

Non-Truth-Conditional Quantification*

It is argued here that vague quantification, one of the most common constructions in natural language communication, cannot and should not be accounted for in terms of truth conditions—a dominant notion among linguists and philosophers of language who wish to account for all semantic meaning in terms of referential meaning. Instead, a huge class of common quantifying expressions should be seen as essentially “argumentative” or “persuasive.” Their only clear meaning lies in their aptness to support a conclusion of a certain kind.

This article—or rather, this collection of rambling remarks—allows itself an amount of irreverence which calls for some apology. The motivation behind it is certain simple observations I believe to have made and wish to communicate. They have been made by others, but those treatments of them which I have seen have, I feel, tried to explain away these observations rather than to take them seriously. The observations I mean all involve what has been called *vagueness* in quantification, either of amounts or degrees, in natural language. I believe there are countless cases of vagueness in quantification in natural language where the vagueness is crucial and unresolvable. Now if my linguistic intuition tells me about all these cases of unresolvable vagueness, I look for a theory to explain *why* the vagueness is there, not for one that tries to say that it isn't. I make the assumption that a truth-conditionally based semantics cannot put up with unresolvable vagueness in quantification. If this is not the case, my remarks become inoperative as far as truth-conditionalism is concerned. However, the claim that unresolvable vagueness is common in natural language remains, and my wish is to make it implausible to say that it isn't. I confess that I am either unfamiliar or unimpressed with existing attempts to resolve vagueness in quantification—mostly because they employ an amount of

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logical formalism that make them opaque to me. For example, there is Altham and Tennant (1975), whose “sortal quantification,” as far as I understand it, has recourse to the classes-and-norms idea discussed below; and there is Kamp (1975), which, for the student who can comprehend that sort of thing, might contain something that refutes my claims. Be that as it may, I still think somebody has to make new observations about natural language. Logicians may then try to explain the mechanisms in what they have seen, not to explain it away. It cannot be satisfactory to let logicians set up a theory of natural language based on “The King of France is bald” and other bits and scraps made up to illustrate what they are looking for in the first place.

Currently, logically oriented semantic theories are much attracted by the project of accounting for meaning in terms of truth conditions. This seminal idea is the sort of notion that is capable of grabbing hold of the minds of a large body of students within a subject, while others in the same subject, who are in the hold of some other seminal idea, tend to be impatient with it, and conversely. It will be no secret in the following that the present writer, not exactly a linguist and much less a logician, belongs to the class of impatient as far as truth conditions are concerned. In a general way, I think that linguists and other researchers in academic fields to a large extent have their views dictated to them by the *charm* that various seminal ideas exercise over their senses. And the charm that certain ideas have to certain people is again derived from certain ruling instincts in their conscious and unconscious minds. This is no less true, I believe, of logicians than anybody else. Furthermore, the whole point of the following remarks is coherent with the idea that the primitive function of natural languages is to help satisfy the conscious or subconscious needs of individuals, as dictated by certain basic instincts.

As a believer in this, I am likely to say things like “The contribution made by truth conditions to the meaning of utterances in natural languages is small, while the contribution made by other mechanisms is large,” whereas believers in logical semantics would put it the other way round. For instance, Ruth Kempson (1977, p. 41), after conceding that areas of meaning like non-indicative sentences may not be describable in terms of truth conditions, adds a footnote saying: “A small and inhomogeneous group of lexical items also seems to resist analysis in terms of truth conditions. These include *even*, *but*, *deplore*, and some uses of *if*” (!). What I want to suggest is that a *large* group of lexical items seems to resist analysis in such terms. And in anticipation of what I have to say, let me

direct your attention to the first sentence in the quote, and to the first sentence of my own following it.

The final, and boldest, claim I am going to make below is precisely that the meaning of such uses of *small* and *large* as we find here cannot in any respectable way be accounted for truth-conditionally, but only if natural language is seen as purposive action for the furtherance of speakers' interests and needs.

Thus, a great many adjectival and adverbial quantifiers appear to be much more easily accounted for in terms of speaker's purpose than in truth-conditional terms. Take a sentence like

(1) *The dictator had several clergymen arrested*

This would typically occur in a newspaper report, e.g., about social riots in some Latin American country. It would be evidently suitable to support the reporter's statement as to what sort of a country it is, or what sort of man the dictator is. But it does not give the reader much idea of just *how* many clergymen were arrested. However, if it was substituted with a sentence that does, such as

(2) *The dictator had 117 clergymen arrested*

it would probably be of much less use in conveying the reporter's idea, and the reader might be inclined to ask: "So what? What do you *make* of that?" On the other hand, the item *several* would not be of much use to the dictator himself in the situation where he wants his National Guard, or whatever, to go out and arrest a certain number of clergymen taking part in a demonstration or something. The order:

(3) *Arrest several of those clergymen!*

would be rather inappropriate here and probably put the National Guard in a state of disorientation.

The point is that the purpose of *several* is not so much truth-conditional as it is *argumentative*, in the sense suggested by Ducrot (1973), Anscombe and Ducrot (1976, 1978). Leaning on their formulation of argumentative properties of items like *almost (presque)*, we might say that the most important lexical feature of *several* is the following: it may be used in a sentence S_1 to support any sentence S_2 which is such that S_2 receives stronger support the *more* members of a class are referred to in S_1 . It is not important, in a sentence containing *several*, to know just *how* many members of a class it refers to. The important thing is that the kind of statement it is meant to support is the kind just defined, e.g., the statement *The dictator has taken a harsh course on political dissent within the church.*

Now in a situation where, say, 1,000 clergymen have been demonstrating and 117 arrested, one reporter might write *The dictator had several clergymen arrested*, whereas another might write *The dictator only had a few of the clergymen arrested*. The meaning of *several* and *only a few* is non-truth-conditional in the sense that there is no saying whether the actual state of affairs described by the two statements fulfils the truth conditions of one or the other. But so much is certain to any reader familiar with the lexical properties of the two items in question: only the writer of the first statement may, with coherence, go on to say *the dictator has taken a harsh course on political dissent within the church*.

An interesting adverbial quantifier is *a bit*. Suppose I say

(4) *Scotland is a bit rocky*

Again it is quite unclear just what degree of rockiness I wish to predicate of Scotland. I am not saying anything that you could go to Scotland and test to see if Scotland satisfies the truth conditions of it. Truth-conditionally, I am probably only saying that there *are* rocks in Scotland. But I *am* saying more than this. I am saying that *whatever* degree of rockiness can be truthfully predicated of Scotland, it is *too much for my taste*. A typical situation for (4) to occur in would be a discussion with my wife over where we ought to go on holiday. A likely reaction to (4) would be to say, *What do you mean? Rocks are LOVELY!* Such a reaction would be a purposive act—trying to get me to see the nice side of rocks—against the purposive act represented by (4), which is an attempt to *avoid* going to Scotland on holiday.

Consider now a statement like (5), which is quite likely to be heard in the current debate over nuclear energy:

(5) *Nuclear plants often have uncontrolled radioactive blowouts*

As before, my claim is going to be that the quantifier contained in this sentence, *often*, carries a kind of meaning that cannot be described in terms of truth conditions. It should begin to be clear by now that if this claim can be validated the carpet is drawn away under the truth-conditional account of an enormous amount of quantifying expressions.

As far as I can see, the only notion truth-conditionalism can rely on to keep the carpet under its feet against attacks of this sort is the notion of implicit *norms*. The idea is that apparent vagueness in adjectives or adverbials is resolved in each individual case by looking at what class, or sort, of thing, or event, the vague expression applies to. The argument is usually advanced in connection with what Lyons (1968, p. 465) calls

“implicitly graded antonyms,” i.e., pairs like *small* vs. *big*, where the apparent vagueness of *This elephant is big* is resolved by implying that the elephant is bigger *than the norm* for that sort of thing, i.e., elephants. I wish to return to items like *big* and *small* below, but I would like to take a first skirmish with the “norm” theory now. In the case of (5), what norm could one adduce in order to resolve the vagueness of *often*? The example is chosen expressly with a view to exclude such a resolution, yet I claim that (5) is a perfectly natural and meaningful sort of thing to say, as in fact we all do all the time. You can’t explicate *often* by saying that radioactive blowouts happen often in nuclear plants compared to the “norm” for, e.g., power plants in general, for in other power plants radioactive blowouts do not occur at all. Hence there is no such norm. It is interesting that (5) is a statement that one would very likely hear from an opponent of nuclear power, whereas it would probably never come from one of its advocates. The case is quite analogous to that of *several*. Two opposed participants in a hearing or panel discussion on nuclear power might be quite agreed as to just *how* many radioactive blowouts have occurred in nuclear plants within a given period, e.g., 117; yet one will probably maintain that they happen *often*, while the other will maintain that they do not—or perhaps that they do happen often, *but* represent no danger. The meaning of *often* is thus argumentative, not truth-conditional; in the sense that the basic bit of lexical information about *often* is that it may be used to describe a certain state of affairs if you have a certain kind of conclusion you want to support in doing so; if you reject this kind of conclusion, you may only use it if you follow it up with a sentence containing *but* or a synonym of *but*.

I would ask the reader, without further comment, to consider the functioning of items like *repeatedly*, *again and again* and *all the time* in terms similar to those just suggested.

Now consider (6):

(6) *Uncontrolled radioactive blowouts from nuclear plants are frequent*

It would take a great deal of hair-splitting to claim that (5) and (6) are not synonymous. That is to say, if my argument about *often* in (5) holds good, it also applies to *frequent* in (6). And in that case it will turn out that an enormous amount of utterances in daily communication involve non-truth-conditional predication, *viz.* all those where adjectives of the type *frequent/rare*, *small/big* are operative in the predicate. These are Lyons’s “implicitly graded antonyms,” or, in the terminology suggested by P.T. Geach (1956): “logically attributive adjectives.” These he distinguishes from “logically predicative adjectives” like *red* or *round*, which apply to

any individual in the same way regardless how it is specified. In contrast, it is characteristic of a logically attributive adjective that the individual it applies to must be specified as a member of some class for which some norm may be indicated (regarding size, or whatever it is). Fink (1973, p. 26) also calls such adjectives “logically comparative” because the positive form of such an adjective is “logically dependent on its comparative and not vice versa. A big mouse is not bigger than other mice because the property *bigness* is realized in it in an especially high degree; it is a big mouse simply because it is bigger than most other mice.” This, as far as I can see, amounts to saying that there is a norm for bigness in mice which can be defined as a degree of bigness such that half the mice in the world are bigger and the other half smaller. Lyons makes essentially the same point when he remarks that “such words as *big* and *small*, or *good* and *bad*, do not refer to independent, ‘opposite’ qualities, but are merely lexical devices for grading as ‘more than’ or ‘less than’ with respect to some implicit norm” (1968, pp. 465-66).

But whereas this idea is nicely applicable to paradigmatic cases like *This mouse is big*, it is hard to see how it can apply to (6). The application of an implicit norm regarding the quality attributed to the subject is, as we have seen, dependent on the reference of the subject to some class. While it is easy enough to refer an individual like *this mouse* to the class of all existing mice, what is one to do if the subject is not an individual, but a whole class in itself? The only way seems to be to regard it as a subclass of some super-class—but what is that to be? As we have already seen, we cannot in (6), any more than in (5), have recourse to a super-class of “uncontrolled radioactive blowouts in *all* kinds of plants,” for this super-class would have no more members than the sub-class. If pressed, we might try to establish as super-class either “*all* kinds of blowouts in nuclear plants” or “*all* accidents in *all* kinds of plants” or an unlimited number of other super-classes, none of which are in any way suggested by (6) itself.

It is possibly the case that in *most* sentences with a logically attributive in the predicate the subject *may* be referred to some class with some implicit norm. But the point is that this operation is not possible in *all* such sentences. Hence I claim that the cases where a class and a norm may be appropriately adduced are special cases of a more general phenomenon. The more general phenomenon is that predicates with logically attributive adjectives in them are basically argumentative, not truth-conditional; however, they may be so directly, or *via* some norm. In order to salvage the “norm” account as a general ploy to resolve vagueness, one might, in a last

desperate move, suggest that each occurrence of a logically attributive adjective in the predicate either refers to some pre-existent implicit norm, *or*, if this is not possible, sets up an idiosyncratic, *ad-hoc* norm. In order to test this suggestion, let us consider one more example of the kind that resists the simpler analysis. Let us imagine a man and a wife who have to part from each other for a certain period, say, three weeks. In parting they tell one another to cheer up and not be too sad about it, and one of them says,

(7) *Three weeks is not long*

Now in many such cases it would be implausible to suggest that the couple already have, in their shared background knowledge or whatever we want to call it, an implicit norm regarding the length of periods of separation according to which three weeks is not “long.” At any rate, one cannot in such a situation, along the lines suggested by Fink, interpret *not long* to mean “shorter than most periods of separation”; it may be the couple’s first and even their only period away from each other. Now the “last desperate move” consists in saying that the utterance of (7) *establishes* a norm where none existed before; that is, we now have to do with a “norm” that is *not* implicit. But all we know about this very ephemeral, *ad-hoc* norm is that according to it, three weeks is *not long*. Now if we wish, as a logical semanticist would, to resolve the vagueness and find the truth-conditional meaning of (7), this is all we have to work with, and hence all we can do is to substitute, for the phrase *not long*, the phrase *three weeks* in which case we end up with *Three weeks is three weeks*. On a pragmatic account this might indeed have some meaning, but certainly not the same as the original utterance. On any account, *Three weeks is three weeks* is, on the face of it, tautological, and on a truth-conditional account it would then have no meaning at all.

As we see, the truth-conditional account in cases such as this only manages to eliminate any meaning the utterance might have had. An alternative account, which I am not in a position to develop fully here, ought instead to interpret the meaning of the utterance in terms of what sentences it may *cohere* with. *Three weeks is not long* in the given situation may cohere with any sentence that serves to encourage mental fortitude in the hearer and/or to discourage sorrow. Thus the speaker, in saying *Three weeks is not long*, is not making an assertion as to how long three weeks are in relation to any norm, but he/she is acting to encourage fortitude, etc., in relation to the length of the period of separation, *such as it is*. This interpretation is of course situation-dependent (in that it assumes, among

other things, that the speaker and hearer are unhappy about being separated). But it may be made independent of such contextual factors if we say the following: The meaning of the utterance is that it may cohere, in a supporting function, with any sentence which is such that it receives stronger support the *shorter* the period of absence is. Conversely, there will be no coherence with any sentence which does not fulfill this condition. Thus, in terms of coherence, the meaning of *Three weeks is not long* may be understood and described without vagueness even though there is no actual sentence for it to cohere with, and without making it circular by imputing to it a reliance on any volatile, *ad-hoc* “norm.” The meaning of the utterance, if truth-conditional, is void.

Such a radically non-truth-conditional use of logically attributive adjectives is not limited to situations of the emotional nature suggested in the above example. On the contrary, it is found all the time in such allegedly non-emotional, matter-of-fact types of communication as newspaper reporting and political debate or statement. To illustrate this, let me choose just one example, quite randomly, from a newspaper I picked up on my way to the pragmatics conference at Urbino, *The International Herald Tribune* from Thursday, July 5, 1979. One of the cover stories of this issue is headed “EEC Aides See OPEC Drive to Set Oil Ceiling” and reports on talks held in London between high-ranking EEC and OPEC representatives. The reporter, Joseph Fitchett, writes:

In the London talks, the European team, which apparently did most of the talking while OPEC listened, concentrated on conveying ‘confidence-building measures’ aimed at demonstrating the intentions of industrial countries to cooperate over energy matters. The French industry minister, for instance, reportedly spent much of his time trying to convince the OPEC team that the U. S. commitment at the Tokyo summit to a ceiling on oil imports until 1985 was a sincere, important step by the Carter administration to promote energy-saving.

Consider the adjective *much* in the second sentence. The function of this sentence, which gives it coherence with the first, is to establish support for the assertion made in the first—the sort of conjunctive relation that Halliday and Hasan (1976, p. 248) would call “exemplificatory apposition” and place under the heading of “internal additive relations.” My point is that *much* cannot be referred to any norm that gives us any clue as to just *how* much of his time the French minister spent trying to convince the OPEC team. The contribution made to meaning by *much* is not truth-conditional. Its purpose is simply to get the reader to accept the assertion contained in the first

period, not to supply information on the actual amount of time spent by the minister doing this or that.

Further down in the article, the reporter quotes Mr. Guido Brunner, the EEC commissioner for energy, on the outcome of the talks: “Despite the inauspicious start in London, Mr. Brunner said that ‘we stand a fair chance to continue’ some form of dialogue, perhaps in another framework.” Consider the word *fair* in the quote from Mr. Brunner. Just how big a chance could he have meant there was for a continuation of the talks? 25 %? 50 %? More than 50 %? There is no way for the hearer or the reader of Mr. Brunner’s statement to assess this. Most likely Mr. Brunner himself did not have any figure in mind at all. The function of his statement is simply what we might call *persuasive*; its meaning emerges when one considers the various continuations it might think ably cohere with in a supporting function. All we know about these is that they must be such that they will receive *stronger* support, the *fairer* the chance is.

We may now revert to the quarrel as to whether the group of lexical items unaccountable for in truth-conditional terms is “small” or “large.” The difference between logical semanticists and more instinctive ones like myself is that I would say it was large, and they would say it was small. I have tried above to show that it is certainly larger than they think. But even if they concede that some of my points are correctly taken, they will probably still say it is small, and I will still say it is large. Both statements are vague when interpreted truth-conditionally; in fact there is no deciding whether the actual state of affairs, if it could be agreed upon, comes closer to satisfying the truth conditions of my statement or those of theirs. My whole point is that this is quite as it should be, if you believe in the sort of theory of language that I think ought to be developed; but not if you believe in theirs. People who believe that all sentences, or even all *declarative* sentences, have a storable truth-conditional meaning, ought to be biting their tongues a lot of the times they use predicates involving words like *big* or *small*; the rest of us may go on using them unabashedly, as we always have. The use of unresolvably vague, non-truth-conditional quantification in natural language is, I believe, as omnipresent as people’s attempts, in whatever they do or say, to further their interests, dictated by instincts.

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