

## Number in the English Substantive

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- (1) "This is the first officer speaking. We are beginning our descent into Calgary.... The weather is quite pleasant — plus one degrees on the ground."

This routine announcement would not catch anyone's ear except perhaps a grammarian's, whose first reaction might well be to defend the well known rule by dismissing the use of *-s* here as an error.<sup>1</sup> After all, we simply do not say *\*one degrees above zero*. On the other hand, the fact that the first officer's use of *-s* to express a singular normally goes unnoticed, whereas an *-s* on any of the other substantives would certainly have been remarked, suggests that this use may not be a slip. This impression is strengthened by another curious fact: we would say *zero degrees*, but not *\*zero degree*. Furthermore, a moment's reflection suggests that we could say either *plus one degree* or *plus one degrees*, but never *\*one degrees*, so the presence of *plus* appears to be important here. The same seems to hold for *minus*: *minus one degree* or *minus one degrees*, but only *one degree below zero*.

These considerations are of little concern for the teacher of English language because, except with *zero*, students would not make an error in omitting the *-s*, and in any case this use is too infrequent to be of practical importance. However for linguists, or anyone else who wants to understand how the English language works, such facts provide an invaluable insight into the system of number underlying and permitting the diverse observable uses of the substantive. Like anyone else attempting to approach reality from a scientific point of view, linguists start with the assumption that there really is something orderly, coherent, systematic lying behind the observed facts because otherwise they would be content merely to catalogue them but would not make any attempt to explain them. Thus our task is to get a view of this system in order to understand the

observed facts and to describe it in order to explain the data. A system is not, in itself, directly observable in discourse, so we can only infer it by abduction, that is, by working out the relationships between observed uses and reconstructing it in imagination.<sup>2</sup> Grammatical rules, often used in teaching, afford an adequate description of the most frequent uses, those most easily observed, but cannot provide a view of all the manifestations of the system in discourse. Nor can they provide a description of the underlying system. This is why it is important to seek out less frequent uses, like the one above, which are often more revealing when it comes to imagining the shape of the system lying behind all uses.

In the case of grammatical number, this involves comparing and contrasting all uses of both  $\emptyset$  and *-s* morphemes. Here we can deal only with a few uses of *-s*, and will start by comparing *plus one degrees* with an ordinary 'plural' use such as *ten apples* in order to discern what they have in common and what distinguishes them from the point of view of meaning expressed. There is, quite obviously, a distinction of sense because if we accept, with all grammars, to characterize the latter, prototypical use of *-s* as expressing a 'plural', 'more than one' sense, the former use can only be seen as expressing the sense of 'singular', 'one'. On the other hand, the two uses must have some element of meaning in common if the initial assumption of an underlying system is valid because otherwise we would have to postulate two *-s* morphemes for number, and this would be anything but coherent or systematic, especially in a language like English, where the number of grammatical suffixes is reduced to a minimum. The next task then is to discern what the above uses of *-s*, expressing 'singular' and 'plural' respectively, have in common meaning-wise.

The fact that, in the above uses where *-s* expresses 'singular', *plus* or *minus* is required as a qualifier provides a clue. Qualifying the quantifier *one* in this way results in expressing a particular position on a scale, that is, a position distinct from the one before and the one after. The effect of using *plus* or *minus* is therefore to introduce a limit or discontinuity telling us that the quantity represented by the substantive is separate from other, adjacent quantities. What is of interest here is that the ordinary 'plural' sense has long been characterized as 'discontinue'<sup>3</sup> because it depicts more than one entity, each represented as occupying its own place in space. This then may well provide the element of meaning common to both the ordinary 'plural' use and the curious 'singular' use. This would suggest that in *plus/minus one degrees* the dominating impression in the speaker's mind is that of 'position on a scale between zero and two', and this involves bringing to the fore the impression of 'discontinue', which calls for the morpheme *-s* in actualizing the substantive. To make explicit this notion of a quantity occupying a position distinct from the adjacent positions on the scale,

the quantifier (*one*) and its qualifier (*plus*) are called for. Where, on the other hand, the dominant impression in the mind of the speaker is one of quantity (of heat) rather than position on a scale, the substantive will surface with Ø morpheme *minus/plus one degree*, the role of the quantifier and its qualifier being then to situate this quantity on the scale. In this way we can understand the Ø/-s alternance here as a reflection of how the speaker experiences the referent of *degree(s)* in the situation: as a quantity of heat (Ø) or as a position distinct from other positions (-s).

Thus the common element of meaning we are looking for in the two uses of -s appears to be an impression of 'discontinuity in space', regardless of the particular quantity, 'one' or 'more than one', expressed in different uses. If so, this would also help us to understand *zero degrees*. *Zero* does not represent a quantity, a space or spaces occupied by some entity, but it does express a distinct position cut off from adjacent positions on a scale. Consequently there is no need of a qualifier to bring out focus on the notion of a scale and the substantive would not be used with Ø morpheme, no quantity being involved.

These considerations thus provide us with a hypothesis to explain the first officer's curious use in (1), but in order to provide some plausibility for it we must examine other such uses to see if it can provide an explanation for them as well. A good place to start is the following remarkable sentence about flipping a coin cited from a book on chance in Wickens (1992: 189):<sup>4</sup>

- (2) Henry is certain to toss two heads or one heads or no heads....

What is different here is that *one* requires no qualifier in its use with *heads*. It could hardly be maintained that *one* here evokes a position on a scale, any more than it does in ordinary numeration like *one apple, two apples*. The motive for the use of -s must, therefore, lie in the substantive itself, in its lexical meaning. *Heads* here denotes one side of a coin; the other side would be denoted by an -s substantive as well: *tails*. What appears to be involved here is a sort of either-or situation where one possibility is necessarily opposed to and excludes the other. Involved in notions of 'either-or', 'opposition', 'exclusion' there is certainly an impression of 'discontinuity' and this again would explain why the 'singular' substantive is actualized with the -s morpheme. What gives this explanation some weight is the fact that with the Ø morpheme here *head* would express a quite different sense.

The following example with *every*, which, like *each*, has the remarkable capacity to evoke a number of entities but always with a 'singular' substantive, provides a more familiar use:

- (3) ... used every means to get to the top. (Wickens 1992: 188)

The same problem then arises here: why does the substantive *means* require the *-s* morpheme if it is grammatically 'singular'? Again the sense expressed here — 'something to attain an end' — would appear to provide the solution because it implies an opposition: a distinction in time between the measures taken and the end pursued, the former expiring when the latter is attained. Thus for this sense of *mean*, which the substantive cannot express with Ø morpheme, the implied opposition with the end appears to involve an impression of 'discontinuity' calling for the *-s* morpheme.

A similar impression would appear to underlie the *-s* in the following examples (Jespersen 1954: 167; see Wickens 1992: 160 for other examples):

- (4) I am friends with him.  
(5) I was great pals with a man called Hicksey.

Although there is no quantifier here, the substantive does designate a single entity in the speaker's intended message and so it can hardly be considered a plural, as Jespersen contends. Rather, the notion expressed by *friends* or *pals* refers to one person in relation to another. That is to say, evoking the relationship by means of the substantive denoting one friend or pal necessarily implies another friend or pal as the second term of the relationship. Representing one as linked to another brings in an impression of 'discontinuity' when evoking the singular entity and so calls for the *-s* morpheme. Similarly in:

- (6) You have to take sides. (Conversation)

it would not make sense to interpret the substantive as expressing 'plural' since the situation manifestly involved choosing either one side or the other. More plausibly, it can be understood to express a 'singular discontinue', impressions arising from representing one entity by *sides* in clear opposition with another, necessarily implied entity, the other side. A similar explanation can be put forward for the following examples (Wickens 1992: 162–163):

- (7) Australia is the antipodes... of England.  
(8) Master Godfrey, what do you want with me? You're my elders and betters, you know.

Wickens (1992: 149–158) provides a convincing argument concerning compensation terms, as in:

- (9) Meetings like these would make a fair amends.  
(10) What a thanks I owe.

He points out that there is "a logically inescapable relationship" involved here whereby the second of the two entities implied in a compensation situation "necessarily presupposes the existence of the first". In these two examples, expressing the need for amendment and gratitude respectively implies an existing lack or deficit and moral debt. Again it appears to be the impression of 'discontinuity' arising from representing one entity as a distinct member of a pair that calls for the *-s* morpheme. It is not always this easy to discern whether or not compensation terms are used to designate a single entity. Thus in uses like:

- (11) ... for the wages of sin is death
- (12) ... to get one's just deserts
- (13) ... to sue for damages

a speaker might have in mind one or more compensations. Whether used to express 'singular' or 'plural', however, these expressions bring out an impression of 'discontinuity'.

So far, then, the hypothesis that *-s* can express 'singular discontinue' has proved valid to explain its use with substantives denoting a single entity. This use could be illustrated more fully but it will be more useful to examine another, more frequent type of 'singular' usage, one which does not involve an opposition with some implied entity or position. The following is a typical example of this:

- (14) ... the most [records] ever set at any one Games, including Olympics.... (Wickens 1992: 192)

What distinguishes this example from those just discussed is that the substantive designates a single composite entity, one made up of a series of elements. Thus the notion of *a Games* involves games or events occurring at a given place in space and moment in time. Granted the composite nature of such an entity, one might expect it to be represented as an ordinary 'plural', and indeed we often find *these Games* to denote the same reality. How then can one explain the representation of the substantive as a 'singular' with *a* or *one* as determiners? Again there appear to be different impressions involved: *these Games* brings out the different sporting events constituting the series, whereas *a Games* brings out more the series as a whole, the institution, the framework, the organization that makes all of the events a single manifestation. Where the latter impression, that of a whole series or manifestation, is dominant in the mind of the speaker, the 'singular' representation is called on to situate all the events in one mental space. Where the former impression of a number of diverse events dominates, the 'plural' representation is called on to situate them as distinct entities more or less grouped by the determiner or other elements in the context. The contrast between

these two ways of representing linguistically what is the same entity in extramental reality is clearly brought out by the following live TV commentary:

- (15) We are only 24 hours from the end of these games, and what a games they have been!

The commentator seems to have had in mind first the events yet to be held (*these games*), and then a sort of survey of the whole manifestation (*a games*). Whether *games* is represented as 'plural' or 'singular', however, it is the impression of 'discontinuate' which calls for the *-s* morpheme.

Another example of the same sort of use brings out even more clearly the effect of representing a composite entity:

- (16) ... an incredible little crossroads of six hardtop routes to nowhere in particular. (Wickens 1992: 195)

Had the sentence read *six little crossroads* there would have been no suggestion of a single entity, but rather of six separate roads crossing a main highway at separate points. The 'singular' representation of *a crossroads*, however, depicts a number of roads meeting at a single point to form an intersection. Again one gets the suggestion of what are in effect distinct entities consolidated into one, thanks to the 'singular' form imposed on them.

In the following remarkable example about a tennis tournament, the two uses of *-s* are contrasted:

- (17) ... will span three days — two singles on Saturday, a singles and a doubles on Sunday, and two singles and one doubles on Monday. (Wickens 1992: 185)

In *three days* and *two singles* the *-s* morpheme expresses 'plural', 'more than one' with its normal 'discontinuate' element so we understand 'three consecutive days' and 'two separate matches'. In *a singles* and *a doubles* or *one doubles*, however, we understand 'a single match between two individuals' and 'a single match between two couples' respectively. Again, representing a composite entity calls for the *-s* to express the impression of 'discontinuity', but the morpheme is restricted to its 'singular' sense to bring out the fact that the speaker has only one such entity in view. The use of these words without the *-s* (*a single*, *a double*) expresses a very different sense in a very different sport.

Wickens (1992: 180–185, 279–285) provides a wealth of examples illustrating this use of *-s* to represent entities composed of two elements. The following, mostly drawn from catalogues, are typical:

- (18) A very stylish summer pants in the latest peg top effect.

- (19) A  $7 \times 42$  binoculars with an angle of field equal to 10 degrees....
- (20) A general utility combination pliers. Has two jaw positions and shear-type wire cutter.
- (21) A new scissors has been designed for the enlargement of cataract sections.

There are conflicting impressions involved here: each of these substantives designates a single entity made up of two functionally opposed elements. As a consequence, depending on whether the impression of an instrument or that of two cutting edges is dominant one could say *a scissors* or *a pair of scissors*, and where one impression arises to the exclusion of the other we find *these scissors* and even *a scissor*.

A certain familiarity with the variety of usage found with such terms is sufficient to convince one that the *-s* morpheme is not a simple reflex of 'plural' as rule-based grammars usually suggest. Rather, the uses we have discussed so far show it to be an instrument for scanning certain impressions arising in the speaker's experience and representing them grammatically either as 'singular discontinue' or as 'plural discontinue'. There are, of course, other uses of *-s* expressing these two senses, but rather than dwell on them, it will contribute more to situating number in the substantive if we examine a use expressing a third sense:

- (22) Dogs are mammals.
- (23) Cars contribute to pollution.

Here the substantive denotes neither a single entity nor a certain number of entities but rather all entities that can be denoted by *dogs* or *cars*. That is to say, the *-s* here expresses a sense that goes far beyond the 'plural', 'more than one', sense usually attributed to it since it takes in the whole range of the substantive: it expresses a 'generic', or even 'all' sense, the extreme opposite of 'singular'. Furthermore there is an impression of 'discontinue' here, as though the 'generic' sense were obtained by an accumulation of all possible individuals.<sup>5</sup>

This rapid survey of usage will have to suffice to give the essential data concerning *-s*. When we compare its three different senses — 'one', 'more than one' and 'all' — the morpheme can be seen to vary in expressing anything from the smallest number possible to the greatest possible. That is to say, it can express all possible quantities of the entities represented by the substantive's concept provided they are seen as somehow 'discontinue', numerable. It seems, then, that the meaning common to all uses of *-s*, part of its systemic meaning, is what we can call 'discontinue quantity'. On the other hand, the particular

quantity actually represented and expressed has to be observed in any given use because it varies between the minimum and the maximum for the concept. This result is confirmed by other uses such as *the hiccups*, *the munchies*, *spirits*, *drippings*, *trousers*, *dibs*, *starters*, and nearly 500 other examples discussed in Wickens (1992). In the light of this evidence, it can be affirmed that *-s* always offers the same underlying or potential meaning range, whereas the actual sense expressed can be anywhere within this range depending on what the speaker has in mind to talk about.

The result of our analysis of the many uses of *-s* is that its meaning in the underlying system is neither one or other of the quantities expressed, nor a collection of all these quantities, but rather the possibility of moving through the whole range of quantity seen as discontinue, combined with the possibility of holding up this movement at the point providing a representation of the particular quantity required for the substantive. It is something like the range of possibilities provided by a given computer program: by moving the mouse and clicking at a particular point, the particular possibility required is brought into view. This meaning potential of *-s* can thus be depicted schematically as a movement from 'singular' or minimum quantity (as in most of the examples discussed above), through 'plural' or intermediate quantities (as in the most common use of *-s*), to 'generic' or maximum quantity (as in examples 22 and 23). The mental process involved in this expanding movement is depicted in Figure 1, where (m) symbolizes minimum, (I) intermediate, and (M) maximum.

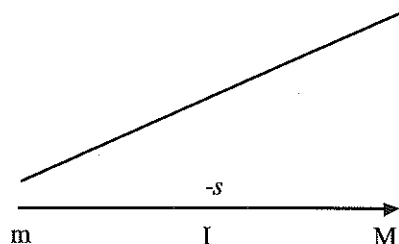


Figure 1

The oblique line in the figure depicts the gradually increasing scope made available as the movement signified by *-s* proceeds. Conceiving the potential meaning of *-s* in this way, as the  $m \rightarrow M$  movement through the field of discontinue quantity interceptible at any point, we can understand how a single morpheme can express different senses, and so explain its polysemy.



The counterpart of *-s*,  $\emptyset$  morpheme, makes up the rest of the system of number in the substantive. A typical use is:

- (24) They need a new car.

Here too it is important not to limit observation to prototypical examples like this expressing 'singular', 'one', but to observe  $\emptyset$  substantives expressing other senses. One such use is illustrated by the following example:

- (25) They need water.

This common use of what is often called the 'mass' or 'noncount' sense of a substantive also expresses quantity — a vague, undetermined amount — but what is most striking is the 'continue' view of this quantity. This 'continue' view is observable with the same substantive in the next example, though the quantity expressed is by no means the same:

- (26) Water is made of hydrogen and oxygen.

The 'generic' sense here indicates that the quantity expressed is maximum, that is, great enough to include everything that can be designated by the substantive. Thus it can be seen that  $\emptyset$ , like *-s*, is polysemous since it can express different quantities, and this observed polysemy leads to the idea that, in the system of number,  $\emptyset$  also signifies the possibility of a movement. However, it differs from *-s* in signifying movement through the opposite field, that of continue quantity, so that regardless of its quantitative sense — 'generic', 'undetermined', or 'singular' — the substantive represents its referent as a continuum. Furthermore, the movement signified by  $\emptyset$  morpheme is the contrary of the *-s* movement: it is a movement of contraction starting with the total field of the substantive's notion and ending with its minimal extent,  $M \rightarrow m$ , as in Figure 2.

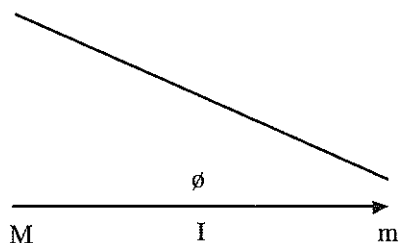


Figure 2

It will not be possible here to discuss the various uses of  $\emptyset$  morpheme on which this analytical view of its meaning potential is based and compare them with corresponding uses of  $-s$  morpheme.<sup>6</sup> Suffice it to say that it is the combination of these two movements which constitutes the system of number in the substantive. Figure 3 depicts this system which makes possible the representation of any quantity, whether continue or discontinue, for any concept expressed by a substantive.

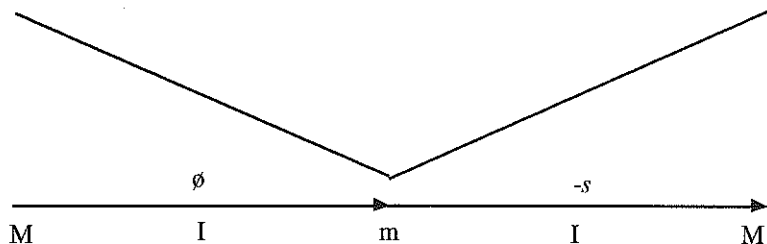


Figure 3

The point of introducing this summary description of the system of number is to bring out that the systemic meaning of  $\emptyset$  or of  $-s$  is not simply the notion of a field of quantity, continue or discontinue, but also includes the possibility of a movement through that field. It is the combination of these two movements, one contracting the other expanding, into one operation that provides the basis of the system as a representational potential for quantity in the substantive. However, rather than describe further the workings of the system itself, we shall explore briefly some implications this view of the  $-s$  morpheme has for us as speakers

using a substantive as a means of talking about something in the momentary experience we want to represent and express.

The discussion so far has taken for granted that the very notion of number involves a representation of space. To express something by means of *-s* as 'one', 'more than one' or 'all' involves mentally depicting what one is talking about as an entity or entities occupying one or more places in space distinct from one another. That is, for speakers to be able to quantify in this fashion presupposes they possess a mental instrument, a morpheme, capable of representing the word's concept as occupying one or more stretches of space in accordance with what they have in mind to talk about. This means that the *-s* has the capacity of representing the concept as occupying one, several or all of the places available to it within its extension, so that the resulting meaning correlates as closely as possible with the speaker's experience, with the intended message.

We have seen how, in uses like *plus one degrees* as opposed to, say, *one degree above*, the difference in nuance expressed is minimal, depending on whether the impression of position on a scale is dominant or not. The finesse of expressive effect permitted in such examples — and this is by no means rare — shows that usage is not conditioned by some predetermined rule but rather by the adjusting of the morpheme's potential for representing to the particular experience to be represented and expressed in a given act of speech. That is to say, the *-s* provides the means of focusing on the intended message, what the speaker wants to talk about, to represent the distinct place or places the entity represented by the concept is seen to occupy. We are here at that crucial point of transition between what is outside language and so unsayable as such, the particular experience constituting the speaker's intended message, and what is inside language and so sayable, the meaning signified by the word, or more specifically by the morpheme *-s*. Transiting from extra-linguistic experience to intra-linguistic meaning calls for the mental operation of representation, the process of representing experience by means of the representational potential of the morpheme.<sup>7</sup> Representing what one has in mind is a mental operation we cannot be conscious of so that the only way we can get to know something about it is by working back from its observed results in the various uses of some lexeme or morpheme, as we have been trying to do here.

It is time to conclude and this can best be done by evoking some of the more general questions our analysis leads to. We have seen that the *-s* morpheme is a means for focusing on what the speaker has in mind, a sort of viewing template ready to represent as 'discontinue' the space involved in the concept representing what the speaker wants to talk about. The same can be said of the  $\emptyset$  morpheme with its way of representing space as 'continue'. The system of

number, made up of these two morphemes, is thus one for monitoring the ever changing panorama of each speaker's experience to make sayable the unsayable, that is, to represent the particular spatial distribution of anything we want to talk about. This system is central to the system of the substantive and so no substantive can appear in discourse without one of its morphemes indicating the spatial configuration of the concept expressed. Work done so far on gender (see the contribution of Lori Morris to the present volume) suggests that it too is linked to a spatial representation.

In this perspective, it can be seen that the system of number in English is to be analyzed as one of the subsystems of the substantive. As a result of reflecting on the different subsystems of the substantive, especially on that of number, Guillaume was led to propose that, as a part of speech, the substantive is essentially a formal, grammatical configuring of space for anything we want to talk about. Since antiquity, the verb has been viewed as a part of speech providing a grammatical representation of time for any happening. To my knowledge, Guillaume was the first to propose the counterpart of this traditional view. In his lecture of November 18, 1938, at the very beginning of his teaching at the *École pratique des hautes études* in Paris, he describes the operation of ideogenesis whereby a notion like 'man' is "distinguished from others as a singular notion, identical to no other notion", and goes on to describe the subsequent operation of morphogenesis:

this singular notion 'man' is universalized, through the categorizing process, in the part of speech called noun. When the categorizing finishes in space, the word is a noun. When the categorizing finishes in time, the word is a verb. (Guillaume 1992: 3; my translation)

Throughout his twenty-two years of teaching, Guillaume developed this space/time opposition as the basis of his theory of the parts of speech (cf. Guillaume 1984: 113–114). Granted, then, that the noun, and more particularly the substantive, situates its notion in the universe of space, it can be seen that number, which provides spatial parameters of the notion, plays an essential role. This explains why no substantive can appear without being categorized for number. Such considerations confirm our initial assumption that there is a system underlying discourse and the more we examine the details of usage, especially less frequent uses, the more elegant and rigorous the system appears. This brings out the importance of observing usage as widely and as carefully as possible because a better view of the subsystem of number will provide insight into the nature of the system of the substantive, itself only one part of the general system of the English tongue.

## Notes

1. Cf. a similar announcement heard on approaching the Lester Pearson International Airport in Toronto: "... still overcast, ground temperature plus one degrees."
2. The word is from Peirce (1934: 106): "Abduction is the process of forming an explanatory hypothesis.... Deduction proves that something *must* be; Induction shows that something *actually* is operative; Abduction merely suggests that something *may be*....[E]very single item of scientific theory which stands established today has been due to Abduction."
3. See for example: "the affinity of the continue with the singular and of the discontinue with the plural are facts of prime importance which a linguist must always keep in mind." (Guillaume 1991: 206; my translation from the lesson of June 7, 1945)
4. Many examples will be drawn from Wickens (1992), the most complete study on number in English to date. Without an appreciation of the extraordinary variety of usage of -s, illustrated by Wickens' mine of examples, one can hardly hope to reach an adequate view of the underlying system of number.
5. This use contrasts with examples like *A dog is a mammal*; *A car contributes to pollution*, where the whole range of the substantive is evoked as well, thanks to the use of the article.
6. See Hirtle (1982) for a discussion of uses like *two aspirin*, *three bear*, *many cattle*, and a comparison of the two morphemes constituting the system.
7. See Hirtle (1994) for a discussion of the crucial role of representation.

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