

A *HERE-NOW* THEORY OF INDEXICALITY ¹

Gilbert Plumer

Journal of Philosophical Research, Vol. 18, 1993, pp. 193–211.

ABSTRACT

This paper attempts to define indexicality so as to semantically distinguish indexicals from proper names and definite descriptions. The widely-accepted approach that says that indexical reference is distinctive in being dependent on context of use is criticized. A reductive approach is proposed and defended that takes an indexical to be (roughly) an expression that either is or is equivalent to 'here' or 'now', or is such that a tokening of it refers by relating something to the place and/or time that would have been referred to had 'here' and 'now' been tokened instead. Alternative reductive approaches are criticized.

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Philosophy of language virtually exploded into existence this century. And there may very well be no topic on which more has been written than indexicals. Yet what is indexicality? It is surprisingly difficult to say. Let us begin by agreeing on a list of paradigm, test cases of indexicals—words or phrases whose primary use, lexicographically speaking, is indexical: 'I', 'here', 'now', 'this', 'you', 'there', 'the past', 'that'. (The first four differ from the latter four with respect to immediacy.) There is nothing really controversial in this.² The problems arise in the attempt to exactly specify or define the indexical use. Let us assume that if we get it right for the paradigm cases, we have probably gotten it right for all cases.

A second relatively unexceptionable starting point is that the kind of use we are interested in is, for example, where 'I' refers to its tokener and 'here' ('now') to the place (time) of its tokening. So we are not interested in non-singular-referring uses, of which there are plenty, as any good dictionary will attest, e.g., 'now' in 'you will encounter a rogue wave now and then'. Moreover, for present purposes we are not even interested in extended singular referring uses. Many of the uses described by Quentin Smith (1989) fall into this category, e.g., "I am watching a race and the person upon whom I have bet, No. 10, drops to last place. 'I am in last place!' I exclaim in anguish to my companion" (pp. 182-83).

The core cases are hard enough to handle without the distractions of the suppleness of language.

A third relatively unexceptionable starting point is that there is a distinction to be drawn between a demonstrative and a pure indexical use, and we are interested in both.³ In the case of the pure, the distinguishing feature is that although there *may* be an accompanying act of ostension or focusing of sensory attention carried out by the user of the indexical, there is none that plays an *essential* role in achieving singular reference. For instance, I might ostend my location (in space) for the purpose of emphasis or instruction while I utter 'here', but the same place would have been referred to without the act of ostension. When it makes a difference, I shall signify the pure notion by an asterisk (*) and the demonstrative notion by an exclamation mark (!). In the demonstrative use of an indexical there *is* an accompanying act of ostension or focusing of sensory attention that plays an essential role in achieving singular reference. For instance, you are directing traffic in a parking garage, and pointing to a space immediately to the right of the one you occupy, you yell 'put it here'. Indeed, with drivers just released from gridlock your life could hang on the difference between 'here*' and 'here!'. One might say that the *default value* of 'here' is 'here*'. In contrast, the nonextended, singular referring use of three members of our list is always pure: 'I', 'now', and 'the past'.

There appear to be just two ways one might try to define indexicality, or at any rate there are only two that have in fact been tried. Currently, the approach most widely accepted proposes that indexicality is a matter of reference being dependent on the context of use. In section I it will be argued that this approach is inadequate, mostly because the kind of definition it yields is overly broad. The other, somewhat old-fashioned approach is reductive. It takes a certain notion(s) to be basic, e.g., 'this' in its non-extended singular referring use, and defines the indexical use of other words or phrases in terms of the basic notion(s). In sections following the first I shall develop such a theory, one that takes the notions of *here** and *now* to be basic; the definition yielded is (roughly) that indexicality is spatiotemporal context sensitivity of a certain sort, namely, the 'here*'- 'now' sort. Along the way I will point out inadequacies of alternative reductive approaches to indexicality.

I. The Vicissitudes of Context

An adequate definition of indexicality will provide the means to semantically distinguish indexicals from proper names (PN's) and definite descriptions (DD's)—the two other types of singular referring expressions in natural language (those that might seem to fall outside this trichotomy probably could be assimilated to one of three types, e.g., dates and spatial coordinates to PN's). In other words, an adequate definition of indexicality will provide the differentia for indexicals with respect to PN's and DD's, the three species in the genus *natural singular referring expression*. Without this, we cannot fully understand indexicality, and therefore, language. Of course the idea is to semantically distinguish indexicals from PN's and DD's *in which no indexicals are used*. But how can one tell in advance whether this condition is satisfied? Practical knowledge. The fact is, we do generally agree on whether to classify a term as an indexical, PN, or DD. For one thing, there are syntactic differences between them. For instance, in English PN's are distinctive with respect to capitalization, DD's distinctively exhibit the form 'the so-and-so', and many indexicals distinctively function as adverbs or adjectives. One of our paradigm, test cases of (semantic) indexicals, 'the past', is syntactically a DD, but it is one in which syntactically and semantically speaking, an indexical ('past') is used. Moreover, it seems that one could not have the ability to correctly use indexicals, PN's, *and* DD's unless one had at least an intuitive grasp of the semantical differences between them. Then the task is to spell out in a principled or theoretical way what we already intuitively know. If there were no such differences, we would be faced with an inexplicable distinction without a difference.

The standard definition of indexicality is given by David Kaplan, to take one prominent example. He writes, "what is common to the words or usages in which I am interested is that the referent is dependent on the context of use" (1989a, p. 490). This is also supposed to be a criterion for semantically distinguishing indexicals from other singular referring expressions (pp. 506, 521; cf., e.g., Kaplan 1989b, p. 593; van Inwagen 1980, p. 413ff.; McMullen 1985, p. 220). The natural characterization of a term's context of use is quite vague: "the circumstances in which it is uttered" (van Inwagen, p. 413). Or it may be slightly less vague but no less comprehensive: "the personal-social-historical-physical milieu of the utterance" (Smith 1981, p. 110). In either case the

criterion cannot be right, for the referent of PN's and DD's also depends on the context in which they are used. Consider, for instance, the name 'Spot' and the description 'the heavy snowfall'. This presumes a natural individuation of PN's viz., that they are individuated by their phonological form. So the same name—understood as a single phonological form or *word* ('Spot')—may have different referents in different contexts in which it is used. Those who believe that PN's are not context sensitive believe that PN's are to be individuated by their phonological form *and* bearer. By this individuation 'Aristotle' as applied to the famous Greek philosopher and 'Aristotle' as applied to the famous Greek shipping magnate are distinct proper names. Kaplan claims that "the standard form of introduction of a proper name word" is a "*dubbing*," where "a *word* is an expression along with its meaning" and "it is not unnatural to say of proper names that they have no meaning other than their referent" (1989a, pp. 560, 559, 562). If this were correct, we could not do what we in fact do: fully individuate a word and not know its meaning, as when we wonder 'what is the meaning of this word?'. The Kaplanian view of PN's has for good reason been called "the idiosyncratic conception" (Cohen 1980); it is a view conveniently held by many modern logicians. According to it, a PN is like an individual constant in that there is only one referent per PN no matter what its context of use. Although simplicity in logic is desirable, unfortunately its price is often the misrepresentation of natural language.

One might be tempted to develop the idea that what is common and distinctive about indexicals is that "the referent is dependent on the context of use" by holding that the referent of an indexical, unlike a PN or DD, in all cases is identical to an aspect or part of the context in which it is used. Then a complete list of contextual aspects would yield a complete list of indexical meanings. Kaplan holds that for any context *c*, there is the agent, time, place, and possible world of *c* (1989a, p. 543; cf. Montague 1972, p. 144ff.). And he holds that there are other contextual aspects (p. 552), but he does not attempt a complete specification. The only one I know of who does is David Lewis. He adds: "an *audience coordinate* ... *indicated-objects coordinate* [this "coordinate is a set (possibly empty) of concrete things capable of being pointed at"] . . . *previous discourse coordinate*" (1972, pp. 175-76). Although this would mean that such expressions as 'you', 'this!', and 'aforementioned' are indexicals, it would rule out 'there' and 'the past'—two that we are taking to be uncontroversial, paradigm cases of

indexicals, i.e., test cases of indexicals. Of course we could introduce aspects or coordinates for such terms (cf. ‘yonder’, ‘today’, etc.), yet without an independent principle governing the introduction, this would get us nowhere. We would be determining indexicals by contextual coordinates, and determining contextual coordinates by already having determined which terms are indexicals. All we get from Lewis by way of a principle is “*contextual coordinates*” are those “corresponding to familiar sorts of dependence on features of context” in “determining extensions” (p. 175). This does not help us break out of the circle because, first, “features of context” *are* contextual coordinates, and second, indexicals are what is supposed to exhibit the “familiar sorts of dependence” on these features. Kaplan's recent point that “context is a package of whatever parameters are needed to determine the referent” (1989b, p. 591; cf. Lycan 1984, pp. 50-51) is no more helpful; indeed, it is so vague that by it *every* singular referring expression apparently would be indexical (semantically speaking). The same applies to Lewis' “*prominent-objects coordinate*,” which he considers in discussing the DD “the door” in an appendix (p. 214).

It is or would be the view of many that these sorts of considerations do not mean that the context-dependency definition of indexicality is defective; they just mean that the definition is not also a criterion for semantically distinguishing indexicals from PN's and DD's. In other words, PN's and DD's are indexical. This seems to be Lewis' position, especially in a later work (1981) where he renounces his earlier attempt to completely specify the features of context (p. 87), now regarding them as “countless” (p. 85). Even ‘hexagonal’ (as in ‘France is hexagonal’) is treated as indexical since its applicability depends on the context's standards of precision (pp. 81-82). A detailed yet still summary assertion of the view in question is made by David Woodruff Smith:

... indexicality is like a conspiracy: when you start looking for it, you see it everywhere. The strict and proper indexicals—‘this’, ‘I’, ‘here’, etc.—turn on the immediate context of utterance. But many other expressions call on more distant yet still contextual relations with the referent. Consider: proper names, according to the causal or historical-chain theory; color terms, ostensibly defined by our ancestors; natural kind or substance terms like ‘giraffe’ or ‘gold’, according to Putnam-like theories; terms like ‘kitchen’ and ‘tractor’, which presuppose specific activities of a culture, even terms that presuppose the rudiments of our earthly existence like gravitation; nearly all definite descriptions we use, which either include terms of the above sorts or presuppose

application to the immediate surroundings only ('the lamp in the corner') or presuppose application within a culture or community ('the president'). There is not much in natural language that is not infected with either strict or extended indexicality.

(p. 123; compare, e.g., Burge 1973 on PN's and Wettstein 1981 on DD's).

This view that PN's and DD's are indexical at least obscures the semantic differences between them and indexicals. Surely, this difference is fundamental, else why would we have these syntactically distinct devices? One can wholeheartedly agree that PN's and DD's are context sensitive without holding that they are indexical; and one can do this in a principled way if one has a different definition of indexicality. Indeed, *because* indexicals, PN's, and DD's are all context sensitive, there is no more ostensible reason to identify indexicality with context sensitivity than there is to identify definite descriptively or proper nominativity with context sensitivity.

Smith prefixes the qualification that "nearly all" DD's are context sensitive, but he doesn't characterize which ones he thinks are not. It is unlikely that he has in mind so-called 'proper' or 'true' DD's such as 'the inventor of bifocals', since these do "presuppose application within a culture or community" or at least within the human race. For all we know, what should reasonably count as bifocals were also invented on another planet. And is not a theoretical guarantee of uniqueness of application or reference a necessary element of *singular* reference? Perhaps Smith has in mind DD's whose referents would be abstract objects, if there are any such objects, e.g., 'the even prime'. Construed as a maneuver to maintain the context-dependency criterion, this would be pretty desperate, for the criterion would be virtually defunct, and the claim that there are independently existent, causally inert, non-spatiotemporal objects is highly questionable (see, e.g., Bigelow 1988). On the other hand, if the denota of such DD's are more naturalistically construed, then the DD's might very well be context sensitive in virtue of one or more of the factors to which Smith alludes. In any case, if, say, numbers are construed as physical properties and thereby as that which inherently can have a 'divided' mode of existence, then it seems we should not count a DD on the order of 'the even prime' as a *singular* referring expression. And this would make such DD's irrelevant to the concerns of this paper. They would be as irrelevant as the use of the DD in, e.g., 'the whale is a mammal', where the use is *generic*.

The most sophisticated version of the context-dependency criterion that

I have encountered is given by Nathan

Salmon:

What is distinctive about indexical expressions (such as 'I', 'this tree', or 'the present U.S. president') is not merely that the extension with respect to a context c (*simpliciter*) varies with the context c ... That much may be true of even a nonindexical expression, such as 'the U.S. president' or 'Frege is busy'. What makes an expression indexical is that its extension with respect to a context c and a time t and a location l and a possible world w varies with the context c , even if the other parameters are held fixed.

(1989, p. 360; cf. his 1987, p. 77ff.). This introduces the now familiar notion of 'double indexing' into the definition of indexicality. Double indexing relativizes reference, truth-value, etc. to both a context and a group of additional parameters (here, t , l , and w ; Lewis 1981, p. 84 adds "(some aspects of) standards of precision") whose values need not be identical to those of the context. Consider Salmon's example:

(1) "In 1978, the U.S. president was a Democrat."

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(1) is supposed to be true in any post-1978, United States presidential context in which it is uttered, and in all such contexts the DD in (1) "the U.S. president" is supposed to "refer" to Jimmy Carter, because it was he who was both president and a Democrat in 1978. In contrast, the DD "the present U.S. president" in

(2) "In 1978, the present U.S. president was a Democrat."

changes its referent and the sentence changes its truth-value depending on whether it is uttered in e.g., 1979 or 1982: Jimmy Carter/true; Ronald Reagan/false (1989, pp. 349n and 359n). The key difference might be said to be that the "*circumstances of evaluation*," i.e., those of 1978 (t), in the actual world (w), etc., determine the referent for the DD in (1) whereas for the DD in (2) it is the different "*contexts of use*" (the terminology is Kaplan's, 1989a, p. 494)

It seems that this account still fails to distinguish indexicals from nonindexicals; rather, it just distinguishes the singular from a non-singular-referring use. It is thus unhelpful, since we are trying to semantically

distinguish indexicals from other singular referring expressions. That the DD in (1) "the U.S. president" is used in a non-*singular*-referring way is indicated by the very fact that it is not rigid; changing the date can change the denotum. The DD in (1) is governed by or falls within the semantic scope of the specific temporal operator "In 1978." Being governed by a temporal, modal, or spatial operator seems to be sufficient for being used in a non-singular-referring way. A DD, even one that employs indexicals, may be used in this way and in the singular referring way in the very same sentence. Consider, for example, 'someone other than the present U.S. president might have been the present U.S. president, e.g., Michael Dukakis might have been', which is true. In its first occurrence here 'the present U.S. president' is singular referring, and in its second occurrence—where it is governed by the modal operator 'might have been'—it is not singular referring. If both occurrences were singular referring, we would have a falsehood (as we do where, e.g., 'George Bush' is substituted for both occurrences of the DD), for we would have a denial of the necessity of identity.

I believe that the proper analysis of the non-singular referring use in question is Russellian, i.e., quantificational. (1) as analyzed means 'in 1978, there was exactly one U.S. president, and he or she was a Democrat'. The Russellian analysis is a device for eliminating superficial singular terms. To determine the truth-value of (1), one determines whether there existed in 1978 a person who was both uniquely president of the U.S. and a Democrat. To determine the truth-value of (1) if the DD in it were (what it is not) singular referring, one would determine *of* a particular person whether that person was a Democrat in 1978. On the other hand, suppose we remove the temporal operator "In 1978" from (1). Suppose I now come up to you and all I say is 'the U.S. president was a Democrat'. It seems that you would most likely understand this as referring to George Bush; it is not as if I said 'the U.S. presidency was occupied by a Democrat'. It would be inconsistent for Salmon to deny this. For in the case of a present utterance of "the present U.S. president," unless it were sensitive to, among other things, the presumed location and world of the context, not just the time, the referent need not be George Bush. It could be (e.g.) the president of a foreign corporation that has those initials. The DD is sensitive to aspects of the context for which it contains no corresponding term, just like "the U.S. president." And indeed, in the quoted passage Salmon does allow that "the U.S. president" is context sensitive. The point is, remove the temporal operator from (1) and the DD becomes singular referring; and concomitantly, it becomes rigid (with respect to any *t*, *I*, and *w* or "*circumstances*

of evaluation"). So we see that on Salmon's criterion, "the U.S. president" is just as much an indexical expression as is "the present U.S. president," contrary to what he claims.

II. The HNDI

The preceding section indicates the need for a definition of indexicality that will provide the means to semantically distinguish indexicals from PN's and DD's. The trouble with the context-dependency approach is mostly that the kind of definition it yields is overly broad. So naturally, a more restrictive definition that preserves what is right about the context-dependency approach is suggested. I propose that indexicality *is* spatiotemporal context sensitivity of a certain sort, viz., the 'here*'-'now' sort. More precisely:

THE *HERE*'-NOW DEFINITION* OF INDEXICALITY (HNDI)

An *indexical* is an expression that either (i) is 'here*' or 'now' or a primary-use equivalent, or (ii) is such that a tokening of it in its primary use refers by relating something to the place and/or time that would have been referred to had 'here*' and 'now' been tokened instead in their primary uses. The *relating* is accomplished through a general notion, an act of ostension, a focusing of sensory attention, or some combination of these means.

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A number of explanatory remarks need to be made about this definition.

First, 'here*' and 'here!' are the same word. Yet they may be treated as they are by the HNDI as different *expressions* (of different notions), because reference is achieved through them in different ways. The same applies, e.g., to 'you*' and 'you!'.

Second, the HNDI presupposes that tokenings refer. It seems that a tokening is an event, specifically, an *act*, performed by a certain person at a certain time and place. In this intentional sense, to token an expression is to think it, and if communication is desired, to utter or write it. Thinking the expression is the necessary element in the concept of tokening one,

otherwise mere parroting would be tokening. Even this brief elucidation directs answers to identity questions. The played tape recording of an utterance is a reproduction of the auditory realization of a single tokening; it is not itself also a tokening. Nevertheless, in certain circumstances the playing (it is no accident that we use this word) is to be taken *as if* it were a tokening, as when a telephone answering machine chirps ‘I’m not home now ...’. The same ‘For Sale’ sign moved from one house to another counts as the written realization of two different tokenings. And so on. Moreover, the elucidation leaves room for a distinction between tokeners’ or “speaker’s” reference and semantic reference. For instance, being prone to mixing up opposites you might now intentionally but mistakenly utter ‘the past’ in order to refer to all the time later than now; you referred to future time, but the semantic referent is past time. I believe semantic reference *is* tokening’s reference. Other candidates have been put forth, e.g., Kaplan argues (1989b, pp. 584-90) that in order to have a simple logic we need to avoid “utterances” and appeal to expressions-in-contexts, construed in such a way that no one need *do* anything for an expression to be in a context. Here I shall only point out that tokenings have the advantage of being minimally abstract, maximally naturalistic, and that *some* candidate must be assumed in order to proceed at all.

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Third, the idea in part (ii) of the HNDI of ‘here*’ and ‘now’ being tokened *instead* of course unpacks as ‘here*’ and ‘now’ being tokened by the same tokener at the same place and time as that of the tokening in question in lieu of the tokening in question.

Fourth, in the next section part (ii) of the HNDI will be used to specify the *meaning* of indexicals by specifying how tokenings of an indexical in its primary use refer. This is in accordance with the now familiar idea that it is “typical of indexicals” that “the semantical rule which fixes the reference seems to exhaust our knowledge of the meaning of the expression” (with respect to its primary use) (Kaplan 1989a, p. 519). This is in contrast to specifying meaning by giving an analytic, informative definition. However, even in the atypical case where such a definition can be given of an indexical, the indexical will still conform to the HNDI: In their primary uses ‘the past’ and ‘all the time earlier than now’ are equivalent, where two expressions are primary-use equivalents if and only if they are interchangeable without affecting truth-value in all sentential contexts where they exhibit their primary use. In terms of the HNDI, the relating is

accomplished through the general notion of *earlier than*: a tokening of ‘the past’ in its primary use refers by distinguishing all the time earlier than the time that would have been referred to had ‘now’ been tokened instead in its primary use.

Fifth, the relevant reference-fixing semantical rules for ‘here*’ and ‘now’ of course are: A tokening of ‘here*’ (‘now’) in its primary use refers to the place (time) of the tokening. (For brevity, this ‘in its primary use’ sort of qualification shall hereafter be left implicit where appropriate.) Such tokenings refer to the place or time of tokening only, not to any larger place or time. It is easy to be fooled, however, by locutions like ‘the present century’ or statements like ‘there is more nitrogen in the atmosphere here* than on any other planet in the Solar System.’ As C.W.K. Mundle argues, “when we speak of ‘the present century’ we are not using ‘present’ to refer to a duration of 100 years. Surely ‘the present century’ means ‘the century which overlaps with the present’” (1954, p. 45; see also my 1985). One could similarly argue that ‘the atmosphere here*’ in the statement is elliptical for ‘the atmosphere on the planet that includes here*’.

III. Application and Defense of the HNDI

III.1. ‘I’

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My claim is that a tokening of ‘I’ refers by locating a person at the place at the time that would have been referred to had ‘here*’ and ‘now’ been tokened instead—this is the reference-fixing semantical rule for ‘I’. The relating is accomplished through the general notion of *being located at ... at ...*

This HNDI rule implies the more standard rule that a tokening of ‘I’ refers to its tokener, because the idea of being tokened *instead* in the HNDI rule unpacks as being tokened by the same tokener at the same place and time as that of the tokening of ‘I’ in lieu of that tokening, and because it is analytically and necessarily true that a tokening’s being at a certain place at a certain time involves its tokener being there then (see the second remark in §II above). This implication between the HNDI rule and the standard rule obtains given that the at best degenerate and highly questionable possibility of two persons being located at exactly the same place at exactly the same time should be discounted (this description is not satisfied even by a case of the psychological disorder of ‘multiple personality’, since the *personalities*—not persons, note—alternate *successively*). On the other hand, the standard rule does not imply the HNDI rule; an important difference between them is possible compatibility and categorical incompatibility (respectively) with a tokening of ‘I’ referring to a person who is non-spatiotemporal. If tokenings could be individuated by means other than those involving where and when they are performed, if

they could be individuated by non-spatiotemporal properties and relations, then by the standard rule the referent of a tokening of 'I' could be non-spatiotemporal. Notice that this does not merely mean disembodied (in the manner described, e.g., by Strawson 1959, pp. 115-16); it means existing wholly apart from spacetime. It seems to me that at this stage of the development of philosophy the idea of a non-spatiotemporal tokener should not be taken seriously. I could be wrong; and if I were, my *here*-now* theory of indexicality would unravel. But this is a risk I am willing to take without further ado.

How can it be shown that the HNDI provides the means to semantically distinguish indexicals from PN's and DD's (in which no indexicals are used—a matter that, recall, is determined through practical knowledge of indexicality)? It can be shown with respect to part (i) of the HNDI by the fact that there is no PN or DD that is a primary-use equivalent of 'here*' or 'now'. In a sense, this is a purely lexicographical matter. You will not find in any dictionary (let alone one that arranges its definitions of an expression's uses starting with the most common/important) a PN or a DD listed as the first meaning of 'here' or 'now', and *vice versa*. Why this should be so has to do, of course, with the point of having these different referring devices. The fundamental point of having the notions of *here** and *now* is to have terms whose reference varies with and is to the place (time) of tokening. This is not so for any PN or DD. The only case that I can think of that might give one pause would be the claim that 'the time' is equivalent 'now' in their primary uses: a tokening of '3 o'clock is ____' would have the same truth-value with either term plugged in it. The case requires that this sort of use of 'the time' is its primary use, and this is questionable in view of its many embedded uses such as in 'the time when ...' and 'the time it took'. Moreover, there are many sentential contexts such as 'the bell is now ringing' where 'now' exhibits its primary use but 'the time' cannot coherently or unambiguously be substituted for it. This is so even where allowances are made for the fact that in such a sentence 'now' is an adverb ('the time' is always a noun); try substituting, e.g., 'at the time'. Also, try substituting 'the time' for 'now' in 'they should be home by now' (here 'now' functions as a noun).

Part (ii) of the HNDI is vague, so it would be difficult to wield on its own. What is needed is an effective way of determining whether an expression satisfies this part. Consider the following:

HNDI-(ii) SATISFACTION CONDITION

An expression *e* counts as an indexical by part (ii) of the HNDI if and only if *e*'s meaning is specifiable in terms of a reference-fixing rule in accordance

with the provisions of part (ii) of the HNDI such that: there is a *sentence* containing *e*, and 'here*' and/or 'now', that expresses the relating mentioned in part (ii) of the HNDI and specified in the rule, each possible tokening of which is true if the tokening involves no reference failure.

I am appealing here to a concept-containment notion of analyticity (for a detailed defense of this sort of theory of analyticity, see Katz 1986). The relevant reason 'I' meets this Condition is that each possible tokening of 'I am located here* now' is true. The relevant reason 'the past' meets the Condition is that each possible tokening of 'the past is earlier than now' is true. (It seems that these two sentences do not contain any term capable of reference failure.) No PN or DD meets the Condition in the way that either 'I' or 'the past' do, because if you substitute any PN or DD for 'I' or 'the past' in these sentences, you get a sentence, at least some possible tokenings of which are not true (even where the tokenings involve no reference failure).

In the subsections below we will see that a parallel situation obtains with respect to the remaining indexicals on our list of paradigm, test cases of indexicals. Given that these are indeed paradigm instances of indexicals, this is good evidence that no PN or DD meets the HNDI-(ii) Satisfaction Condition in the way that any indexical does. Of course this by itself allows the possibility that some PN or DD meets the Condition in a way that no indexical does, in which case it would be a counterexample to my theory. You are welcome to try to find such a PN or DD. I submit that the search would be fruitless, however, because no PN or DD involves the notions of *here** or *now* as a part of its meaning. Every indexical involves one or both of these notions as a part (proper or not) of its meaning. This is the relevant semantical difference that is implicated by the fact that we have these syntactically distinct devices.

One of the competing reductive approaches to indexicality is expressed by John Perry: "it is plausible to suppose that other indexicals can be eliminated in favor of 'I' and 'now'" (1979, p. 16); compare Bertrand Russell on "I-now" (1940, ch. VII) and Roderick Chisholm on 'I' and the present tense (1981, ch. 5). Colin McGinn (1983, p. 18) gives the least theory-laden expression of the particular idea that constitutes a challenge to my reduction: "if we are out to define indexicals on a minimal basis ... we could then define ... 'here'[meaning *here**] as 'the place where I am now'" (cf., esp., Russell, p. 114; Perry, p. 16; Chisholm, p. 48). If correct, this would make my specification

of the meaning of 'I', which appeals to the notion of *here**, circular. Although in no case is the matter clear, each of the authors cited can be read as holding that 'here*' is synonymous with 'the place where I am now'. If this is the view, it is not correct because the DD has the non-singular-referring used exhibited, for example, in its second occurrence in this truth: some place other than the place where I am now might have been the place where I am now, e.g., *there* might have been. If I had written 'here*' instead of the DD, we would have a falsehood (cf. §I above).

One might therefore modify the *I-now* reduction by explicitly holding that 'here*' is equivalent to only the singular referring use of 'the place where I am now' and proposing a definition parallel to the HNDI. But there would still be this difficulty, interestingly expressed by Gareth Evans (1982, p. 153):

The suggestion is wrong, anyway, in giving primacy to 'I' over 'here'. It is not the case that we *first* have a clear conception of which material object in the world we are (or what it would be to establish that), and *then* go on to form a conception of what it is for us to be located at a particular place . . . This would raise the question 'How do I identify myself, and make sense of my being located somewhere?', but—if we had to keep the capacity to grasp 'here'-thoughts out of the picture—would make it impossible to answer it.

Yet, apparently in conflict with my reduction, Evans goes on to say that it is "misleading" to hold that there is a "priority of 'here' over 'I' . . . one's 'I'-Idea and one's 'here'-Ideas are really two sides of a single capacity, each wholly dependent upon the other" (p. 256). It seems, however, that there is a way of both making Evans' point more precise and accommodating it: the mutual dependency of the notions of *I* and *here** is the fact that a tokening of 'I' cannot refer unless a tokening of 'here*' would, had it been tokened instead, and *vice versa*. With respect to reference-fixing semantical rules, the modified *I-now* reduction cannot handle this mutual dependency. For on this reduction the rule for 'I' presumably would be simply that a tokening of it refers to its tokeners; accordingly, its referent could be a non-spatiotemporal person or self. But as tokened by such a self, 'here*' would fail to refer (since its rule would be: a tokening of 'here*' refers by taking a place as occupied by the self at the time that would have been referred to had 'I' and 'now'

been tokened instead). In contrast, on my reduction both terms would fail to refer. Recall that the rule for 'here*' is (I claim) simply that a tokening of it refers to the place of its tokening. It is analytically and necessarily true that a tokening's being at a place p involves its token er being at p (see the second remark in §II above).

One might wonder whether it would be best not to take a reductive approach at all and to regard indexicals as more or less on par with one another and 'interdefinable'. The model might be that of the truth-functional logical particles ('and', 'or', etc.), although these are quasi-technical terms and indexicals are natural terms. The main problem with this approach would be that it is false in certain respects. For example, even though 'here*' ('I') is equivalent to the singular referring use of 'the place where I am now' ('the person located here* now'), no such equivalency can be given for 'now'. 'Now' is certainly not equivalent to the singular referring use of 'the time when I am (*tenselessly*) here*' since the referents of these expressions could be very different in terms of length if you are standing still, and the DD could be ambiguous if you ever return to the same place where you once were. Also, a tensed 'am' in the DD would make the explication circular, but the tenseless verb may be just a technical creation. From the point of view of the purposes of this paper there would be another problem with the approach in question, viz., it yields no definition of indexicals as a group, no analysis of indexicality *per se*, although it could yield a very messy or complicated criterion for distinguishing indexicals from PN's and DD's (in which no indexicals are used) via something like the HNDI-(ii) Satisfaction Condition.

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III.2. 'Here!' and 'There'

My claim in the case of 'here!' is that a tokening of it refers by relating a place to the place that would have been referred to had 'here*' been tokened instead. The relating is accomplished through an accompanying act of ostension or focusing of sensory attention carried out by the token er . Consider the latter first. The focusing of sensory attention is not on *the place* referred to; places themselves, like times, cannot literally be sensed: seen, heard, touched, tasted, or smelled (cf. my 1987). Rather, the focus is on something sensible, and in applying the word 'here' to what is sensed one *takes* what is sensed as being in a place. Vision provides the paradigm case of focusing sensory attention. In such a case, for sentence tokenings of the form, e.g., 'here! is an F ' (where F is a common noun word or phrase), the relata are the place that would have been referred to had 'here*' been tokened instead and the place of the first F along the token er 's line of sight, and the relation is that segment of her line of sight from the one place to the other.

It seems that this account is right if and only if an addressee would understand the reference through determining this line segment—and *this is exactly what happens*. And the addressee's fixing the segment may need to be fairly precise, if there are a number of *F*'s in the area, though of course in that eventuality a kind tokener will produce an accompanying act of ostension (actually, he would probably do this anyway, but it is not *required* for achieving reference).

The relating involved in a tokening of 'here!' may also be accomplished through an act of ostension alone. I might tell you 'here is a stapler', pointing to a stapler on the far side of my desk while I go on reading something that blocks it from my field of view (the relation is the line projected from the pointing appendage). This does not mean that the referent is outside the (spatial) *range* or sweep of my sight; that the range of sight fixes the range of what can be ostended seems to be a fundamental fact. This phrase, 'range of sight', is to be taken in the theoretical sense where it applies even to human beings who are blind, i.e., whose *sight* is completely dysfunctional. The phrase applies even to them because their bodies and brains have many of the features needed for a functioning sense of sight. As for the possibility of a species of nonhuman, *sightless* persons, they could not have *our* notion of *here!*. Surely, if any notion is biologically restricted, a *demonstrative* one is.

Pointing is not the only way to ostend. The act of ostension might be a sweeping gesture (and the relation inclusion), or a circumscription, e.g., drawing boundaries or outlining in the air. In such a case, at least, the object of the act may be the referent (place) itself, rather than something sensible at the referent as it always is for a focusing of sensory attention.

It seems that 'here!' and indexical 'there' have the same meaning except that 'there' is more appropriate the greater the spatial distance between tokening and referent. Unlike (e.g.) 'now' and 'I', 'there' is an *incomplete* referring word; without an accompanying act of ostension or focusing of sensory attention, a tokening of it does not achieve reference. To put the matter loosely, 'there' is always 'there!'. Now suppose, pointing in the direction of my television, I say 'there is George Bush'. It might be thought that this kind of case poses a counterexample to my account, for it might seem that the place of G.B. is the referent, and I have said that the range of sight fixes the range of what can be ostended. And G.B. is in Washington, D.C. and I am in Newtown, PA. Actually, however, this is a

kind of case where a background understanding of spatiotemporal “information-link” is presupposed (for the detailed development of this idea, see Evans, ch. 6). In other words, what I say is elliptical for ‘there is an image of George Bush’. Similar remarks apply to the use of ‘here!’ and ‘there’ in connection with maps, for example.

The sentence schema that makes ‘here!’ and ‘there’ meet the HNDI-(ii) Satisfaction Condition is ‘___ is now⁴ within the range of my sight’. (Of course, ‘my’ is the possessive form of ‘I’. The nonrecursive sentence schema is ‘___ is now within the range of sight of the person located here* now’. Where possible, recursive forms will be used for brevity.) Each possible tokening of this that involves no reference failure is true with ‘here!’ or ‘there’ plugged in. At least some possible tokenings that involve no reference failure are not true with any PN or DD (in which no indexical is used) plugged in. Therefore, no PN or DD meets the HNDI-(ii) Satisfaction Condition in the way that ‘here!’ and ‘there’ do. With ‘here!’, ‘there’, and various other indexicals the last clause of the HNDI-(ii) Satisfaction Condition, viz., ‘if the tokening involves no reference failure’, becomes relevant. For example, you might use ‘there’ to refer to the place of what is—unbeknownst to you—a hallucination. And since the hallucination *qua* hallucination could not be in any place other than the place that would have been referred to had ‘here*’ been tokened instead, your tokening of ‘there’ would fail to refer. So in such a case ‘*there* is now within the range of my sight’ would not be true.

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III.3. ‘You’

For this indexical the HNDI reference-fixing semantical rule is that a tokening of ‘you’ (singular) refers by addressing a person from the place at the time that would have been referred to had ‘here*’ and ‘now’ been tokened instead. The relation (*being addressed from . . . at . . .*) is an imprecise one, so it often needs to be further specified by an act of ostension or focusing of sensory attention carried out by the tokener (in which case ‘you’ becomes ‘you!’), or by a background understanding of a spatiotemporal “information-link” (as when writing a letter). There are cases and there are cases. Suppose, addressing my car accusingly, I say ‘you piece of junk’. Plainly, I am treating the car *as though* it were a person. The sentence that makes ‘you’ meet the HNDI-(ii) Satisfaction Condition is ‘you are now

being addressed from here*'. No PN or DD meets the Condition in the way that 'you' does for the kind of reason we have already seen in connection with other indexicals.

III.4. 'This' and 'That'

Like 'there', 'this' is an incomplete referring word. But unlike 'there', 'this' may be completed by an *F*-term. Indeed, the word has three types of completions. The first may be schematized 'this* *F*', e.g., 'this* person (time, place)', which is equivalent to 'I (now, here*)'. One might say at a restaurant where some slimy seafood is being passed around 'well, *this** person doesn't want any'. Or to adapt a well-known example from Perry (1979), if I realized that this* person is making a mess, I would realize that *I* am making a mess. For tokenings of the form 'this* *F*' where *F* is a mental event term, e.g., 'thought' or 'chest pain', the HNDI rule is that such a tokening refers by taking *F* as had by the person at the time that would have been referred to had 'I' and 'now' been tokened instead. Accordingly, the sentence that makes 'this* *F*' meet the HNDI-(ii) Satisfaction Condition is 'this* *F* is now being had by me'.

The second type of completion is 'this!'. My account is that a tokening of 'this!' (as in, e.g., 'this! is a stapler') refers by locating something sensible at the place at the time that would have been referred to had 'here!' and 'now' been tokened instead with the same kind of accompanying act of ostension or focusing of sensory attention.⁵ Regarding the sensibility element, it seems that at least for purposes of communication there is a presumption in favor of the visible-touchable-tasteable (or just visible, like a shadow or a beam of light) that can be effectively defeated only by the introduction of a contrary *F*-term. Even obtrusively sniffing upon entering a pigsty and saying 'this is awful' may not be enough to enable the hearer to know that you just mean the odor and not the pigsty in general.

This brings us to the third type of completion, viz., 'this! *F*'. Where *F* is an auditory or olfactory term, e.g., 'sound', 'noise', 'smell', such tokenings are always accompanied by a focusing of sensory attention carried out by the tokener, sometimes in concert with an act of ostension (e.g., sniffing), and the relation between the place that would have been referred to had 'here*' been tokened instead and the referent is *being surrounded by*. Another relevant example of the type is 'this! place'. Both the temporal and the sensibility elements in the account of the simple 'this!'-type of completion

are defeated by the introduction of the concept of a place, and the account (the HNDI reference-fixing semantical rule) becomes the same as the one for 'here!'; hence the fact that 'this! place' is equivalent to 'here!'. Or suppose, pointing to my chest, I token 'this pain'. It seems that (just) the sensibility element is defeated in such a case, since it seems that pains themselves cannot literally be touched (let alone seen, heard, tasted, or smelled). On the other hand, with 'this! person', for example, nothing in the account of the simple 'this!' is defeated by introducing the concept of a person.

The sentence that makes 'this!' and 'this! *F*' meet the HNDI-(ii) Satisfaction Condition is 'this! (*F*) is now located here!', where the two occurrences of '!' represent the same accompanying act of ostension or focusing of sensory attention. (Of course, '*F*' cannot be 'place', since it is incoherent to speak of a place as being located at itself.) It might perhaps be thought that each possible tokening of 'the lamp in the corner is now located here!' that involves no reference failure is true (this DD is mentioned in the Smith quotation, §I above). This is not so because the DD, even where it refers to the lamp in the corner of the room in which it is tokened, need not be accompanied by an act of ostension or focusing of sensory attention. Hence, the place referred to by 'here!' need not be where the lamp is located. Of course it is also the case that the DD need not refer to the lamp in the corner of the room in which it is tokened, so it is not the case that each possible tokening of 'the lamp in the corner is now within the range of my sight' that involves no reference failure is true (this is the sentence formed by plugging the DD into the sentence schema that makes 'here!' and 'there' meet the HNDI-(ii) Satisfaction Condition). While driving in your car discussing the living room decor of a home that you recently viewed, you might say 'the lamp in the corner was beautiful'.

It appears that the indexicals 'that' and 'this' have the same meaning except 'that' is the appropriate term where there is (a) some spatial distance between the tokening and the referent—and is more appropriate the greater the distance (so 'that! place' is equivalent to 'there'), or (b) some temporal distance between the tokening and the referent (as when the thought 'I'd better write that[*] thought down' comes on the heels of a moment of insight) or between the tokening and the focusing of sensory attention—so the latter does not strictly *accompany* the former (one might say, no longer looking at the car, 'that car was going very fast').

A different reductive approach to indexicality has been one that takes the notion of *this* to be basic. The prominent exponents are Russell (1940, ch. VII) and Reichenbach (1947, §50), each of whom claims that indexicals other than 'this' (or an equivalent) are synonymous with DD's composed of general terms and 'this'. Since it has already frequently been argued that their accounts have refuting difficulties (see, e.g., Gale 1968, ch. X; Kaplan 1989a, §X; and my 1987), there is no need to go into details here.

There is a need, however, to address the idea that the equivalencies pointed out in this subsection, e.g., that 'I (now, here*)' is equivalent to 'this* person (time, place)', are to be understood as indicating that 'this' is explicative of other indexicals rather than the other way around as my reduction would have it, and that a finished list of such equivalencies would yield a finished *this* reduction. But it seems to me that such an approach would confuse the distinctive incompleteness of 'this' with basicness; since it is distinctively incomplete, it is natural to explicate 'this', case by case, in terms of other indexicals. The approach would make a mystery out of 'this'. We would have to make do with a gloss such as that it is a 'linguistic pointer' (Gale 1968, p. 204; Fitzgerald 1974, pp. 274-75). Unlike the primitives of my reduction, no reference-fixing semantical rule could be given for 'this'; needless to say, the reason is that it is not a complete referring word.

¹Earlier versions of this paper were presented at colloquia at Illinois State University and the University of Illinois at Urbana-Champaign. And I am grateful for written comments from Albert Casullo, D. H. Mellor, and anonymous referees.

²Although there is a significant controversy over whether, e.g., 'actual' is an indexical. See van Inwagen 1980 and Salmon 1987 for two opposing views.

It is interesting to note that for the indexicals listed, the first definition given in a dictionary expresses an indexical sense whether the dictionary arranges its definitions of an expression's uses historically (earliest to latest) or begins with the most common/important. By "primary use," however, I mean the first use defined in the latter sort of arrangement.

³The distinction to be drawn in this paragraph is virtually identical to that drawn by Kaplan in his influential work 1989a, §II. Compare also, e.g., Gale 1969, note 2 and Quine 1960, §21.

⁴This 'now' expresses the fact that an act of ostension or focusing of sensory attention *accompanies* a tokening of 'here!' or 'there'.

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⁵'He', 'she', and 'it' (and equivalents) have similar rules. No other kind of HNDI rule is possible for such pronouns, hence, by the HNDI the indexical use of such pronouns is always demonstrative. I regard this as a confirming result of my theory, for it seems to be sheer confusion to treat the anaphoric or relative use of pronouns as a further indexical use (as does Bach 1987, ch. 9). Anaphoric reference that involves singular reference could not *be* singular reference, since by definition it is parasitic upon singular reference.

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