

## REFERENCE EX MACHINA

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### I. Introduction

When I assertively utter the sentence 'Spot is a cat', the sentence I utter expresses a proposition. The truth condition of the proposition so expressed is determined by the semantic values of the singular term, 'Spot', and the predicate, 'is a cat'. If 'Spot' refers to a certain particular entity E and 'is a cat' expresses a certain particular property P, then the proposition in question is true if and only if E has P. Such is the theoretical cash value of reference. The referent of a given singular term generally figures in this manner in the truth condition of the proposition expressed by any sentence containing the singular term outside direct quotations and other referentially opaque contexts.<sup>1</sup> Given this understanding of the notion of reference, I wish to address an important question: How is the reference of a proper name determined?

In discussing the question, we shall assume without further argument that descriptivism is false. By 'descriptivism' I mean any theoretical position that assimilates proper names to definite

descriptions, whether or not the assimilation is accomplished by means of some actual or merely possible definite descriptions proper names are said to be abbreviations for or disguised forms of. Any position that postulates a descriptive content for a proper name and makes the determination of the reference of the name a matter of "fitting" that descriptive content is descriptivism. I believe that the arguments offered by Hilary Putnam, Keith Donnellan, and most notably, Saul Kripke in the 1970s against a wide variety of descriptivism are sound and that those arguments can be easily extended to all other forms of descriptivism proposed since.

Our discussion has two parts. In the first part we shall critically examine the so-called "historical chain" theory (or picture), a widely popular view in this post-Kripkean era. In the second part I shall propose an alternative account of reference.

## II. Names As Special Indexicals

According to the historical chain theory (HICHAT henceforth), any utterance token of a proper name refers to what lies appropriately at the original end of a certain chain of links determined by the circumstances surrounding the utterance token. Clearly, HICHAT builds up the mechanism of reference out of two main components: a chain of links and the origin of the chain. Any new utterance token

of a proper name is considered to be an extension of a particular chain of utterance tokens, which orients the token in question in the right direction toward the origin of the chain, which in turn provides the referent. Therefore, two corresponding questions arise naturally:

(i) Which chain does a given utterance token of a proper name extend?

(ii) How does the origin of the chain determine the referent?

We will discuss these two questions in turn, but before that, let me make one brief observation about HICHAT. As a theory of reference, HICHAT assimilates proper names to indexicals (e.g., words like 'I', 'you', 'now', 'yesterday'). The reference of a given utterance of an indexical is determined by the so-called "context of utterance", which contains various kinds of information, such as who the speaker is, who the addressee is, where the utterance takes place, and when the utterance takes place. It is unclear exactly what other kind(s) of information a context of utterance in general should contain. The paradigm cases, however, are clear-cut. An utterance of 'I' ('you'/'now'/'yesterday') in a particular context of utterance refers to the speaker (the addressee/ the time of the utterance/ the day before the time of the utterance) in that context. What we intuitively call

the (linguistic) meaning of such an indexical type may then be understood to be the directions as to what kind of information afforded by the context of utterance is relevant to the reference determination for any token of that indexical type.

This opens the possibility of understanding what are called demonstratives (e.g., words like `that' -- or David Kaplan's artificial `dthat' -- and `this', and deictic uses of `he', `she', `it', etc.) as special indexicals by requiring contexts of utterance to include the information as to what the object of demonstration is, or alternatively, what the speaker intends as the object of demonstrative reference.<sup>2</sup> Include some such information among the kinds of information contexts of utterance provide, and we can have a uniform treatment of indexicals and demonstratives; demonstratives are understood to be a special kind of indexicals, where what we intuitively call their (linguistic) meanings point to a specific kind of contextual information, namely information about what is demonstrated or what the speaker has in mind.

This encourages the treatment of proper names as a special kind of indexicals under HICHAT, where what is relevant to reference determination is specifically the information as to what lies appropriately at the end of the historical chain a given utterance extends. There seems to be no reason why such a kind of information should not be among those to be provided by contexts of utterance.

And this give us what I think is the best interpretation of HICHAT. We shall therefore assume for the remainder of our discussion that HICHAT makes proper names a special kind of indexicals.

Different indexicals have different meanings and these different meanings participate in reference determination differently: e.g., the referent of `I' is the speaker but the referent of `you' is the addressee, in a given context of utterance. On the other hand, different proper names do not have different meanings which participate in reference determination differently, for the reference of any proper name is determined in the same way as the reference of any other proper name, according to HICHAT.<sup>3</sup> The common mechanism of reference determination for proper names consists of a certain chain of links connecting any given utterance token of a proper name to its referent. Exactly the same kind of contextual factor is supposed to lead to the referent from any utterance token of a proper name. The only source of distinction between one proper name and another is either the spelling (or pronunciation, in case of a spoken language) or what in fact lies at the original end of the chain in question, viz., the referent.<sup>4</sup> The general mechanism of reference stays constant.

### III. The Extended Chain

Keith Donnellan offers the best crisp sketch of HICHAT:

The main idea is that when a speaker uses a name intending to refer to an individual and predicate something of it, successful reference will occur when there is an individual that enters into the historically correct explanation of who it is that the speaker intended to predicate something of. That individual will then be the referent and the statement made will be true or false depending upon whether it has the property designated by the predicate. [Donnellan, 1974, p.16]

Suppose that Smith says, "Spot is a cat". Which chain does her utterance of 'Spot' extend? According to HICHAT, as sketched by Donnellan, we must first ask for "the historically correct explanation of" what it is that Smith intends to predicate felinity of. So we start with the question, "What does Smith intend to predicate felinity of?" Suppose that Smith has heard 'Spot' uttered by Jones, believes that Jones's utterance refers to a particular entity, wants to predicate felinity of that entity, and therefore chooses to utter 'Spot is a cat'. Let us say that in this sense Smith's utterance of 'Spot' is parasitic on Jones's utterance of 'Spot'. We now have the beginning of "the historically correct explanation", that is, the latest link of the chain Smith's utterance

of 'Spot' extends according to HICHAT, and that link is Jones's utterance of 'Spot'. To proceed and determine the rest of the chain, we then ask the same question about Jones's utterance: "What did Jones intend to predicate something of?" Either this leads us to yet another prior utterance by someone else on which Jones's utterance is parasitic, or it does not. If it does, we continue in the same manner until an utterance is reached that is not parasitic on any prior utterance; such a non-parasitic utterance is the origin of the chain. If it does not, Jones's utterance is the origin of the chain.

Before proceeding further, I should mention more austere versions of HICHAT, viz., causal theories. According to causal theories, the chain Smith's utterance extends is determined in purely causal terms. Depending on the type of causation allowed, causal theories may be classified either as physicalist or non-physicalist. According to physicalist causal theories, Smith's utterance of 'Spot' is caused by a particular state of Smith's brain, which was caused by her prior brain states, some of which were caused by sound waves traveling from Jones's vocal cords to Smith's cochleae as Jones uttered 'Spot'. The vibration of Jones's vocal cords was in turn caused by a particular state of Jones's brain, which were caused by her prior brain states, and so on back to the origin of the chain. This stark picture presupposes, among other things, that Smith's utterance has either (i) a unique line of physicalistic causal

ancestry or (ii) a unique line of a certain restricted kind of physicalistic causal ancestry. But events like Smith's utterance do not have (i); each of them is a result of convergence of many lines of physicalistic causal ancestry. As for (ii), it is not at all clear how to specify the restricted kind in question so as to capture exactly the right physicalistic causal ancestry. Non-physicalist causal theories hardly fare better. Dropping the restriction to the physical widens the range of lines of causal ancestry, rather than narrowing it. It might be easier to specify an appropriate restricted kind of causal ancestry without the confinement to the physicalistic vocabulary, but the challenge still remains to use the purely causal vocabulary to capture exactly the right causal ancestry. The challenge is far from being met.

Returning to our mainline discussion, there are a number of known problems besetting this part of HICHAT. Let me mention just one, which I believe is serious. As a general theory of reference determination for proper names, HICHAT needs to be applicable to every non-vacuous utterance token of a proper name. But in many cases, the speaker utters a proper name without being in any psychological state that points in any specific direction for a chain. She may utter a word simply because she thinks it is the right word to utter for the entity she wants, without connecting, consciously or subconsciously, her own utterance to any particular

prior utterance by somebody else.<sup>5</sup>

This part of HICHAT is subject to another serious problem, which is less widely recognized and to which we shall now turn.

#### IV. Pragmatic Stability of Name Types

The problem concerns a certain kind of stability proper name types exhibit throughout chains of transmission. The stability is by no means universal but is an integral part of our linguistic practice as we know it. By 'name types', I mean combinatorial types, to be individuated in terms of their constituent letters. Name types are not individuated in terms of reference in any way. There are two distinct kinds of stability of proper name types exhibited in our linguistic practice, and only one of them threatens HICHAT. It is not difficult to mistake the benign kind of stability as threatening to HICHAT. In order to forestall such a mistake and isolate the troubling kind of stability clearly, let us discuss the benign kind of stability first.

Jones utters the sentence, 'Spot does not respond to verbal commands'. Smith hears Jones's utterance and as a result utters the sentence, 'Spot is a cat', fully intending her utterance token of 'Spot' to be coreferential with Jones's utterance token of 'Spot' she has just heard. Assume that Smith has no independent grips on the

referent of Jones's utterance token of `Spot'. That is, Smith does not perceive or remember perceiving anything she thinks is the referent of Jones's utterance token of `Spot'; nor does she have any non-trivial uniquely identifying concept or set of concepts she believes applicable to the referent of Jones's utterance token of `Spot'.<sup>6</sup> According to HICHAT, Smith's utterance token of `Spot' inherits the referent of Jones's utterance token of the same word. This is a typical case of reference transmission, or passing of reference from one link of a chain to the next.

Now consider the following atypical instance of reference transmission: Smith hears Jones's utterance of the sentence `Spot does not respond to verbal commands' just as before, and as a result, utters the sentence `Garf is a cat', clearly and distinctly intending her utterance token of `Garf' to be coreferential with Jones's utterance token of `Spot'. As before, Smith has no independent grips on the referent of Jones's utterance token of `Spot'. The correct explanation of what Smith intends to predicate felinity of in this atypical case points to Jones's utterance of `Spot' in exactly the same proprietary way HICHAT says the correct explanation of what Smith intends to predicate felinity of points to Jones's utterance of `Spot' in the above typical case. Smith hears an utterance token of `Spot' by Jones, believes it has a unique referent, wants to say of that referent that it is a cat, and therefore utters `Garf is a cat',

clearly and distinctly intending her utterance token of 'Garf' to be coreferential with Jones's utterance token of 'Spot'. Thus, if HICHAT says, as it does, that Smith's utterance token of 'Spot' in the typical case corefers with Jones's utterance token of 'Spot', it should also say that Smith's utterance token of 'Garf' in the atypical case corefers with Jones's utterance token of 'Spot' just as well. Nothing in the HICHAT picture of reference transmission makes the difference between the two cases semantically significant; in each case Smith's utterance token inherits the referent of Jones's utterance token equally well.

It is true that the word 'Spot' is not carried over from Jones to Smith in the atypical case. This might be said to make Smith's utterance token initiate a new chain of transmission rather than extending the pre-existing chain of which Jones's utterance is the latest link. All the same, Smith's utterance inherits the referent of Jones's utterance, if HICHAT is correct. If Smith does start a new chain, the newness does not consist in the newness of the referent but in the newness of the name type. The name is new only in the sense of sounding and being spelled differently from the name Jones uttered, not in the sense of having a different referent. The HICHAT chain of transmission should be understood as a chain of transmission of reference, not transmission of phonological or orthographical features. Remember that HICHAT is a theory of

reference.<sup>7</sup>

Smith's utterance of 'Spot' in the typical case is perfectly understandable, whereas Smith's utterance of 'Garf' in the atypical case is puzzling. We would say 'Spot' if we were in Smith's shoes, having heard Jones say 'Spot'. We would not shift to 'Garf' or any other name type in order to achieve coreference with Jones's 'Spot'. We almost always use, or at least try to use, the same name type. But why is this so? It cannot be a mere coincidence. There must be a justified basis for our practice of name type preservation. But according to HICHAT, the difference between 'Spot' and 'Garf' here is not semantically significant at all. This is where it is not difficult to think that there is a problem for HICHAT. To think so would be a mistake, as I indicated at the beginning of this section, but not for the reason which might easily come to mind.

It might be said that HICHAT is a semantic theory (more specifically a theory of reference) and not a pragmatic theory, or a theory about how we use our language. On the other hand, our practice of sticking to the same name type through a chain of transmission is a phenomenon belonging to pragmatics. Therefore, it might be said, the phenomenon is not for HICHAT to explain; it is to be explained by a properly pragmatic theory.

This would be a bad way to exonerate HICHAT from the putative explanatory inability. It is true that HICHAT is primarily a theory

of reference, whereas a satisfactory explanation of the phenomenon in question should come from a pragmatic theory. But this does not mean that the phenomenon is irrelevant to assessing HICHAT. Though primarily meant as a theory of reference, HICHAT also contains some pragmatic element. Indeed, it tells a story of reference determination in heavily pragmatic terms. The notion of a chain of transmission is the case in point. The chain is supposed to be determined by the correct overall historical explanation concerning the given utterance token, and the explanation is to be couched in largely pragmatic terms.<sup>8</sup> Also, even an entirely non-pragmatic theory of reference would be required to dovetail smoothly with a correct pragmatic explanation of the phenomenon; for after all, our usual purpose of using a proper name is to communicate reference, so considerations which motivate a particular use of a proper name should address, among other things, the way an utterance token of the name should refer to the desired entity. In this sense, a satisfactory theory of reference cannot be totally divorced from a satisfactory theory of pragmatics. A theory of reference which explicitly denies that the reference determining mechanism it defends is known by the speakers of the language in any sense is not a satisfactory theory of reference precisely because it is totally divorced from pragmatics.

Thus, HICHAT should be able to endorse a satisfactory pragmatic

explanation of the pragmatic constancy in question of name types, if it is a satisfactory theory of reference. Suppose that Smith talks to Brown after hearing Jones. Smith wants her utterance to be understood by Brown as accurately and smoothly as reasonably possible. Does this make it more appropriate for Smith to choose `Spot' over `Garf'? Apparently not according to HICHAT. Smith wants her utterance to be understood as being about a particular entity, which she believes to be the referent of Jones's utterance of `Spot' she has heard. So she wants to choose a word for that entity to help facilitate Brown's understanding. But if HICHAT is correct, there is no good reason why Smith should choose `Spot' rather than `Garf'. If HICHAT is correct, upon hearing Smith's utterance, Brown is entitled and expected to reason as follows: Smith's utterance token of the name inherits the referent from whatever utterance token constituting the preceding link in the chain of reference transmission and therefore refers to what that utterance token referred to. Brown's such reasoning should remain invariant whether Smith utters `Spot' or `Garf'. So, HICHAT appears to fail to produce a satisfactory basis for pragmatic constancy of name types.<sup>9</sup>

It is natural, and on the right track, to suggest that Smith's choice of `Spot' over `Garf' is justified by the pragmatic convention that one should use the same word to extend a chain of reference transmission as the word used in the preceding link in the chain.

But such a suggestion by itself is insufficient to save HICHAT; for it might be said that if HICHAT is correct, there is no good reason to prefer such a convention to the rival convention that one may use any word to extend a chain. What we need is a justification of the convention itself, given HICHAT. Some might suggest that if names shifted from link to link routinely, one would not know what name to use to extend a given chain. Under a convention of such shifty links, it might be said, Brown would not know what word to use to refer to the entity Smith was talking about. But this is not so. Brown would know exactly what to do; she would be free to use any name whatever to refer to the entity, so long as she utters it with an appropriate coreferential intention linking her utterance to Smith's utterance.

The correct justification of the convention of the pragmatic stability of name types under HICHAT is quite simple. The convention enables the speakers to track coreference more easily, for distinct coreferential utterance tokens will be marked by their type identity. So, two different name tokens of the same type are more likely to be coreferential under the convention than under the rival convention which allows haphazard shifting of name types. Of course, this is not to say that type identity guarantees coreferentiality. But it usually narrows down the set of putative coreferential tokens significantly. More complicated conventions which maintain a certain

regularity of the shift -- e.g., the convention which says that when reference is carried over from link L1 to a new link L2, the name token uttered at L2 should contain the same number of letters and each letter should be the alphabetical successor of the corresponding letter in the name token uttered at L1 -- would have the same kind of edge over the convention which allows haphazard shifting of name types but be clearly inferior to the simpler convention of type constancy in obvious important respects.

#### V. Referential Stability of Name Types

HICHAT can account for the pragmatic stability of name types in transmission. There is, however, another kind of stability of name types, toward which we are naturally inclined in our linguistic practice and which defies HICHAT. It is referential stability of name types, that is, stability of reference for tokens of the same name type.

Suppose that Jane is teaching Jack history of mathematics. Jane discusses a number of mathematicians by name, their biographies and major achievements. Among them are Gauss and Galois. Jack has never heard of Gauss or Galois, or any other mathematicians Jane mentions, before Jane's lecture. During the lecture, he mishears Jane's word 'Galois' in her utterance of the sentence 'Galois died

young' and thinks that she said 'Gauss' instead. He does not mishear any other utterance she makes. After the lecture, Jack has a conversation with another person, Jill. In the course of describing the content of Jane's lecture to Jill, Jack says, "Gauss died young", clearly and distinctly intending his utterance token of 'Gauss' to be coreferential with Jane's utterance token in question, which in fact was an utterance of 'Galois' in the sentence 'Galois died young' but which he thinks was an utterance of 'Gauss'. According to HICHAT, Jack's utterance of 'Gauss' refers to the referent of Jane's utterance of 'Galois', namely, Galois. So according to HICHAT, Jack says to Jill that Galois died young. But our natural intuition seems to say that he does not and that he instead says to Jill that Gauss died young.

There may be a sense in which Jack intends to say to Jill that Galois died young. But even so, intending to say something does not guarantee saying it. Jack generally uses 'Gauss' as he believes it is used standardly by historians of mathematics like Jane, and 'Gauss' refers to Gauss as it is used standardly by historians of mathematics like Jane. Unfortunately, Jack mishears Jane's word and as a result ends up saying something he does not intend (in some sense of 'intend') to say, namely, that Gauss died young. He utters the sentence 'Gauss died young', and that sentence means that Gauss died young, so he says that Gauss died young.

It is a mistake to say that in Jack's idiolect `Gauss' is a name of Galois, not Gauss. If Jane used `Gauss' for Galois and `Galois' for Gauss consistently throughout her lecture, or if Jane used the right names for the right people but Jack misheard them and switched `Gauss' and `Galois' consistently throughout her lecture, then it would be plausible to suggest that `Gauss' referred to Galois and `Galois' referred to Gauss in Jack's idiolect; for it would be plausible to suggest that Gauss was introduced to Jack under the name `Galois', and Galois under the name `Gauss'. But Jane in fact uses `Gauss' for Gauss and `Galois' for Galois consistently throughout her lecture and Jack in fact hears her correctly almost throughout her lecture, mishearing her word `Galois' only once. We could make Jane's lecture as extensive and elaborate as we like if necessary.<sup>10</sup>

Not only does HICHAT offer no explanation of the referential stability of name types as illustrated above but it insists on the wrong verdict on the proper reference of the uttered name. This is a serious problem for HICHAT, which remains to be addressed properly.

## VI. Original Reference

We now turn to the second component of HICHAT, viz., the original end of a chain. For a given chain of utterance tokens of a name, the origin of the chain is supposed to determine a particular entity,

which is to be the referent of any subsequent utterance token of the name in the chain. In what does such determination consist? The most natural answer to this crucial question is that the determination consists in reference; at the origin an utterance token of a name is produced and made to refer to a particular entity. The point of creating an origin is to effect such original reference. Any subsequent utterance token of the name connected to the origin through a chain will simply inherit that original referent. Natural as it may sound, this is an incorrect answer. To see why, let us look at standard ways of creating an origin:

(1) I hereby name this cat `Spot'.

(2) I hereby introduce the word `Spot' to be a proper name of this cat.

Pronouncements such as these are usually assumed to be endowed with the power to start a new chain for the name `Spot', if anything is. But neither (1) nor (2) contains an occurrence of the word `Spot' that is fit to stand in the reference relation to anything when produced as part of an utterance token of the sentence. In both sentences, the only occurrence of the word `Spot' is that of a word mentioned, not used. The word `Spot' occurs between quotation marks in (1) and (2), and that is a standard conventional signal of the

word's being mentioned rather than used. Of course, quotation marks are inessential; the fact that the word is mentioned rather than used may be made clear by any of a number of other means, e.g., italicization or bold-facing. Sometimes even in the absence of any explicit indicator of mentioning, the word may well be best understood as being mentioned rather than used: e.g.,

(3) I hereby name this cat Spot.

(4) I hereby introduce the word Spot to be a proper name of this cat.

The particular token occurrence of the word 'Spot' in a particular utterance token of any of (1) - (4) is mentioned, not used, hence not used to refer, hence not used to refer to the cat in question. Thus, standard pronouncements such as (1) - (4) are unfit to be employed to effect original reference.

To see even more clearly that it is not the business of introductory pronouncements in general to effect original reference, we only need to consider the following varieties of such a pronouncement:

(5) I hereby name this cat es-pee-oh-tee.

(6) I hereby introduce the word consisting of the nineteenth

letter of the English alphabet followed by the sixteenth letter of the English alphabet followed by the fifteenth letter of the English alphabet followed by the twentieth letter of the English alphabet to be a proper name of this cat.

In neither of these pronouncements does the word 'Spot' occur at all, used or mentioned. Instead, the word is uniquely specified by a complete specification of its constitution. (5) uses proper names of the constituent letters, while (6) uses definite descriptions denoting the constituent letters. Since the name in question does not occur in (5) or (6) at all, no particular utterance token of either pronouncement will contain a token occurrence of the name and therefore will not effect original reference.<sup>11</sup>

I am not denying the possibility of original reference. (1) - (6) are certainly not the only possible pronouncements by which we can introduce names. Consider:

(7) I hereby name this cat by saying the following: This cat is Spot.

(8) I hereby introduce a proper name of this cat as I say the following: This cat is Spot.

(7) and (8) differ from (1) - (6) by containing the word 'Spot' as being used, not mentioned, and therefore are fit to effect original reference. We might say that just as saying "I promise to pay you back" is sufficient for promising to pay back, saying (7) or (8) is sufficient for making one's utterance token of 'Spot' in it refer to the cat. At least, I am not objecting to such a possibility.

The first part of a pronouncement such as (7) and (8) in which a performative verb occurs explicitly, 'I hereby name ...' or 'I hereby introduce ...', might not even be necessary. Simply by saying, "This cat is Spot", with the right intention in the right setup, one might be said to be able to succeed in introducing 'Spot' as a name of the cat, where in doing so one would be making one's utterance token of 'Spot' refer to the cat.

In any case, using a name at least does not seem to be a hindrance to a successful name introduction. The fact remains, however, that since we can introduce a name without using the name and since, according to HICHAT, reference is a relation between a used token occurrence of a name and an entity, it is incorrect to say that, according to HICHAT, whenever a name is introduced, reference inevitably takes place. A satisfactory general theory of reference along the lines of HICHAT therefore needs to look for another relation between a name and an entity which holds in every possible instance of name introduction.

One interesting consequence of this is that a chain of transmission cannot in general be a chain of transmission of reference. Consider a very short chain consisting of two links, an initial name introduction and one subsequent use of the name. If the name introduction is performed without any utterance token of the name occurring, then no reference takes place. So, whatever is transmitted to the next link in the chain cannot be reference.

### VII. Original Naming

The determination of an entity at an origin does not in general consist in reference. In what does it consist then? The answer, someone might say, is already clearly suggested by all of the above examples of pronouncements of introduction, (1) - (8). It is naming. An origin introduces a word as a name of something, it might be said, and the entity of which the word in question has been introduced to be a name will be the referent of all subsequent utterance tokens of the name in the chain. This idea has considerable intuitive appeal; original naming and subsequent reference certainly appear to have to go together. However, the idea suffers from a fundamental problem, viz., the obscurity of the very notion of naming. What kind of relation is naming? It has to be a relation between an expression type and an entity. For if it were a relation between an expression

token and an entity, the objection against the idea of original reference discussed in the preceding section would apply just as well; some name-introducing utterances do not contain name tokens (as used). The naming relation, if legitimate and understood as a relation between an expression type and an entity, is obviously many-many; one expression type may name many entities and one entity may be named by many expression types. This makes several easy answers to the following question obviously wrong:

- (iii) What follows from the word type 'Spot' naming, or being a name of, the cat?

The following are samples of such obviously wrong answers:

- (a) Any sentence utterance token of the form 'Spot is F' is true if and only if the cat is F.
- (b) Any sentence utterance token that is true if and only if the cat is F contains the word 'Spot'.
- (c) Anyone who talks about the cat uses, or should use, the word 'Spot'.
- (d) Anyone who uses the word 'Spot' with a referential intention talks, or should be talking, about the cat.
- (e) Anyone who wants to be understood as talking about the cat

should use the word `Spot'.

(f) Anyone who wants to talk about the cat by name should use the word `Spot'.

(g) Anyone who fills out an official document about the cat should use the word `Spot'.

Indeed, nothing interesting seems to follow from the fact that someone has made `Spot' a name of the cat. I conclude, at least tentatively, that naming is an empty notion and that `Spot' being a name of the cat is an empty state of affairs.<sup>12</sup>

It will not do to suggest that what is named at a name introduction is what the introducer has in mind as the object of naming in the introduction, for it remains obscure what it is to have something in mind as the object of naming in one's current name introduction. The problem at hand is to spell out what it is to be the object of naming. The suggestion says that it is to be had in mind by the introducer as the object of naming. But what is it for the introducer to have an object in mind as the object of naming? We do not understand this notion, for it contains the notion of being the object of naming, which is precisely at issue to be clarified.

I can think of no other plausible explication of the notion of determination of an entity at an origin. Therefore, I conclude, at least tentatively, that the notion is either primitive or empty. But

it is unsatisfactory to say that it is primitive, for it is obviously a theoretical notion, conjured up as part of HICHAT, and as such requires at least as much explication as warranted by the theoretical weight the notion has to carry in HICHAT. Not even a partial explication seems forthcoming. It remains mysterious. I say it is mysterious because it is empty.

#### VIII. Reference as Assignment

We have identified two problems for HICHAT: the conflict with the referential stability of name types, and the obscurity of the notion of an original determination of an entity. I shall now make a proposal which is free from both problems. It is a simple theory, and if any theory deserves the label 'direct reference theory', it does. Kripke et al. have shown how wrong-headed it is to assimilate proper names to definite descriptions, and the troubles plaguing HICHAT indicate how wrong-headed it is to assimilate proper names to indexicals. The proposal I endorse does not assimilate proper names to definite descriptions or indexicals.

A unique denotation of a definite description is determined relative to a context of evaluation. The reference of an indexical is determined relative to a context of utterance. The reference of a proper name, in contrast, is not determined relative to a context of

evaluation or relative to a context of utterance. It is a mistake common to both descriptivism and HICHAT to assume that a context of either kind is sufficient to determine reference for names. It would also be a mistake to think that the two kinds of context put together would determine reference for names. Instead, the reference of a proper name is determined relative to something entirely different and independent, viz., an assignment. The notion of an assignment may be best understood with the help of the notion of a variable. Syntactically, a variable is a singular term, that is, it combines with a one-place predicate to form a sentence. Semantically, however, variables are unlike other singular terms. The reference of a variable is not determined relative to a context of evaluation or relative to a context of utterance. In fact, it is customary to avoid speaking of the reference of a variable altogether. This custom is apparent in the common practice of calling the result of combining a variable with a one-place predicate an 'open sentence'. Unlike a closed sentence, an open sentence does not express a complete thought, or a proposition, even relative to a context of utterance. An entity needs to be "plugged into" the position marked by the variable before a proposition is expressed. When a particular entity E is "plugged into" the position marked by 'x', an open sentence of the form 'x is F' expresses a particular proposition which is true if and only if E is F. Differently but equivalently

put, the proposition expressed by 'x is F' relative to a particular "plugging in" for 'x' is true if and only if the entity "plugged in" for 'x' has the property expressed by 'is F'. It is futile to object to this by objecting to the relativization of propositional expression. Propositional expression already needs relativization independently of open sentences. Indexicals call for relativization of propositional expression to contexts of utterance. Why should variables not call for further relativization?

The proposal I endorse says that sentences containing proper names should be treated just as open sentences. The sentence 'Spot is a cat' expresses a proposition only relative to an assignment; relative to an assignment of entity E to 'Spot', it expresses a proposition which is true if and only if E is a cat. Thus, we may say that reference for a proper name is the converse of assignment; 'Spot' refers to the cat if and only if the cat is assigned to 'Spot'. An assignment of an entity to a proper name is not mediated by anything, any more than an assignment of an entity to a free variable is.<sup>13</sup> In this sense, reference of a proper name is genuinely direct. The directness of reference of a proper name is an immediate consequence of the directness of assignment.<sup>14</sup>

## IX. Pragmatics of Assignment

Assignment is direct in the above sense and as a result semantically arbitrary. Anything whatever may be assigned to any token occurrence of any proper name without violating any semantic rule. There is absolutely no semantic constraint on assignment. However, there are a multitude of pragmatic constraints on assignment. Some assignments are pragmatically better than others. Again, variables help us understand the issue clearly. Consider the open sentence:

(9)  $x$  is an animal.

As far as semantics is concerned, there is no restriction on what entity to assign to ' $x$ '; an assignment of a deer would result in a true proposition but an assignment of a head of lettuce would result in a false proposition. Any entity is as good as any other for successful expression of a proposition. But suppose that we look at (9) as part of the longer sentence:

(10) For some  $x$ ,  $x$  is an animal.

Suppose further that (10) is meant to be a first-order logical regimentation of the sentence 'Something is an animal' as uttered by a particular speaker, call her Sue, on a particular occasion. For the purpose of delineating the truth condition for the proposition

expressed by Sue's utterance of (10) -- or its English original -- not every entity is as good as every other. Only those entities that are members of the range of the quantifier 'for some x' will do. Which entities are included in the range is a matter of pragmatics, decided by contextual factors surrounding Sue's utterance. Therefore, which entities' satisfaction or lack thereof counts is a matter of pragmatics. The proposition expressed by Sue's utterance of (10) is true if and only if the range of the quantifier determined by the context of Sue's utterance contains some entity that is an animal.

Sally says:

(11) Spot is cute.

Semantically, this sentence is on a par with the open sentence 'x is cute' occurring separately. Pragmatically, however, it is more like the open sentence occurring as part of a quantified sentence, say:

(12) For exactly one x, x is cute.

That is, when the sentence (11) is uttered in any standard way, the context of utterance usually determines a particular set of entities as the relevant domain of discourse. It is expected that any entity

assigned to 'Spot' with respect to the context be a member of that domain. At the same time, there is also an important difference between (11) and quantified sentences like (12). With respect to a particular context of utterance of (11), one particular entity in the contextually determined domain usually looms large in some conspicuous manner among all other members, prompting its assignment to 'Spot'. But for quantified sentences like (12), or more precisely, their English counterparts like 'Exactly one thing is cute', no one particular member of the contextually determined domain usually needs to loom larger than others, distinguishing itself as the prime candidate as the value of 'x'. The special entity in the domain for 'Spot' may be the entity the speaker has in mind in some special way at the time of her utterance of 'Spot', or the entity the person from whom the speaker inherited the name had in mind in some special way when uttering 'Spot', or the entity most members of the community have in mind in some special way when they utter 'Spot', or the entity most members of a certain particular subgroup (say, the "experts" in some specialized area) of the community have in mind in some special way when they utter 'Spot'. There are other possibilities.

Suppose that Sally is well acquainted with a particular cat and has that cat clearly and distinctly in mind when she utters 'Spot' as part of her sentence of (11). Moreover, the way in which she has the

cat in mind is such that she thinks of the cat, and of nothing else, as being cute, as she utters (11). Is it then not incorrect to assign anything other than the cat in question to `Spot' for the delineation of the truth condition for her utterance token of the sentence? I say that it is indeed incorrect not to assign the cat to `Spot' in such a situation, but the incorrectness is strictly pragmatic, not semantic. If asked, Sally would undoubtedly say, "My utterance token of `Spot is cute' expresses a proposition which is true if and only if the cat in question is cute". She would be perfectly justified in saying so. And it would be unreasonable to assign anything else to her utterance token of `Spot'. Yet at the same time, it is semantically permissible to assign something else to her utterance of the name. It is perfectly legitimate and strains nothing to say that relative to the assignment of the head of lettuce in my refrigerator, Sally's utterance token of (11) expresses a proposition which is true if and only if the head of lettuce in my refrigerator is cute. By this I do not mean that Sally's sentence would express a proposition which is true if and only if the lettuce is cute, if Sally's utterance token of `Spot' referred to the lettuce. To say so would imply that in fact Sally's utterance token of `Spot' absolutely does not refer to the lettuce. There is no fact of the matter about the reference of Sally's utterance token of `Spot' prior to a particular assignment of an entity to that token,

and any assignment is as semantically legitimate as any other.

When we readily agree that what Sally says is true if and only if the cat is cute, we are already assuming a particular assignment. Since we know who is making the utterance and how the cat figures in her mental life as she makes the utterance, it is quite natural for us to assume such an assignment. Natural and pragmatically justified as it may be, the assumption is not semantically sanctioned. To think otherwise is to make a mistake not unlike the mistake Keith Donnellan seems to have made when he apparently proposed to analyze the truth condition of (the proposition expressed by) a sentence of the form 'The F is G' as uttered with the definite description being used "referentially" in terms of what the speaker has in mind. When a party goer sees someone sipping a glass of clear liquid with an olive in it and says, "The martini drinker is happy", having the sipper in mind, Donnellan seems to suggest that the utterance token (expresses a proposition which) is true if and only if the sipper is happy. But such a suggestion confuses what the sentence says with what the speaker intends to say. The sipper gains no upper hand in this regard over other party goers by being had in mind by the speaker. The uttered sentence (expresses a proposition which) is true if and only if the martini drinker at the party is happy. If the sipper happens to be the martini drinker, then the uttered sentence (expresses a proposition which) is true if and only if the

sipper is happy, but this is so not because the sipper is had in mind by the speaker but because the sipper is the martini drinker, that is, he is the denotation of the uttered definite description.<sup>15</sup> Likewise, the fact that Sally has the cat in mind, in whatever special way, when uttering (11) carries no semantic weight. Unlike definite descriptions, proper names do not have reference-determining contents, so that there is no independent semantic mechanism which singles out a particular entity as the right object of assignment. But that is an expected difference between definite descriptions and proper names. Semantic irrelevance of what the speaker has in mind remains a common factor.

## X. Epilogue

The first defect of HICHAT was that it conflicts with the referential stability of name types. The proposal I am endorsing does not suffer from this defect. It explains the referential stability of name types in a simple straightforward way, exploiting the pragmatic stability of name types. In a linguistic community in which the convention underlying the pragmatic stability of name types generally prevails, another pragmatic convention tends to take hold, namely, the convention of interpreting tokens of the same name type uniformly. We live in such a community. So, whenever we encounter

utterance tokens of the same name type, ceteris paribus, we naturally tend to assign them the same entity. Especially, when a newly produced utterance token is unaccompanied by the speaker's intention to introduce a name anew, as it is the case with Jack's utterance of 'Gauss', we quite naturally tend to assign to the utterance the entity we routinely assign to other tokens of the same name type occurring in the same kind of discourse, e.g., mathematical discourse in Jack's case. Since reference is the converse of assignment, this explains why it is naturally intuitive to say that Jack's utterance token of 'Gauss' refers to Gauss.

The second defect of HICHAT was the obscurity of the notion of the determination of an entity at the origin of a chain of transmission. Since the proposal I endorse does not mention any such chain to explain reference, it is free from the defect. Nevertheless, one might wonder how it can make sense of the notion of an introduction of a name. On the proposal I endorse, to introduce a name N as a name of an entity E is to propose to assign E to tokens of N. It is of course not the same as proposing to assign E to all tokens of N, but only some of them in the future (or in some cases like (5) and (6), at present as well as in the future). Upon learning about such an introduction, one may or may not accept the proposal and participate in the practice of such an assignment. If one does, one will be using N as a name of E. The notion of naming

explicated in such terms is obviously unfit for the purpose of defending HICHAT.

HICHAT suffers from the same basic mistake descriptivism is guilty of. It may be called the Inherent Reference Fallacy. It is the fallacy of assuming that for any given utterance token of a proper name, if one determines all the factors pertaining to the production of that utterance token, e.g., all the usual contextual factors plus all facts about the surrounding linguistic contexts plus all facts about the psycho-socio-historical facts about the speaker and other people directly or indirectly involved in the production of the utterance, then one has determined the reference of that utterance token. The proposal I endorse rejects this assumption. Indeed, it rejects a stronger assumption, namely, that the total natural (including psycho-socio-historical) facts about the entire world surrounding a given utterance token of a proper name determines its reference. Reference does not come from the naturalistic facts of the world. It comes from an assignment. A person's choosing a particular assignment is something that occurs or fails to occur largely in the natural world, but not the assignment itself.

Finally, do I endorse a similar view for other linguistic expressions than proper names, say, predicates? Let us take the predicate 'is married' as an example. Consider the following proposal: the property expressed by a particular utterance token of

the predicate is not determined by the total natural facts about the world surrounding the utterance but by an assignment of a property to the utterance. Do I endorse such a proposal? It depends. In my view, there is one important difference between proper names and predicates like 'is married'. If proper names have meanings, they do not make a substantial contribution to the determination of the reference of utterance tokens. The contribution is only schematic. At best, the meaning of any proper name is the same as any other proper name and is something like the rule saying that the referent of any utterance token of a proper name is relative to an entity assignment and that the assigned entity is the referent relative to the assignment. In contrast, the meaning of the predicate 'is married' does make a substantial contribution to the determination of the property expressed by its utterance tokens. If a given utterance token of the predicate means what the predicate means in English, viz., is married, then the utterance token expresses the property of being married. If, on the other hand, it means, say, what 'is bald' means in English, then the utterance token expresses the property of being bald. So, the crucial question is: Do the total natural facts about the world surrounding a given utterance token of the predicate 'is married' determine the meaning of the utterance token? If the answer is "Yes", then predicates like 'is married' are not like proper names in that the Inherent Property-Expression Fallacy

(understood after the Inherent Reference Fallacy) is not a fallacy. On the other hand, if the answer is "No" and the Inherent Property-Expression Fallacy is indeed a fallacy, then predicates like 'is married' are similar to proper names in this regard. However, even then, there still remains an important difference, namely, that proper names are directly referential but predicates like 'is married' are not, for their property expression is mediated by something, viz., meanings.<sup>16</sup>

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#### NOTES

1. This is not a definition of reference. It would be circular as a definition since it involves the notion of referential opacity, which is parasitic on the notion of reference.
2. The choice between the two alternatives depends on one's view on how the reference of a demonstrative is determined.
3. Some adherents of HICHAT would probably not be happy with my use of the word 'meaning' in this connection, while others might not mind it. Some in the first group would identify the meaning of a proper name with its referent: e.g., [Salmon, 1986]. Such identification flies in the face of the notion of meaning according to which the meaning of a proper name determines reference in a way parallel to the way the meaning of an indexical determines reference. The meaning of an indexical, say, 'I', is certainly not identical with the speaker; for one thing, the speaker changes from one context of utterance to another but the meaning of 'I' does not. What Kaplan calls characters come closer to what I am calling meanings than what

he calls contents do; see [Kaplan, 1979, pp.401-412].

4. A mere difference in the chain itself does not mark one proper name type as distinguished from another, for one and the same proper name type may be uttered many times, leaving behind different chains.

5. Do not smuggle in a causal theory by saying that even in such a use of a name, there must be a unique causal chain which points in the direction of the referent. There is little reason to believe that there has to be such a chain in every possible case.

6. An example of a trivial such concept is "the referent of Jones's utterance token of 'Spot'".

7. A very similar point is made by Thomas McKay in [McKay, 1994, pp.293-302]. I came to know of McKay's article after completing the third full draft of this paper.

8. Purely physicalistic causal theories of reference would avoid the vocabulary of pragmatics altogether. But this counts for little, given a high degree of implausibility of purely physicalistic causal theories.

9. McKay offers an explanation, consonant with HICHAT, for the pragmatic stability of name types; see [McKay, 1994, p.296]. But his explanation in terms of Mentalese merely pushes the need for explanation one step back to the level of mental tokens (or labels

for "storage bins" in the mind). It leaves unexplained the pragmatic stability of name types between uttered tokens and labels for our "storage bins" in our minds, and also among such labels themselves.

10. This example might be somewhat reminiscent of Jay Rosenberg's 'Schlick'/'Neurath' example in [Rosenberg, 1993, pp.510-513].

However, there are important differences between the two. First, Rosenberg uses his example to make two points, viz., that the kind of coreferential intention HICHAT talks about is not necessary for preservation of reference in communicative transaction, and that it is also not sufficient. In contrast, I am only arguing against the sufficiency here. Second and more importantly, Rosenberg presupposes a substantial picture of reference determination in his arguments when he says, "... if Helmut just sticks to the substance of Heidi's narrative, it seems that he will automatically, so to speak, be referring to Moritz Schlick ... If he successfully reproduces the content of Heidi's narrative, Helmut runs no risk of inadvertently referring to someone other than the person to whom Heidi referred" [Rosenberg, 1993, pp.511-512, emphasis his]. It is clear from the surrounding text that Rosenberg believes a cluster-theory version of descriptivism; for instance, he says later about a somewhat modified 'Schlick'/'Neurath' example, "... what determines our intuitive verdicts regarding Helmut's references is ... what Helmut says ... about the persons he calls 'Schlick' and 'Neurath' -- i.e., the

descriptive statements containing the names 'Moritz Schlick' and 'Otto Neurath' which Helmut actually endorses" [Rosenberg, 1993, p.513, emphasis his]. I do not hold any version of descriptivism. I also disagree with his positive proposal about reference determination couched in terms of procedures in doxastic mechanics.

11. Nathan Salmon objects to the characterization of indexicals as expressions whose semantic values belong to utterance tokens rather than to utterance types in [Salmon, 1987, pp.81-83]. He says that semantic values of indexicals belong to indexical types relative to contexts of utterance, rather than to utterance tokens. His reason is the correct observation that utterance tokens underdetermine contexts of utterance, that is, one and the same utterance token could occur in different contexts of utterance. But it does not follow from this observation that the semantic values do not belong to utterance tokens. It only follows that if semantic values belong to utterance tokens, then they belong to utterance tokens relative to contexts. Salmon's correct observation strengthens the need for contextual relativization, but nothing more. In particular, it does not help establish the claim that reference takes place in the absence of an utterance token of a name.

12. J. L. Austin says, "The illocutionary act 'takes effect' in certain ways, as distinguished from producing consequences in the

sense of bringing about states of affairs in the `normal' way, i.e., changes in the natural course of events. Thus, `I name this ship the Queen Elizabeth' has the effect of naming or christening the ship; then certain subsequent acts such as referring to it as the Generalissimo Stalin will be out of order" [Austin, 1965, p.116]. It is unclear exactly what Austin means by `out of order', but there is certainly nothing semantically out of order in using `Generalissimo Stalin' to refer to the ship even after the christening. It is not even pragmatically out of order unless the christening event in question is taken as somehow carrying some unique pragmatic authority.

When I say that naming is empty, I do not mean to deny that there is a correct answer to such a question as "What is the name of the inventor of the bifocal lens?" The relation of naming that is appropriate to such a question is philosophically quite uninteresting. The name of a person in this sense of naming is something like the expression associated with the person by his/her legal guardian in a certain appropriate official manner (e.g., being entered in the box labeled `NAME' on the person's birth certificate).

13. I once proposed to assimilate proper names to bound variables in [Yagisawa, 1984, pp.195-208]. I no longer hold that view.

14. As far as I know, David Kaplan was the first to mention free

variables as a model of direct reference, in [Kaplan, 1989, pp.483-484]. Kaplan, however, says that demonstratives, e.g., 'dthat', are directly referential. I use the phrase 'directly referential' in such a way as to exclude demonstratives and indexicals from being directly referential. No singular term whose reference is determined relative to a context of utterance (or a context of evaluation, or any other possible yet undiscovered kind of context) is directly referential in my sense.

15. See [Donnellan, 1966, pp.647-658] and [Kripke, 1979, pp.6-27].

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