collectively.

My view of plural sentences accounts for the standard distinctions without introducing semantic ambiguities and without introducing a new type of truth-relevant category in our ontology. In that respect, it should be favored over the semantic view. Some issues remain unaccounted for: the classical inference patterns, taking only sentences into account, are blind to the collective/distributive/intermediate distinction and plural propositional attribution sentences are also blind to these readings. I would now like to convince the reader of the fruitfulness, and the non-*ad hoc*-ness, of my pragmatic view by applying it to utterances of singular sentences.

Singular Sentences and Their Readings. Let us now turn to sentence (5). I argued that utterances of (5), in some circumstances, question our intuitions concerning the truth of (5). Should we rely on semantic ambiguity to account for these intuitions? I do not think so. The apparatus used to take care of utterances of plural sentences can be used.

I already introduced the nonspecific reading of an utterance of a singular sentence.

> *Nonspecific Reading of an Utterance of a Singular Sentence*
> An utterance of a singular sentence *S* is true if and only if the object satisfy the predicate

The latter captures the semantically given truth-conditions. All utterances of singular sentences have a non-specific reading, identical with their semantically given truth-conditions. Let me remind you of the distinction between a singular and a collective reading of *utterances* of singular sentences. I will call these readings specific readings of utterances of singular sentences.

> *Singular Reading of an Utterance of a Singular Sentence*
> An utterance a of singular sentence has a singular reading if and only if the object referred to/quantified over satisfies the predicate *alone*

> *Collective Reading of an Utterance of a Singular Sentence*
> An utterance of a singular sentence has a collective reading if and only if the object referred to/quantified over satisfies the predicate with something else.

All utterances of singular sentences have a semantically given nonspecific reading and, in addition, are assigned a specific reading. Once again, specific readings are not semantically given. It would be unwise to say that singular sentences are semantically ambiguous between the two readings – singular and collective. "Peter

lifted the piano" can hardly be said to be semantically ambiguous and synonymous, in one reading, with "Peter lifted the piano alone". Some of the arguments I used against analyzing the distributive/collective/intermediate readings of plural sentences also apply here. The sentence "Peter lifted the piano alone", under one interpretation, is not obviously redundant. Finally, Kripke's principle of not introducing semantic ambiguity in a language when one can do otherwise also applies.

We can use the notion of a partitioner, to get specific readings for singular sentences, and argue that if an object making true an utterance of a singular sentence in a non-specific reading slips into a one slot partition, the specific reading of the utterance is singular, and collective otherwise. A referent fitting it in

< >, < >, < >, < >, < >, < >, < >.....

qualifies the utterance as intended as singular, while one fitting it in

< , >

qualifies it as intended as collective. The reasons for introducing an object into a slot are not linguistic: assigning a specific reading to an utterance of a singular sentence is packing into that utterance more than is semantically given, and requires non-linguistic knowledge.

Let us go back to the backing intuitions. One can say that the sentence (5), or an utterance of (5), is true and that an utterance of (5) can be qualified as having a singular reading – if Peter lifted the piano alone – or as collective reading – if Peter did it with the help of friends. Here, there are no intermediate readings, in contrast to what was the case with the plural sentences. Those of us who argue that an utterance of (5) is false read it, incorrectly, as *semantically* collective. "Peter played a duet" is sometimes true, but it is false that all of its utterances have a singular

reading. We never partition utterances of false singular sentences. Once again, some utterances of singular sentences are over determined – they always have a singular reading or always have a collective reading. For example, utterances of "Peter played a duet" are overdetermined, since no one can play a duet by themself. Others are underdetermined – they can have either a singular or a collective reading. For example, "Peter lifted the piano" is underdetermined, since Peter could have lift the piano by himself or with the help of other persons.

Utterances of singular sentences read singularly concern one and only one object and are authentically singular utterances; utterances of singular sentences read collectively are pseudo-singular utterances since they concern an individual *as a member of a group*, and what is said of him is proper only in so far as he is a member of a group. The latter does not then concern an individual *simpliciter*. When we assess the truth-conditions of the utterance of a singular sentence, we sometimes "pack in" more information than semantically provided for by the latter. I prefer to say that we tend to qualify the utterance and usually read it as an authentical singular utterance rather than as a collective utterance. But this reading is not semantically motivated. The (specific) singular reading is the selected default intended interpretation of the utterance, since the sentence by itself does not force one reading or another.

Utterance Reading and Anaphora. Let us reconsider

(6) Peter and Paul lifted the piano. They are strong.

In my view, "Peter and Paul" introduces two objects, the truth-makers of the first sentence in (6). One can partition them to get a specific reading, let us say a collective reading. "They", being anaphoric with "Peter and Paul" refers to these objects, and the objects are also the truth-makers of the second sentence in (6).

They are also available for partitioning. Insofar as partitioning is language independent, one can partition them in a different way, to get for example a distributive reading. One can handle (7) in the same way.

Inferences. Consider "Boileau and Narcejac wrote mysteries", but suppose that neither Boileau nor Narcejac ever wrote a book by himself. Does "Boileau and Narcejac wrote mysteries" imply "Boileau wrote mysteries"? That is, does the truth of the first sentence imply the truth of the second one? Since the list of Boileau's book, and the list of Narcejac's books as well, would be empty, one can hardly argue that the last sentence is true. But Boilau wrote books, didn't he? We have here conflicting intuitions. Inferences from plural sentences having intermediate readings are not straightforward either. Take "Crosby, Stills and Nash played tonight" where Crosby played alone, while Stills and Nash played together. Does "Crosby, Stills and Nash played tonight" imply "Crosby and Stills played tonight"? Once again, our intuitions are not clear. Suppose now that Boileau says "We wrote books". Does that imply the truth of Boileau's utterance of "I wrote books". Quantified noun phrases do not seem to raise the same problems since there is no direct inference available unless one adds a premiss. But consider "The movers lifted the piano" and "Peter is a mover". Does that imply "Peter lifted the piano"? If I am right, inference patterns between plural and singular sentences, are correct because they are based on the semantics alone. For example, "Boileau and Narcejac wrote mysteries" implies "Boileau wrote mysteries". Our discordant intuitions are grounded on the partitioning of the truth-makers of sentences and the partition is irrelevant with respect to truth.

Conclusion. Following the view I suggested, both plural and singular *utterances* are *interpreted* – being assigned a specific reading - and are made a lot richer than what can be extracted from the

meaning of their components and their relations. But we should not pack this interpretation in the meaning of the sentences. In that sense, linguistic meaning is sufficient to give the truth-conditions of utterances, but not to qualify them or their intended interpretations. One relies on non-semantic knowledge to assign utterances an intended interpretation.

Let me conclude with two problems. First, identity sentences, like "We are the Rolling Stones" and "The authors of *Principia Mathematica* are the founders of contemporary logic", are amazingly absent from philosophers' preoccupations. Singular identity sentences gave rise to modern philosophy of language, but their plural counterpart has been kept at bay. Plural attribution, like "The Canadians believe that smoking can be harmful" are unexamined and left in the dark. Are there collective interpretations of plural attribution? If so, what is a collective attitude? Are there only distributive, or intermediate, readings of these utterances? Attribution of an attitude toward a plural sentence, like "John believes that the men lifted the piano", is also unexplored. Do embedded sentences report fine-grained attitudes taking into account the various readings of plural utterances we examined? Or are they blind to utterances and sensitive only to a non-specific interpretation? I will not address these problems here.

Second, I argued that groups were not required in our ontology to account for the truth-conditions of plural sentences. On the other hand, I did not argue that these objects were not legitimate features of our ontology. One could consider that semantics and truth-makers is not all there is to ontology and consider that part of ontology contains semantically irrelevant objects: groups, that is, objects having specific relations, could really be there even if not captured by plural linguistic expressions. One could consider that to be is not always to be the value of a bound variable in a true sentence. But this is another story.

© *Manuscrito*, 1999.

BIBLIOGRAPHY

GILLON, B. (1987). "The Readings of Plural Noun Phrases in English", *Linguistics and Philosophy* 10, pp. 199-219.

———. (1990). "Plural Noun Phrases and Their Readings: A Reply to Lasersohn", *Linguistics and Philosophy* 13, pp. 477-485.

———. (1992). "Toward a Common Semantics for English Count and Mass Nouns", *Linguistics and Philosophy* 15, pp. 597-639.

———. (forthcoming). "Collectivity and Distributivity Internal to English Noun Phrases".

HARNISH, R. (1976). "Logical Form and Implicature", in Bever, T., J. Katz & T. Langendoen (eds.) *An Integrated Theory of Linguistic Ability* (New York, T. Crowell), pp. 313-391.

HOEKSEMA, J. (1981). "Plurality and Conjunction", in *Studies in Modeltheoretic Semantics*, Ter Meulen, A. (ed.) (Dordrecht, Foris), pp. 63-83.

KRIPKE, S. (1979). "Speaker's Reference and Semantic Reference", in P.A. French, T.E. Uehling and H.W Wettstein (eds.) *Contemporary Readings in the Philosophy of Language*, (Minneapolis, University of Minnesota Press).

LANDMAN, F. (1989). "Groups, 1", *Linguistics and Philosophy* 12, pp. 559-605.

LASERSOHN, P. (1989). "On Readings of Plural Noun Phrases", *Linguistic Inquiry* 20, pp. 130-134.

———. (1990). *A Semantics for Groups and Events* (New York/London, Garland Publishing).

———. (1995). *Plurality, Conjunction and Events* (Dordrecht, Kluwer).

MACKAY, T. (1994). "Plural Reference and Unbound Pronouns", in Prawitz, D. and D. Westerstahl (eds.), *Logic and Philosophy of Science in Uppsala* (Dordrecht, Kluwer), pp. 559-582.

MASSEY, G. (1976). "Tom, Dick, And Harry and All the King's Men", *American Philosophical Quarterly* vol. 13, no. 2, pp. 89-107.

SCHWARTZCHILD, (1996). *Pluralities* (Dordrecht, Kluwer).

VALLÉE, R. (1996). "Who Are We?", *Canadian Journal of Philosophy*, pp. 211-230.

© *Manuscrito*, 1999.