REFERENCE, QUANTIFICATION, AND SINGULAR TERMS*

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By singular terms I mean phrases that may be used to refer to a single individual. Proper names and singular pronouns are singular terms; definite and indefinite descriptions are singular terms; and so is "something". Besides their referential use, singular terms may also be used quantificationally. The distinction made by Keith Donnellan (Donnellan 1966) between referential and non-referential uses of definite descriptions is well-known. Little has been written, however, on referential and non-referential uses of other singular terms.

The purpose of this paper is two-fold: (1) to study referential and quantificational uses of the most neutral and versatile of singular terms, the third-person-singular pronoun "it", and (2) to determine whether the logically distinct uses of "it" which are identified are characteristic of other singular terms. Unlike Donnellan's study which makes no distinction among non-referential uses of definite description, this paper distinguishes between two quantificational uses of "it", an existential use and a universal use. Definite descriptions and "something" are shown to have uses analogous to the referential, existential, and universal uses of "it", as are indefinite descriptions and even proper names.

I

In its referential use, "it" refers to a specific individual. The individual is often a physical object, but may also be, for example, an action, an event, or an abstract entity such as a proposition, a number, a relation, or a class. A mental picture or fictional entity may also qualify. Found in a book of Greek mythology,

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(1) Pegasus stopped Helicon's ascent by giving it a kick

is using "it" referentially. Thus the possibility of referential use depends not on what is but on what is treated as if it is.

There seem to be at least three grammatical variations of the referential use of "it": (i) anteceded "it", (ii) anticipatory "it", and (iii) situation "it". (1) The grammatical variations are discussed with the purpose of better understanding the referential use of "it". In another language, such as Old English or Latin, there might be other variations less dependent on word order than on word form. The essential findings of this paper should be applicable to other languages.

Use of anteceded "it" is illustrated in the sentence about Pegasus mentioned above. The following passage also illustrates this use:

(2) Only the Koran matters. It functions as a primay initiator of action, speech, and behavior in their personal and public lives. It defines them.

Each occurrence of "it" could be regarded as what Geach calls a "pronoun of laziness" (Geach 1980: 151f), a word used to avoid a repetitious expression, which, in this case, would be "the Koran". (2) The relationship between the pronouns and "the Koran" could also be understood in terms of coreferentiality and "a chain of singular term positions" in the manner of Gareth Evans (Evans 1977: 478-479). However, a use of anteceded "it" seems best understood in terms of what has been called by Charles Chastain "an anaphoric chain" (Chastain 1975: 204-205), a sequence of singular terms all of which refer to what anyone of them refers to. "Helicon – it" is an anaphoric chain and so is "the Koran – it – it". An anteceded "it" is part of an anaphoric chain with the referent determined by what is, in a familiar sense, its antecedent. "Helicon" and "the Koran" are, of course, the antecedents in the examples considered above.

(1) George O. CURME uses the terms anticipatory "it", situation "it", and impersonal "it" (Curme 1935a: 149-150). An example of Curme's impersonal "it" is "It is raining". According to Curme, in oldest English "it" was not used to draw attention to the activity of raining; the addition of "it" was made only later to avoid the impression of a question (Curme, 1935b: 7-9). This use seems of no interest to logic.

(2) LAZINESS uses of "it", the primary function of which is to avoid the use of a longer phrase, are not discussed in this paper because I do not believe that they constitute a logically distinct use.

An anticipatory "it" is also part of an anaphoric chain. In the expression:

(3) It is illegal to copy computer software,

"it" refers to what "to copy computer software" refers to, that is, to the activity of copying computer software. Similarly, in:

(4) After it was telecast, "The Day After" was much discussed,

"it" refers to what "The Day After" refers to. Although the second sentence contains what is referred to in the literature as "backward pronominalization", both sentences are examples of the use of anticipatory "it". In this use, rather than being preceded by, "it" precedes the non-pronominal word or phrase which determines its referent. Uses of anticipatory "it" are often motivated by stylistic considerations.

Situation "it" differs from both anteceded "it" and anticipatory "it" by not having its referent determined by a non-pronominal word or phrase. For example, suppose that after a moment or two of silence, you take a spoonful of ice cream. You remark,

(5) It is good,

nothing more. Only through observing your behavior would one know to what you are referring; shared linguistic conventions would not be enough for this deictic use.

Now consider this more complex case. Suppose that we both see a bowerbird and I turn to you and say,

(6) I saw a bowerbird and you saw it.

Would this then be a case of anteceded "it"? The indefinite noun phrase "a bowerbird" is the grammatical antecedent and coreferential with "it". Thus this would seem to be a case of anteceded "it". One important factor is, however, missing: "a bowerbird" does not indicate to what it refers in that sentence. The non-linguistic context in which the sentence is uttered plays a role. But is this then a case of situation "it"? I could call it a case of situational anteceded "it". For the sake of simplicity, however, I shall treat this and similar cases in which the non-linguistic context helps indicate the referent as situation "it".

II

In both anteceded and anticipatory "it", the speaker indicates the referent by using "it" in an anaphoric chain with either a proper name or a definite description which determines the referent. There are cases, however, which resemble these, except that the referent indicated by the speaker may be misnamed or misdescribed. In these cases, something else besides a proper name or definite description helps to determine the referent. An example of this would be my saying to my husband:

(7) The Watsons' dog is barking and it is driving me crazy,

referring to the dog we both hear barking outside our window. Finding out the next day that the Watsons' dog is down on their farm for the summer, I then say,

(8) That dog we heard barking outside our window that was driving me crazy was not the Watsons' dog.

In saying this, I maintain that what I meant by what I said the day before is true, although the expression I used to refer to the dog misdescribed it.

In this example, the phrase "the Watsons' dog" has the speaker's referent – a term used by Kripke (Kripke 1979) and Donnellan (Donnellan 1979) – rather than what I call its "established semantic referent for the speaker". The speaker's referent is the thing I used "the Watsons' dog" to refer to, i.e., the dog my husband and I heard outside our window. The established semantic referent (for the speaker) is the Watsons' dog, i.e., what I understand "the Watsons' dog" to refer to by linguistic conventions – independent of its use on that occasion. These conventions are shared by a group of speakers, or at least could be.

A proper name nearly always has an established semantic referent for a speaker who uses it. But definite descriptions often do not; and indefinite descriptions rarely, if ever, do. "The round square" is an example of a definite description that relative to most speakers would have no established semantic referent, but there are others such as "the brightest logic student in the Bryn Mawr class of 1999". Pronouns, demonstratives, and the like, unless capitalized, have no established semantic referent for a speaker.

If a term has an established semantic referent (for a speaker), the speaker's intention is for the speaker's referent and the established semantic referent to coincide. They do, if the referent is only indicated by use of

the term. This use we call "situation independent". If attendant circumstances help to indicate the referent, the speaker's and the established semantic referent (for the speaker) may differ as in the use of the phrase "the Watsons' dog" considered above. I call this use "situation dependent".

Singular terms without established semantic referents may be used in a situation independent way, if they are used in an anaphoric chain with a proper name or definite description with an established semantic referent for the speaker and the referent is indicated only by use of that term. Use of anteceded and anticipatory "it" are, therefore, cases of situation independent referential use. In situation dependent cases, the non-linguistic context indicates or at least helps to indicate the referent. Whenever the speaker's referent and the established semantic referent of a term may differ, the use of that term and any term in an anaphoric chain with it is situation dependent, as in theses cases the non-linguistic context helps indicate the referent. This is evident in the "Watsons' dog" example (7). The "ice cream" example (5) and the "bowerbird" example (6) are clearly also cases of situation dependent use, as is any other case of situation "it".

III

Although differing syntactically, all variations on the referential use of "it" just discussed have the same semantic function, that is, to refer to a specific individual. The two quantificational uses discussed below differ not only syntactically but also semantically. Furthermore, they are not as common or obvious as the referential uses, but resemble the use of personal pronouns with, what George Curme calls, "indefinite reference" (Curme 1935a: 153-154).

The following is an example of a use of "it", which I call existential "it". Imagine a fortune teller gazing into her crystal ball and reporting:

(9) It will arrive this week and it will bring good news.

You ask, "What is it? What is it", hoping that she can be more specific, but she can not. Later in the week, a letter arrives bringing good news. You exclaim, "That is what the fortune teller was talking about." But, strictly speaking, the fortune teller did not use "it" to refer to that letter or anything else. There must be a specific thing to which the speaker intends

to refer when using "it"; otherwise, there is no referent (or in terms of Curme, the reference is indefinite).

A use of existential "it" involves a claim that there is a thing that is thus-and-so, but "it" is not used to refer to anything. Therefore, it is reasonable to inquire after, to look for, or even to find such a thing. In contrast, the other quantificational use of "it", which I call universal "it", involves no claim that there is anything. What is claimed is that whatever there is, is thus-and-so. The claim is universal, applying to all things (if any), but does not tell us that there are any. For example, imagine yourself saying:

(10) If it is a dog, then it has fleas,

and having no specific thing in mind. If a dog appeared and started scratching itself, no one understanding you properly would take that dog as the referent. Nor would it make any sense for you later on to be more specific. "If it is a dog, then it has fleas" need not tell us that there are dogs or fleas anymore than:

(11) If it is a unicorn, then it has only one horn

need tell us that there are unicorns or things with only one horn, or:

(12) If it is a sweet lemon, then it is not a lemon

need tell us that there are either sweet or non-sweet lemons. They need not tell us that there is anything at all, for that matter. Yet each claims that whatever there is, is thus-and-so, either has fleas if a dog, has only one horn if a unicorn, or is not a lemon if a sweet lemon. Therefore, it is unreasonable in cases of universal "it" to inquire after, or even to look for, a specific thing to which "it" refers as there is no individual in question.

Another example of universal "it" is:

(13) No mouse can win the race unless it eats Wheaties. ([3])

This is apparent once the sentence is rephrased,

(14) If it is a mouse, then it cannot win the race unless it eats Wheaties.

([3]) This sentence was suggested to me by Jeffrey Pelletier.

Still another example is:

(15) If Bill owns a donkey, he beats it,

which can be rephrased:

(16) If Bill owns it and it is a donkey, he beats it.

Or consider a classic example of "it" as a "true" pronoun of laziness,

(17) The wise man gives his paycheck to his wife, but the fool gives it to his mistress.

A statement about types, it can be rephrased to reveal a case of universal "it" as follows:

(18) If it is a man's paycheck, then he gives it to his wife if he is wise, but gives it to his mistress if he is a fool.

Although an "if-then" construction is characteristic of uses of universal "it" but not of existential "it", there is no way of distinguishing on the basis of syntax alone between these uses and a use of situation "it". For example, the sentence (9) uttered by the fortune teller could be uttered by a person using "it" to refer to a letter he is holding in front of him. And someone saying (10) could conceivable be referring specifically to his childs's new pet. Both of these would be uses of situation "it".

IV

In order to distinguish syntactically universal "it" from situation "it", the first occurrence of "it" could be replaced by "anything". Another solution is to replace the first occurrence of "it" by "something". (10) could then be rewritten as:

(19) If something is a dog, then it has fleas.

I call this use universal "something", since it is equivalent to universal "it". Uses of existential "something", which are equivalent to existential "it", are too common to mention.

This close relationship between "something" and "it" extends beyond the two quantificational uses to referential use. After a few moments of reflection, it is not difficult to think of examples of anteceded "something",

anticipatory "something", and situation "something". For instance, I might say,

(20) This evening's performance of "The Comedy of Errors" is scheduled at seven. Something will keep us laughing.

And use "something" to refer to the performance. This would be an example of anteceded "something". For an example of anticipatory "something", the order of the sentences in the previous example need only be reversed. An example of situation "something" would be my telling a child:

(21) You did something naughty,

when we both know exactly what I am talking about.

V

Definite descriptions which have established semantic referents are usually used referentially. This use may be either situation independent or dependent.

A definite description that has no established semantic referent may be used either referentially or non-referentially. If used referentially, it is given the speaker's referent. For instance, let us assume that I say to a group that I am standing with at a cocktail party,

(22) The man in the pongee suit drinking champagne is very tall,

and refer to the man towards whom I am looking and who seems to fit the description. The phrase "the man in the pongee suit drinking champagne" has no established semantic referent for me because there is no specific thing by linguistic conventions – independent of its use on that occasion – to which I understand it to refer. Nevertheless, I am using it referentially, and the referent is the man at whom I am looking, regardless of whether his suit is made of rayon instead of pongee and regardless of whether he is drinking champagne or something that only looks like champagne. This kind of referential use is situation dependent. There is no situation independent referential use for a definite description which has no established semantic referent unless it is in an anaphoric chain with a singular term which has an established semantic referent.

An existential definite description is very similar to an existential "it". If a definite description is used in this way, a claim is made that there is a unique thing which fits the description and is thus-and-so, but the definite description itself is not used to refer to anything. An example of this would be my saying (22), as in the example of referential use discussed above, but my using "the man in the pongee suit drinking champagne" not to refer to a specific individual, but only to claim that there is such an individual. This would be reasonable if my claim is based on hearsay and I had no idea who fits the description or is supposed to.

If a check is made through the different uses of "it", one other possibility remains, that of a universal definite description corresponding to universal "it". This use involves a claim that if there is a unique thing which fits the description, then it is thus-and-so. ([4]) Definite descriptions which have established semantic referents and those which do not may both be used in this way. For instance, consider Donnellan's example of saying:

(23) The strongest man in the world can lift 450 lbs,

with the grounds for saying this being only general considerations about human strength. "The strongest man in the world" is not, in this case, being used to refer to a specific individual or even to make a claim that such an individual exists. What is being claimed is that if someone is the strongest man in the world, then he can lift 450 lbs. This would be the claim even if "the strongest man in the world" had an established semantic referent for the speaker because his remarks are not about that specific individual but about anyone who might qualify.

It is conceivable that for some speaker "the round square" has a fictional entity as its established semantic referent. In this case,

(24) The round square is round

could be interpreted as asserting of that thing that it is round. The sentence could also be consistently interpreted as claiming that if there is a unique thing which is a round square, then it is round. In this case, "the round

([4]) Within an intentional context, a definite description may be used as a universal definite description without involving such a claim. The second use of "the shortest linguist in the world" in the sentence "The shortest linguist in the world expects the shortest linguist in the world to be discriminated against" is treated by Colin Biggs as a universal definite description, although he does not call it that (Biggs, 1975: 118).

square" would be used as a universal definite description. Under this interpretation, (24) expresses a logical truth, which might be symbolized in an obvious way as follows:

(25) $(\forall x)(((Rx \ \& \ Sx) \ \& \ (\forall y)((Ry \ \& \ Sy) \supset x=y)) \supset Rx)$.

Another use of a universal definite description can be found in the following example of Charles Chastain (Chastain 1975: 236). Someone leading the defense against a lynch mob about to enter a building says,

(26) Shoot the first man who comes through the door.

Chastain argues that "the first man who comes through the door" is used referentially. His reason is that whether the order is obeyed depends upon whether the first man who comes through the door is shot. But he has overlooked the possibility that no one comes through the door, in which case the order would have been obeyed, even though no shot were fired. If this possibility is taken into consideration, then "the first man who comes through the door" should be regarded as a universal definite description.

Chastain regards two other examples as similar. One is the sentence:

(27) Our millionth customer will receive a month's free groceries and a check for $100.

The other is the sentence:

(28) The last word uttered by the last human being will be "rosebud".

He argues that both contain referential uses of definite descriptions. His reason is that whether they are true or false depends upon whether the one millionthe customer receives the groceries and the check and whether the last word uttered by the last human being is "rosebud". In my view, these sentences are better understood in terms of universal definite description. This would allow for the possibility that both sentences are true even though there is no millionth customer and no last word, possibilities that it is reasonable to assume that the sentences in question allow.

VI

Even though they also qualify as singular terms, I have so far said little about proper names or indefinite descriptions. Both have referential and quantificational uses.

A proper name used referentially may or may not have an established semantic referent. For instance, a colleague of mine sometimes uses "Suzy Bell" to refer to a woman whose name he does not know, letting the situation indicate to whom he is referring. Of course, in this use, "Suzy Bell" has no established semantic referent for the speaker. "John Doe" could, of course, be used in the same way for a man. Referential use of a proper name without an established semantic referent for the speaker is situation dependent unless it is in an anaphoric chain with a singular term with an established semantic referent. Referential use of a proper name with an established semantic referent for the speaker may be either situation dependent or situation independent.

An indefinite description is used referentially in much the same way as "it" or "something". ([5]) The use of "a bowerbird" in (6) illustrates referential, situation dependent use of an indefinite description. If an indefinite description is part of an anaphoric chain a member of which is situation independent, then its use will also be situation independent.

Non-referential uses of proper names are less common than non-referential uses of indefinite descriptions. Proper names which are used non-referentially are those which have no established semantic referent, such as "John Doe", "Joe Doake", "Mr. X", or "Suzy Bell". An example of the use of an existential proper name would be saying:

(29) At least Joe Doake will be there,

meaning that at least someone will be there. An example of the use of a universal proper name would be saying:

(30) John Doe should ask permission before taking photographs of people in China,

([5]) The referential use of indefinite descriptions has been noted by both Charles Chastain (Chastain, 1975: 206-209) and Jaakko Hintikka (Hintikka, 1976: 209-210). Chastain provides a detailed discussion with refutations of David Kaplan, W.V. Quine, Bertand Russell, and Donald Davidson.

meaning that anyone should ask permission before taking photographs of people in China. The use of an existential indefinite description involves a claim that there is a thing which fits the description and is thus-and-so. An example of this use is someone's saying:

(31) A friend of John is coming for a swim,

and not using "a friend of John" to refer to a specific individual because the speaker does not know which friend or it is not significant. An example of a universal indefinite description is:

(32) A doctor must make every effort to sustain life,

meaning any doctor.

VII

In this paper, I distinguished three logically distinct uses of "it". The referential use was shown to have at least three grammatical variations, two of which are situation independent and one situation dependent. I argued that "something" has the same uses as "it", viz., the three grammatical variations of referential use, the existential use, and the universal. I distinguished proper names and definite descriptions which have established semantic referents from those that do not; and I argued that among definite and indefinite descriptions, as well as proper names, there are not only situation independent and dependent referential uses but also existential and even universal ones. I did not discuss the personal pronouns, but it is not difficult to identify logically distinct uses analogous to those of "it". ([6])

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([6]) Although not distinguishing between universal and existential uses, George Yule cites examples of the use of personal pronouns to conclude that "on occasion, anaphora need not be a referential issue at all" (Yule, 1982: 321).

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