ON THE LOGIC OF DEMONSTRATIVES

In this paper, I propose to outline briefly a few results of my investigations into the theory of demonstratives: words and phrases whose intension is determined by the contexts of their use. Familiar examples of demonstratives are the nouns 'I', 'you', 'here', 'now', 'that', and the adjectives 'actual' and 'present'. It is, of course, clear that the extension of 'I' is determined by the context — if you and I both say 'I' we refer to different persons. But I would now claim that the intension is also so determined. The intension of an 'eternal' term (like "The Queen of England in 1973") has generally been taken to be represented by a function which assigns to each possible world the Queen of England in 1973 of that world. Such functions would have been called individual concepts by Carnap. It has been thought by some — myself among others — that by analogy, the intension of 'I' could be represented by a function from speakers to individuals (in fact, the identity function). And similarly, that the intensions of 'here' and 'now' would be represented by (identity) functions on places and times. The role of contextual factors in determining the extension (with respect to such factors) of a demonstrative was thought of as analogous to that of a possible world in determining the extension of 'The Queen of England in 1973' (with respect to that possible world). Thus an enlarged view of an intension was derived. The intension of an expression was to be represented by a function from certain factors to the extension of the expression (with respect to those factors). Originally such factors were simply possible worlds, but as it was noticed that the so-called tense operators exhibited a structure highly analogous to that of the modal operators, the factors with respect to which an extension was to be determined were enlarged to include moments of time. When it was noticed that contextual factors were required to determine the extension of sentences containing demonstratives, a still more general notion was developed and called an 'index'. The extension of an expression was to be determined with respect to an index. The intension of an expression was that function which assigned to every index, the extension at that index. Here is a typical passage.


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The above example supplies us with a statement whose truth-value is not constant but varies as a function of $i \in I$. This situation is easily appreciated in the context of time-dependent statements; that is, in the case where $I$ represents the instants of time. Obviously the same statement can be true at one moment and false at another. For more general situations one must not think of the $i \in I$ as anything as simple as instants of time or even possible worlds. In general we will have

$$i = (w, t, p, a, \ldots)$$

where the index $i$ has many coordinates: for example, $w$ is a world, $t$ is a time, $p = (x, y, z)$ is a (3-dimensional) position in the world, $a$ is an agent, etc. All these coordinates can be varied, possibly independently, and thus affect the truth values of statements which have indirect reference to these coordinates. (From the Advice of a prominent logician.)

A sentence $\phi$ was taken to be logically true if true at every index (in every 'structure'), and $\Box \phi$ was taken to be true at a given index (in a given structure) just in case $\phi$ was true at every index (in that structure). Thus the familiar principle of modal generalization: if $\models \phi$, then $\models \Box \phi$, is validated.

This view, in its treatment of demonstratives, now seems to me to have been technically wrong (though perhaps correctable by minor modification) and, more importantly, conceptually misguided.

Consider the sentence

$$1. \text{I am here now.}$$

It is obvious that for many choices of index — i.e. for many quadruples $<w, x, p, t>$ where $w$ is a possible world, $x$ is a person, $p$ is a place, and $t$ is a time — (1) will be false. In fact, (1) is true only with respect to those indices $<w, x, p, t>$ which are such that in the world $w$, $x$ is located at $p$ at the time $t$. Thus (1) fares about on a par with

$$2. \text{David Kaplan is in Los Angeles on April 21, 1973.}$$

(2) is contingent, and so is (1).

But here we have missed something essential to our understanding of demonstratives. Intuitively, (1) is deeply, and in some sense universally, true. One need only understand the meaning of (1) to know that it cannot be uttered falsely. No such guarantees apply to (2).