RUSSELL'S PROBLEM
AND INTENTIONAL IDENTITY*

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Reference failure, like identity, challenges reflection. Each phenomenon has figured in the foundations of one of the two classical semantical systems. The problem of explaining how identity statements can be informative is widely known as Frege's problem. The problem of representing non-referring singular terms in a theory of language and thought could well be called Russell's. Both problems have survived the solutions proposed by the men who lent them a name, and have assumed the status of fundamental philosophical issues.

They are, I think, characteristically twentieth-century issues. Their staying power stems not from their intrinsic interest: Apart from a theoretical context, they can seem to common sense to have pretty obvious answers. Rather, their endurance results from the continuing pressure they put on attempts to provide precise, systematic roles for certain ordinary notions in our theorizing about language. Frege's problem centers on the notions of meaning, information, and thought. Russell's concerns those of reference, object, and truth.

Russell saw the issues he raised as touching definite descriptions, quite apart from questions about names and indexicals. But for a variety of reasons, I find those issues less interesting insofar as they do not involve context-dependent reference failure. (I would propose to deal with them by the semantical strategy of [4].) So we shall concentrate on Russell's problem insofar as it concerns failures of reference in uses of demonstrative expressions and proper names. I shall argue that a refinement of the approach to the semantics and logical form of these expressions which I have proposed in earlier papers promises a reasonable solution to Russell's problem and some satellite difficulties concerning reference failure. I shall then carry the approach into the domain of Frege's problem—the domain of cognitive content. I shall argue that our approach permits an attractive resolution of some intractable difficulties about intentional identity.

I

On the face of it, the fact that indexical expressions and proper names may be used in a context and yet fail to refer is not particularly puzzling. A desert traveller hallucinating an oasis or a beautiful woman might use 'this' or 'she' in such a way as to render it natural to judge that these demonstratives lacked a referent in the context.[1] Cases of non-referring proper names abound. "Odysseus", "Pan", "Vulcan", "Ossian" are common examples. We seem perfectly accustomed to the

idea that the relevant singular expressions, as used in a context, do not refer to any individual—indeed to anything at all. Of course, 'Odysseus' and 'Pan' have a use within fiction. We want to say, somehow, that in the story, they refer to someone. I shall return to this matter. But understood in a context in which we are evaluating whether the story is true, we say that the names do not refer. If Odysseus did not really exist, we have sufficient ground for counting the story untrue.

Thus it would seem that any adequate theory of language would have to accommodate non-referring demonstratives and proper names. I think that this is indeed the case. But it is notable that the point was not conceded by Meinong, Russell, or (on his "official" view) Frege. Meinong postulated non-existent objects for the apparently non-referring expressions to refer to. A few theorists have found Meinong's ideas worth pursuing. But I shall not discuss them. My view, which appears to have been Russell's, is that quite apart from various more technical objections that might be raised, Meinong's approach is, to put it bluntly, silly. Frege's "official" view was avowedly artificial in its stipulation that otherwise non-referring singular terms were to refer to an arbitrarily chosen object.

Russell's theory of descriptions, of course, sought to show that there were no non-referring singular expressions by claiming that apparent cases of such expressions were not singular at all, but rather helped constitute complex descriptive phrases that made reference only to attributes. Genuinely singular expressions could not fail to refer; for their "meaning"—their sole semantical contribution to sentences in which they occurred—was their referent.

The over-arching unstated motive of Russell's approach was to produce a semantical theory purely in terms of reference, dispensing with Frege's notion of sense. Russell fashioned the theory partly to serve an outmoded and indefensible epistemic viewpoint. More specific motives were also at work. But all these issue from the conviction that the "meaning" or sole semantical contribution of a genuinely singular expression can only be its referent.[2] Given this conviction, there arises, first, the problem of how statements like "Ossian wrote poems that influenced the Romantics" can be meaningful and express "propositions". Russell took it as obvious that the statements (sentences as used in a context) were meaningful and expressed propositions, false ones. And he concluded that such expressions as "Ossian" were not genuinely singular.

A second motivating problem is a relative of the first. It concerns existential statements. If the only semantical role of genuinely singular expressions is to provide a referent, how can negative existentials involving singular expressions—"Ossian (tenselessly) does not exist'— be true? And if true, how can "Ossian does not exist" differ in meaning or cognitive value from "Pegasus does not exist"? Similarly, how can statements of the form 'N exists', where 'N' stands for any proper name be anything but trivially true?

A third motivation centers on the inference rules of standard quan-

tification theory. Assuming Universal Instantiation and that everything is self-identical ('(x) (x=x)'), we can derive that Ossian is identical with Ossian ('O=O'). But by Existential Generalization, we may conclude that Ossian exists ('(∃ y) (y=O)'). If we are not to allow our quantifiers to range over "non-entities", as did Meinong, we must either alter classical logic or deny that there are non-referring, genuinely singular terms. Russell took the latter course.

Each of the three problems with proper names can, with sufficient stage-setting, be extended to apply to most demonstratives. I have already mentioned such application of the first problem in the example of the desert traveller. I shall return to the second problem at the end of section II. I leave it to the reader to extend the third problem to demonstratives.

Although there are several difficulties with Russell's theory, two grounds for dissatisfaction can be mentioned briefly. In the first place, its claim that names and demonstrative (or indexical) expressions that may fail to refer are not genuinely singular terms is hardly made more plausible by the considerations just sketched. The intuitions about the grammar of our language are simple, straightforward, and coherent. Theory should accommodate them. (Cf. [18] and [2].)

Russell's theory not only runs against the grammatical grain; it faces enduring difficulties in providing appropriate attributes to be denoted by occurrences of names and indexicals (or demonstratives). The theory demands attributes that individuate (or purport to individuate) an object in a *context-independent manner* for each occasion in which a name or demonstrative is used. (Attributes are eternal, context-independent entities.) But there are numerous examples which indicate that a person need not be able to associate with uses of names or demonstratives attributes (context-free abstractions) which are sufficiently specific to individuate or even purport to individuate objects. (Cf. [7], [13], [21], [5], [19], [24].) The requirement that the person "be able to associate" the individuating attribute with the use of an expression is the requirement that the attribute play the role of characterizing the person's information, his cognitive state or perspective on the world. As Russell realized, meeting this requirement was crucial to being in a position to tackle Frege's problem.

There are neo-Russellian views, represented most prominently in Donnellan [13], [14], and Kripke [21] (Cf. also perhaps [19]), that reject Russell's attempt to parse indexicals and names into descriptive phrases. They are "Russellian" in treating these expressions as Russell treated "logically proper names"—as never making any other semantical contribution than that of importing a referent into the proposition expressed. Indeed, in this respect, these views are hyper-Russellian. Russell was driven by Frege's problem and by variants on his own to take at most three types of indexical ('I', 'now', and 'this' as applied to sense data) as "logically proper", as making no other semantical contribution than to refer to an individual. The neo-Russellians— impressed by difficulties Russell faces in parsing proper names and the

remaining indexicals into descriptions—treat all these expressions as logically proper. I have elsewhere criticized the reasons given for this treatment. I have also pointed out, as have many others, that these views have so far provided no resources for dealing with Frege's problem and its variants in a plausible manner. Several attempts have been made to bolster the view by distinguishing between "objects of thought" and how these "objects" are thought (or what state the thinker is in when he thinks them). Thus the referents of names or even predicates, are objects of belief. But different states of mind may correspond to the same object. (Cf. for example, [24].) Though misleadingly phrased, the distinction is harmless. But insofar as "how these objects are believed", or "states of the thinker", do not receive rigorous representation within a formal theory of language the distinction merely provides restatement of Frege's problem, not the resources to solve it. (Cf. note 3.)

Neo-Russellian approaches have not done well with Frege's problem. What is more ironic, they are in a weak position for coping with Russell's. As long as proper names and indexicals are treated as functioning only to import a referent into "the proposition expressed", the problems about reference failure that motivated Russell's own view will remain intractable. Reference is always from a perspective. A reasonable theory of reference, language, or thought cannot fail to treat perspective seriously. Of course, one might claim that names and indexicals which, on an occasion of use, do not *in fact* refer are not "really" names and indexicals. This move would make the grammatical category of an expression depend heavily on matters of empirical fact. Like Russell's own view, it runs against the grain of grammatical intuition and is far more *ad hoc*. Even if one confines Russell's reinterpretation strategy to apparently singular expressions which *in fact* fail to refer, the problems that led neo-Russellians to depart from Russell in the first place remain for the non-referring expressions. There is no reason, for example, to believe that a person always associates with each occurrence of a non-referring name or indexical expression an attribute that purports to pick out a unique individual in a context-free manner. Nor, I think, need there be a "non-descriptive" attribute (inexpressible in other terms) that the person has mastered and which purports by its very nature to pick out a unique object. This latter point brings us up against a group of neo-Fregean views.

Neo-Fregean views of names and indexicals drop the claim shared by Frege and Russell that ordinary indexicals and names commonly express contextually determined eternally individuating descriptions. These views follow Frege in postulating contextually expressed intensional or conceptual entities which eternally—by their nature—fix a referent. They simply deny that these entities must be descriptive (Cf. [26].)[4] This general viewpoint does not give a plausible account of the public language, of what competent language-users have mastered in common. For there is no hope of arguing that different language users who understand each other's uses of names and indexicals always master in common a set of concepts rich enough to be referent-

determining. But the view need not purport to offer an account of the language. It can focus on thought. What is publicly attributed does not exhaust the full cognitive content of a subject's mental states. Even so, the view does not seem plausible to me as an account of the cognitive state of individuals who use indexicals or names. For as I have noted above, it seems intuitively that the individual's conceptual resources are insufficient to fix by their *nature*, as opposed to their contextual relations, the referent of a name of indexical. Thoughts themselves seem sometimes to be irreducibly dependent on the context of the thinker's application of them for what objects they represent. This fact is incompatible with a Fregean conception of thought.

II

Russell was mistaken in holding that the sole semantical contribution of genuinely singular expressions is to import a referent into "the proposition expressed". Both Russell and Frege were mistaken in thinking that the contribution of ordinary names and demonstratives was to provide an abstract entity that individuated, or purported to individuate, an object in a context-independent manner. Our problem is to articulate what, beyond a referent, a semantical theory (or a general theory of language and thought) should recognize in accounting for the use of singular expressions like names and demonstratives.

First, we need to scrutinize Russell's rather wooden notion of "the proposition expressed". The form, the aims, and the boundaries of semantical theory are, of course, all matters of dispute. We cannot afford detail on these subjects here. But it is necessary to bring to mind the variety of roles that the notion of proposition has been asked to fill. Five roles stand out. Propositions have functioned as linguistic meanings, as what is said or communicated, as what is attributed in discourse about propositional attitudes, as what an individual "grasps" and "applies" in thought (or what information the individual has at his disposal and what he does with it in a context), and as the bearers of truth or falsity.[5]

Each of these notions is complex and intertwined with others. I shall be able to discuss them only schematically and selectively. In setting out an approach to Russell's problem, I shall not be using the term 'proposition'. Nor will I be leaning hard on any *general* ontological viewpoint about what entities are needed in fulfilling the various intuitive roles that "propositions" have been called upon to fill. I shall assume that sentence types as used in a context and what we attribute in discourse about propositional attitudes are among the bearers of truth. And I shall assume that part of what a semantical theory should do is to provide formal representations of sentences as used in a context. Deductive relationships are defined on these representations. More to the present point, the representations provide a framework by reference to which semantical accounts of sameness and difference of linguistic meaning, what is said, thought, and so forth, can be stated.

I now want to briefly characterize the account of context-dependent singular reference that I have proposed in previous work, refining it in order to deal with Russell's problem. The account begins with a representation, within a modified version of the predicate calculus, of sentences containing the relevant terms. Demonstrative pronouns are represented by terms which are analogous to free variables *both* in taking on unique assignments (referents) only in contexts of use, *and* in being instruments of pronomial cross-reference. Different demonstratives are represented by different, systematically marked terms (corresponding to differences among 'he', 'she', 'that', and so forth). Different *occurrences* of the same demonstrative may be represented by different terms (corresponding to different applications, perhaps to different referents). Proper names, in singular uses, are represented as terms containing a demonstrative governing a predicate analogous in form to 'that male'. The predicate 'is an Ossian' does not attribute an intrinsic property, but attributes what one learns, when one learns what it is to be one of the world's Ossians (roughly, what it is to have the name). 'Ossian wrote Ballade B' thus is paraphrased as 'that Ossian [as opposed to some other Ossian, perhaps someone's cat] wrote Ballade B'. I shall not outline my reasons for treating proper names in this way, since these are available elsewhere (Cf. [2].)

Semantical rules for demonstratives and names are context-sensitive. Apart from contexts of use—apart from an application of the demonstrative—a sentence like 'she is human' is true of some objects (the human females) and false of others. Similarly, apart from any contextual application of the name, 'Ossian is human' is true of some objects (the human Ossians) and false of others. If there is an application of the demonstrative occurring in "she is human" by a person at a time, and the application is to a unique female, the sentence is true (with respect to that person and time) if and only if the relevant female is human. If there is an application, by someone at some time, of the demonstrative occurring in the sentence, but the application is not to a unique female, then, in such a case, the indexical is semantically like any other non-denoting singular term; and the sentence 'she is female' is false in that context (i.e., with respect to that person and time).[6] Analogous rules apply to names.

In sum, the semantical rules provide for three sorts of cases. First, in situations where sentences containing demonstratives or names are not tied to an application of these contextual devices, the sentences are inert, not fully interpreted—analogous to open sentences in being true of some objects and false of others. Second, in situations where a person applies a demonstrative or name to an object, the demonstrative or name takes that object as semantical value, and the sentence is evaluated accordingly. Third, in situations where there is an application of a context-dependent term by a person, but the application is not to a unique object, the term is non-denoting—and the sentence is evaluated accordingly. Clearly, it is the third sort of case that bears most directly on our theme.

The notion of application that appears in these rules will be the key to our approach to Russell's problem. I shall be refining the notion throughout the rest of the paper. Some preliminary remarks, however, may be helpful.[7] I take the notion of *application* as a pragmatic primitive which is true of both linguistic and mental acts. Applications may be either occurrent acts or continuing dispositions to occurrent acts. Thus, as we use the term, there may be an application of a proper name by a person, even at times when he is not occurrently applying the name in language or thought—if the name is chained (for example, in memory) to occurrent applications. In order to apply an indexical, a person need not point, or engage in any overt demonstration. Any model that requires overt finger-waving or head-nodding will be too narrow to account for actual usage. Nor need the person attempt, or be able, to uniquely describe or otherwise uniquely conceptualize an object in a context-independent way. There may be heavy reliance on historical or perceptual circumstance, on other agents, on etiological chains, and so forth. Explicating these sorts of contextual reliances is a part of sharpening the definitionally primitive notion of application. I shall discuss these matters further in the next section. Finally, it should be noted that there may be an application without its being *to* any object. One may even intentionally apply a name or indexical device, knowing full well that the application is not to any object. Again, I shall elaborate on such situations at the end of this section.

How are we to confront Russell's motivating problems? Let us take the first. Russell was right in thinking a statement of "Ossian wrote poetry that influenced the Romantics" was meaningful and not true. He was wrong in assuming that if "Ossian" is genuinely singular, its only semantical contribution would be a referent. We represent the name, as it occurs in the sentence used in a context, as involving the predicative element mentioned earlier. The predicate is governed by an implicit demonstrative, earmarked to identify the application of the name in the context. These features are independent of any referent. Although the name is applied, it is not applied to anything, and thus, by our rules, has no referent or assignment in the context.

We now turn to the five roles of "the proposition expressed." The linguistic meaning of the name is common to all its applications, independent of any particular occurrence. The linguistic meaning is that of the term "that Ossian". The predicate's meaning was explicated above, and the meaning of the demonstrative is, I think, reasonably well conveyed by the semantical rules just stated. The precise means of specifying linguistic meaning depends on the form of one's semantical theory. But Russell's problem seems to present no special difficulties for a theory of linguistic meaning unless one claims that the linguistic meaning of a name or indexical is nothing other than its referent.

I shall not try to deal with special issues associated with "What is said or communicated". Instead, I shall discuss this notion together with that of propositional attitude contents.

In attributing propositional attitudes with a clause involving a non-

denoting context-dependent name in oblique position, we mark the subject's *application* of (his "act" of applying) the name (or name cognate). This application is part of what we attribute when we attribute an attitude content. The application and the predicative element in the name are semantically relevant features in addition to any referent it might have.[8]

In attributions of statements and propositional attitudes, applications are marked—or if you like, individuated—according to pragmatic considerations. A semantical theory should mark applications associated with the name 'Ossian' in such a way as to fit "pretheoretical" intuitions. Thus for most purposes, in marking the application of the name we should abstract from numerically different application occurrences by different people, as long as these occurrences are relevant to the eighteenth-century literary fraud. All such occurrences of the demonstrative 'that' which accompany the name are given the same subscript. All may be treated as involving the "same application". Better, all are bound together by a *quasi-anaphoric chain*. (This notion will be the subject of Section III).

Our account is in accord with the intuition that different people "say the same thing" or "think the same thing", when they say or think that Ossian wrote poetry that influenced the Romantics, *even though they may share few identifying attributes, and even though the name has no referent*. In subsequent sections I shall articulate more wherein this "sameness" consists.

For some purposes, however, we want to mark applications more finely. Thus imagine someone taken in by the literary fraud. Imagine he hears of an Ossian that writes ballads and an Ossian that plays the harp, and he comes to utilize the name in an attempt to designate different people. Then he comes to believe with some surprise that the one Ossian is the other. Clearly he does not come to believe that something is self-identical. Yet he may not treat the occurrences of the name as abbreviating any definite descriptions: he may regard any of the definite descriptions he associates with the name as being defeasible. The differences in associated descriptions are associated with different applications of the name, which are for him not chained together until *after* he comes to believe the identity. In attributions of belief involving the name which describe his new belief, the different chains of application should be marked differently. In a complete theory this sort of purpose should probably be marked by a parameter separate from that which marks sameness or difference in referential purport.

Here we have a partial answer to Frege's problem mixed with Russell's. The new identity belief, on one hand, and the prior beliefs in the self-identity of "each Ossian", on the other, have different cognitive values for the individual. Yet the occurrences of the name in clauses attributing the respective attitudes do not differ in reference, or even in linguistic meaning. (Cf. [5], p. 355.) The attribution, however, does not indicate any particular notions that the individual associates with different applications (or different application chains) of the name. So a semantical theory of what is attributed in discourse about the individual's propositional attitudes should do no more than mark the different application chains, one chain associated with notions like an Ossian that wrote ballades and one associated with notions like an Ossian that played the harp. The different application chains may be represented by differently subscripted terms that represent the demonstrative that governs the proper name. Thus, propositional-attitude contents are finer-grained than linguistic meaning, but coarser-grained than the information value that an individual associates with the name. Frege's problem, and Russell's as they affect attributions of propositional attitudes, are met by appealing to differences in quasi-anaphoric chains of application in the cognitive life of the individual.

What we have said about Russell's first puzzle as regards the linguistic meaning and attribution value of names carries over to demonstratives in a fairly straightforward way. There are special subtleties involving what Castañeda calls quasi-indicators [7]. But these can be handled within the general framework. (For an indication as to how, Cf. [5], p. 363 [1].) I shall not consume space by drawing the parallels and differences between names and indexicals.

Now to the fourth function of "propositions". Obviously, what is attributed with names or indexicals in discourse about propositional attitudes does not in general purport to capture all the information that the individual associates with the name or indexical. A chain of applications is held together partly by notions backing or guiding the applications. In fact, *no application of a demonstrative is pure*—unaccompanied by background information, unguided by background notions. I think this axiom applies, with peripheral exceptions, to applications of proper names. As Russell's problem shows, the background information need not be true of any relevant object. Nor need it be taken by the individual to individuate an object apart from its contextual application. The information may be too incomplete to purport to pick out something in a context-free way. Thus context-dependent applications and application chains remain an ineliminable part of an individual's actual thinking. But without some background notions, applications are blind—not applications at all.[9]

What an individual "grasps" that goes beyond what is attributed in a particular attribution can in general be attributed via further attributions. Thus the gap between indexical attributions and an individual's actual thoughts results from practical considerations: the need for brevity, the contextual unimportance of the unattributed notions, the fact that we may not know what the unattributed notions are. In my view, the gap is in no sense the result of any inaccessibility of a person's thoughts. But I shall not take the space to argue this here.

What is said, what thoughts are attributed, and what information is harbored by an individual, can all be taken to be the bearers of truth and falsity (the last function of propositions). In all these cases, our semantic rules sketched above (Cf. appendix) indicate how truth or falsity is assigned where there is an application but no application to an object. Although the rules are defined on sentences, they apply *mutatis mutandis* to attitude contents. Our view does not allow truth-value

gaps in cases of nondenoting demonstratives or proper names. But its basic ideas could easily be accommodated by a semantical theory that did so.

I have now sketched our approach to Russell's first motivating problem, distinguishing, at least roughly, among five functions traditional "propositions" have been asked to fill. I have relied on the notion of an application chain, which remains to be explicated (section III). But before turning to that task, I want to say something about Russell's other two motivating problems.

The third problem—the one concerning universal instantiation and existential generalization—deserves but a word. It is a formal problem to be met formally. Relatively simple restrictions on these rules of inference consistent with Russell's intuitions about truth-value have been provided within free logic (Cf. [4] and appendix). Instantiations to or generalizations from terms whose application is not to a unique object are not logically valid. Similar restrictions apply to context-free, nondenoting singular terms.

What of the problem concerning negative existentials? Again, we reject Russell's assumption that the only semantical contribution of genuinely singular expressions is to provide a referent. Singular occurrences of names are represented by a predicate governed by a demonstrative. The linguistic meaning of the sentence is unproblematic. Linguistic uses or propositional-attitude attributions of names are represented in such a way as to mark an application of the name (or name's demonstrative) in a context. "Ossian does not exist", as used in some appropriate context, has the form "$-(\exists y)\ (y=[t_3]Ossian(t_3))$" where the brackets mark the scope of the demonstrative, and the subscript marks a particular application or application chain. The quantifier, in effect, maps that application of the predicative element "is an Ossian" onto truth (or a truth) if the application is to a particular Ossian; otherwise, onto falsehood. Statements or attributions of the same form, but involving different names or different application chains, have different representations and cognitive values. But the semantical principles are the same.

Substantially similar points apply to existentials containing simple demonstratives. In the midst of an hallucination, but desperately maintaining a sense of reality, Ivan Karamazov says, 'You do not exist'. He is clearly not applying the demonstrative to the visual impression, whose existence he would not question. His application of the demonstrative need not be *to* anything at all. That is what makes his statement true. Nor need he have a context-free means of backing the application: the hallucination may be dim, and Ivan may be too distraught or unclear about time and place to accept a context-free characterization that captures what it is whose existence he is denying. Again, the quantifier maps the application or application chain onto truth if and only if the application is to some object.

Since the primary use of demonstrative pronouns is to pick out an object, negative existential sentences involving simple demonstrative pronouns (such as "that does not exist") seem incomplete. They seem more so than such sentences containing proper names because the latter at least provide a predicative element whose application is being said to be unsatisfied. With simple demonstrative pronouns, only the application is explicit.

Part of the feeling of incompleteness or strangeness is to be explained by recalling the dictum that no application of a demonstrative is pure. In many cases of negative existentials involving simple demonstrative pronouns (e.g., "that"), the demonstrative is being applied anaphorically, referring back to an earlier use of language containing fuller characterizations. Even in those cases where there is no antecedent in the discourse (and so, the demonstrative is not strictly anaphoric), the application will necessarily be backed in thought by further notions.

There is another sense in which applications of indexicals in negative existentials have a backing. This sense provides further explanation of the intuitive incompleteness of negative existentials containing simple demonstratives. Applications normally supplement characterizations (or notions) with a contextually relevant object. Metaphorically, they reach out into the world to grasp something. Reaching does not imply grasping. But in the case of negative existentials, there is not even an intent to grasp. In what sense then can one be reaching? The reaching may occur against the background of a suppressed or imagined inclination to grasp. A child, or the child in one, may have some inclination to believe in a spectre. To defeat the inclination, one reaches out and grasps—knowing that there is nothing to grasp. The purpose of such reaching is to show by imitation that there is nothing to be grasped. Applications in negative existentials are like that. The idea is relevant to applications both of simple demonstratives and of more complex expressions governed by demonstratives. All such applications in negative existentials presuppose some actual or potential, explicit or implicit, inclination to pick out an object. They constitute an attempt to demonstrate by imitation that such an inclination will be frustrated.

The theory of indexicals and proper names that I have proposed is neither Russellian nor Fregean. Unlike Russell's, it does not parse ordinary proper names and indexicals as complex descriptive phrases; nor does it postulate non-perspectival "logically proper names"— expressions whose only semantical contribution is to import a referent into a proposition. Proper names and indexicals are genuinely singular terms. All reference is perspectival, mediated by cognitive factors. *There is no such thing as "direct reference" in the strict sense.* Unlike Frege's theory, ours does not hold that indexical expressions contextually ever express the sense of other expressions. Nor does it require that the referents of such expressions are fixed by the *nature* of their senses, by the nature of thought components their user associates with them in the context. The referents of such expressions are fixed *contextually*—not purely by the *kind* of concepts or percepts the user

has in the context (or by the kind of mental state he is in), but at least partly by non-conceptual, contextual relations he (or his concepts and percepts) bears to individuals in the world.

The notion of application fills a slot in our discourse about propositional attitudes that Kant filled with his notion of intuition (Cf. [6], pp. 430ff.), and Russell filled with the notion of direct acquaintance with individuals (Cf. [5], section II). The proper function of these notions is to capture the particularistic, context-dependent element in cognition that is necessary for the learning of language and concepts and for their use in empirical observations (Cf. [5], section II). In order for a person's relatively stable, context-free means of speaking or thinking to have a use (i.e., to *be* means of speaking or thinking), he must be able to relate some such means to entities in particular contexts. Any attempt to articulate salient features of cognitive function or activity must make reference to particularistic, context-dependent application.

Kant and Russell recognized this. But in attempting to explicate this function, they made the mistake of postulating independent, special means of representation that were pure, immediate, unsullied by conceptual understanding. In doing this, they regressively paid homage to the empiricist notion that there was a sort of non-propositional cognition that was simply *given* independently of the intellect and of theoretical activity. This postulation was unfortunate not only in its suggestions of non-propositional, foundational cognition, but also in its tendency to raise infertile questions about what sort of *representation* could be nonconceptual, absolutely particular to the context. Even Kant's insistence that intuitions in humans never came unconceptualized (a subtlety Russell cannot claim) failed to deflect such questions. In fact, such insistence has fed the doubt that intuitions could be a separate kind of representation at all.

The mistake was in accounting for the context-bound element in cognition in terms of a *sort* of representation. Any representation must be governed by rules or norms: We should be able to consider whether it does or does not apply to different entities (either relative to different contexts or independently of context). In being so governed, representations are, to some extent, independent of any particular context. Thus Russell and Kant's counting the purely contextual element in cognition a *representation* was a marriage of incommensurables. (I suspect some of the same incongruity in the notion of "demonstrative property", [8], p. 320 ff.)

Our view sees the context-bound feature of language use and thinking not in terms of special sorts of representations, but in terms of acts of application—application of representations (linguistic constants or "concepts"). So questions about peculiar sorts of representations, or ways of knowing, do not arise. On the other hand, although applications are occasioned, often, by external promptings—causal chains— they are not eliminable in favor of them. For applications, unlike the promptings, are individuated with an eye toward accounting for the individual's cognitive life over time. What counts as the same applica-

tion depends on the individual's memory and his own sense of whether he has switched referents or not. Applications are also bound up in an interpersonal network. The individuation of an application may depend on the representations and applications of others. To this social phenomenon we now turn.

III

In the last section, we relied on the notion of an application chain in representing the use of language, the attribution of statements and propositional attitudes, and the thoughts or information people actually harbor. In this section we say more about that notion.

Traditionally, indexical reference has been categorized as either deictic (not explicitly mediated by an antecedent in the surrounding discourse) or anaphoric (thus mediated). In using these terms, we shall cling to this discourse-relative, but avowedly linguistic criterion. Our discussion, in the previous section, of the "backing" in thought for simple indexicals, and our treatment, in the present section, of "quasi-anaphoric" application chains will suggest that in a broader setting the traditional distinction is a blur.

In recent years, the large role of anaphora in the use of natural language has become increasingly apparent. The practice of fixing the referent of an expression by relying on the use of other expressions occurs both explicitly and implicitly. It may transpire within a sentence, across a discourse, interpersonally, and even inter-linguistically. Chains of anaphoric cross reference are begun in a variety of ways. A chain may begin with an ostension and continue with occurrences of pronouns, proper names or indexically-infected definite descriptions. A chain may begin with a use of a proper name, or with a definite description, complete or incomplete. Chains may begin with a quantifier followed by pronouns it binds. Anaphoric chains may begin with a quantifier backed by a *de re* belief. The *de re* belief may fix the referent of subsequent pronouns, incomplete definite descriptions, and so forth; and the quantifier need not bind these subsequent referential devices, even though grammatically it serves as their antecedent. This is a case I want to concentrate on. Consider: "A man set out to establish the connection between the CIA, the Mafia, and the Cuban refugees. After a week in Miami, he noticed he was being followed. The man . . ." Here the referent of 'he' and "The man" is fixed by the *de re* belief implicated in the context by the speaker's use of the quantifier 'A man'.[10] The speaker purports to be *en rapport* with—or to have some indexical means of identifying—the relevant man. (He may, of course, by relying on yet other people for such identification. I ignore this complication.) But the original singular means by which the relevant man is identified is presupposed rather than explicit in the discourse.

The independence of this sort of case from ordinary cases of bound variables is suggested by the fact that the pronouns intuitively have a reference more contextually specific than the quantifier explicitly

yields. 'He' is tied to the indexical, *de re* application is implicated by the speaker. This independence from bound variable paradigms is also suggested by cases of disagreement in a continuing dialogue: 'No, he wasn't interested in the CIA or Mafia, but in the KBG; and he went not to Miami, but to Fort Lauderdale . . . '. (See [15].) Here it is difficult to see how the disagreement can be properly represented if the occurrences of 'he' are taken to be bound by the initial quantifier. The referent of the occurrences of 'he' is a specific person that both speakers purport to be able to identify. These occurrences form an anaphoric chain initiated, in the discourse, by the quantifier. But they are not bound by the quantifier. Their referent is fixed by the *de re* belief implicated by the quantifier. Formally, we represent these pronouns as indentically indexed terms so as to insure co-reference and to mark a single application chain. For it is one of the assumptions of the discussants that they are discussing the same object. They tie their applications of the indexical 'he' to one another's uses.

Now this kind of anaphora can occur even if the first speaker fails to secure a referent for the discourse. The initial speaker may fail in his attempt to indexically or descriptively refer. He may hold an indexically infected belief without its succeeding in being a belief *of* anything. He may be lying or pretending, or just in error. Anaphoric chains may nevertheless lead from the initial speaker's usage. This is what happened in the uses of 'Ossian', 'Vulcan' and 'Pan'. It happens in cases of mass hysteria or hallucination. Imagine all the people who have linked their pronouns or demonstrative-governed descriptions to Ezekiel's descriptions of wheels he saw. 'Ezekial saw the wheels', we say.

I recall an incident with a four-year-old in which I suddenly cupped my hands and said, 'Now I've caught it'. She looked puzzled. Then I opened my hands quickly, shouting, 'It's gotten away and gone under the sofa!' Catching on, she proceeded to look under the sofa, and then said, 'I wonder where it is'. Then: "It's probably gone into the dining room'. The game continued with numerous variants in which the phantom was said to be squashed, reconstituted, thrown, lost, found, and so forth. We never tried to say what it was, though it tended to take on character as the game proceeded. The application chain survived the lack of referent, and could have continued over years if we had been sufficiently obsessed.

The fact that we were playing a game does not seem to matter to the main point of the example. The linguistic links between our uses could have occurred equally well if we had both mistakenly believed that there was really something I initially referred to. What was needed was a context and a set of intentions and beliefs about one another that bound our uses together. In a two-person game like ours, the context depends merely on our intention to link our indexical uses. But the game could have broadened to include more participants. Not all these participants need have been aware of one another.

A community of players could have developed, all playing the same sort of game. If some members were not aware of some other members, the question would arise why one should assume that all the links in indexical usage close on the original application (*sans* referent)—the act on the first occasion on which the game was played. That is, why should we not construe subsequent occasions on which the game is played as initiating new anaphoric application chains with no reference back to the original? I think that so far there is no reason why we should not construe the situation in this way. It seems a relatively arbitrary matter whether or not to link subsequent uses to the original one—unless more conditions are built into the case. To be sure, all subsequent occasions on which the game is played may be causally linked (inspired) by our original game. But it may not occur to subsequent players to ask themselves whether the illusive "object" of their games is supposed to be the same as that which the original players introduced. What would push us toward counting subsequent applications as being chained to previous applications would be something in the intentions of the players, or in the mythology that grew up around the game, that made it important to the players themselves that their applications be linked. For example, if a proper name were introduced, or if some standard story about the object and its history got built into the game, then there would be reason to link the uses of the indexical expressions.

Under these circumstances, disagreements about the object might grow up among the participants, disagreements subordinated to a general allegiance to the basic mythology of the game. Means of resolving the disagreements might be devised and built into the game. Or the disagreement might be good-humoredly tolerated in the interests of not threatening general cooperation.

The game is, of course, a metaphor for a wider range of phenomena, including cases where the participants believe (even reasonably) that their applications are applications to an object. It suggests, I think, the main sorts of factors that link applications together in the absence of a referent: causal (or inspirational) intertraceability of application occurrences, together with assumptions or intentions that make the linking of applications important to the participants—even where they are unable to trace many of the links.

The applicability of the notion of *pronomial* or *anaphoric* cross references grades off in multi-participant cases. When different speakers have no awareness of each others' application occurrences, it does not seem important to insist that their applications are pronomially related in a narrow grammatical sense. Such insistence might be thought to raise the question of which one of the prior applications is the antecedent. And there need not always be a good answer to this question. What is important to interpreting such cases is less how the links trace back to an original application than that all the links be linked. Such cases may be called "quasi-anaphoric". On our formal model, the requirement that all the links be linked is met by providing the various occurrences of demonstrative terms with the same subscript.

To say that non-referring referential devices should be linked under

certain conditions is not to say that there is a general algorithm for deciding when to do so. It seems clearly appropriate to link applications of 'that demon' within a community obssessed with the belief that a single demon is the source of all life's ills. Similarly, despite discrepancies among descriptions, there is little question that apart from special reportorial purposes, all uses of 'Santa Claus' by American children (black, white, or brown) should be linked. When one is dealing with significantly different traditions with a common origin, the matter becomes more open to decision. Most Santa-Claus-like traditions (Nicolo, Pere Noel, Father Christmas, and so on) assume that there is one such figure who serves the world over. Where this assumption is pragmatically important, linkage is appropriate, granted a common origin. Where the different features of the various traditions figure importantly in the reporter's purposes, or obstinately in the subjects' disputes, the links may be avoided. If subjects from different traditions are communicating successfully and assume that they are talking of the same figure—tolerantly discounting differences in their traditions about him or her—then cross-reference may be seen as occurring. If they assume they are talking of different figures, or if differences in doctrine make communication difficult, then the links are more likely to be seen as interrupted. The reporter's own purposes may also play a role. An anthropologist may emphasize continuities between different traditions. The king's chronicler or shaman would stress discontinuities. Many cases are vague or indeterminate, subject not only to custom but also to discretion.

There is an obvious analogy between cases where aggregate assumptions and intentions of different people suggest that their applications are linked, and a single person's linked applications of context-dependent expressions. Further, the preceding remarks about language use carry over directly to thought. I conjecture that the most general principles modeling memory in the individual and memory in the race are the same.

IV

The notion of quasi-anaphoric application chains is, I think, the key to understanding the problem of "intentional identity". Geach presented the following interesting sentence:

(1) Hob thinks a witch has blighted Bob's mare, and Nob wonders whether she (the same witch) killed Cob's sow.[11]

I think Geach correct in holding that none of the following, as they are commonly interpreted, need be accurate paraphrases of (1):

(2) As regards some witch, Hob thinks she has blighted Bob's mare, and Nob wonders whether she killed Cob's sow.

(3) As regards somebody, Hob thinks that she is a witch and has blighted Bob's mare, and Nob wonders whether she killed Cob's sow.

(4) Hob thinks a witch has blighted Bob's mare and Nob wonders whether the witch who blighted Bob's mare killed Cob's sow.

(5) Hob thinks the (one and only) witch that is F has blighted Bob's mare, and Nob wonders whether the witch that is F killed Cob's sow.

I take it that there is a reading of (1) that none of these sentences (as they are most immediately, naturally, and commonly interpreted) captures.

(2) may be given a special interpretation that *is* almost adequate, which I shall discuss later. But as literally interpreted, it is inadequate because it commits the reporter to the existence of witches, whereas (1) does not. (3) will not do because it, unlike (1), implies that Hob and Nob have some particular (actual) person or object whom they believe to be a witch. (4) is not appropriate, since unlike (1), it implies that Nob has heard of Bob's mare and its troubles. A similar point applies to

(6) Hob thinks a witch has blighted Bob's mare, and Nob wonders whether the witch Hob thinks blighted Bob's mare killed Cob's sow.

(5) falls short for more complex reasons. It is neither necessary nor sufficient for (1), under the intended reading. In the first place, Hob and Nob may not attempt to describe the relevant witch with a definite description governed by the uniqueness operator ('the one and only') rather than by an indexical. All their definite descriptions may be incomplete and indexical-governed. Or they may have a proper name for the witch, but lack a backing of complete definite descriptions.[12] On these grounds, it appears that (1) could be true in situations where (5) is false. Suppose now that Hob believes that the ugliest witch who ever lived blighted Bob's mare, and Nob wonders whether the ugliest witch who ever lived killed Cob's sow. But assume that the definite description 'the ugliest witch who ever lived' is a relatively unimportant description for each worthy. Each has a large set of definite descriptions which he attempts to apply to the witch he suspects. Suppose that the sets barely overlap, and that the name Hob uses in attempting to refer to the witch that blighted Bob's mare is etymologically unrelated to the name Nob uses in attempting to refer to the witch that blighted Cob's sow. Suppose that Hob and Nob live in different communities which have no special ties, and suppose that the respective communities have no common tradition in their stories about witches. Then (5) would be true and (1) false.

The foregoing arguments assume that 'F' in (5) is to be interpreted existentially—"for some F". If it is interpreted as universally—or as ranging over all the descriptive concepts Hob and Nob associate with the witch—I think that (5) could still be true without (1) being true, if their description sets were sufficiently impoverished and their acquisitions of their beliefs sufficiently unrelated. Moreover, on such an interpretation, it is evident that (1) could be true without (5)'s being true. (Cf. note 12)

Our discussion of quasi-anaphoric cross-reference in the absence of a referent provides a framework for understanding (1). Let us set out some demands on the relevant interpretation of (1). First, the occurrence of 'she' seems to require that Hob think that one witch blighted Bob's mare. I take this to be intuitively obvious.

Second, the occurrence of 'she' attributes an anaphoric or quasi-anaphoric application to Nob. The application may be bound by Hob's quantifier or definite description, or it may be associated with 'she' acting as a pronoun of laziness to some expression in the preceding clause. These cases are illustrated by (4) and (6), which are sufficient, though not necessary for the truth of (1). But if Nob's application is anaphoric in any of these ways, Nob must know about the blighting of Bob's mare or about Hob's belief. On the other hand, Nob's application could be quasi-anaphorically linked to the singular term which our first requirement allows us to ascribe to Hob ('The witch that blighted Bob's mare'). In such case, Nob might know nothing of Hob's situation.[13]

Third, if Hob's singular usage is seen as tied, anaphorically or quasi-anaphorically, to some further singular usage, we may read (1) as (2), where the initial quantifier is regarded as embedded in an implicit intentional context: "According to the community's hysterical beliefs, there is a witch wreaking havoc, and as regards that witch, Hob thinks she has blighted, . . . and Nob thinks she has killed . . .". Thus the quantifier in (1) may or may not be seen as having *wider* scope than 'Hob thinks'. But it cannot be read as having widest scope, since in (1) it does not commit the reporter to witches. All the principles governing this "wider" scope reading are present in the "narrower" scope reading. So I shall not treat it separately.

Nob's application, attributed by the occurrence of 'she' in (1) , is anaphorically or quasi-anaphorically linked to the singular usage attributed to Hob. For this to be the case, Nob need not know about Hob or about the supposed effect on Bob's mare of a witch's sorcery. They need not agree in all their views about the supposed witch. It is enough that their witch beliefs have a common source and that it is possible to find in these beliefs some ground—such as the common use of a proper name, or some set of descriptions—that would indicate that it would be important to them (and their fellows) to think that a single witch was involved in both misdeeds.

It is misleading to talk of there being an intentional "object" about whom Hob and Nob have beliefs. To do so raises pointless questions about what properties this "object" has. What is going on, rather, is

that the referential apparatuses in Hob and Nob's propositional attitudes are contextually linked in a certain way. Seeing the matter after this fashion tends to deflate such questions as "Are all the world's Santa Clauses and Father Christmases, black-skinned and white, in sleighs and on horses, really the same non-existent man?" (The question is posed in [12].) Such questions lead the tenderminded to bizarre "logics" of non-existent indeterminate objects and the toughminded to claim that unless all descriptions are shared by the subjects, the notion of their thinking of identical intentional objects is pointless.

Both reactions are misdirected. The issue is not whether an inexistent object can have contradictory properties, or whether there is some way of settling a difference between entrenched traditions over the nature of Santa Claus.[14] The issue is whether different people's non-referring referential devices are to be quasi-anaphorically linked despite disagreement—despite their attaching mutually incompatible predicates to these devices in contexts of use. This issue is devoid of pointless puzzles and the potential for conceptual cramp, and it often can be settled affirmatively. As I noted in section III, the answer is often vague and dependent on pragmatic considerations.

There is, of course, a technical problem in providing a formal representation of (1). The problem is that 'she' refers back to 'a witch' which occurs not in transparent quantificational position, but obliquely, within a that-clause. The that-clause in which 'she' occurs, also nontransparently, appears to be sealed off from that in which 'a witch' occurs. In brief, the pronoun is not within the scope of the quantifiers; yet the quantifier seems to be the pronoun's antecedent.

This problem is part of a wider phenomenon touching pronouns, a phenomenon not confined to issues about intentional identity or failures of reference. (Cf. [20], [11], [17], [10], [15].) We need not propose a general account of the phenomenon. For our purposes, it suffices to sketch a solution of the technical problem as it arises in (1).

What is essential to the formal account of (1) is to see the quantifier 'a witch' as associated with a singular notion attributed to Hob. The expression 'she' should be subscripted to mark an application by Nob that is linked to Hob's notion.

We represent the sentence, on narrower scope reading, more or less as follows:

$$\text{Bel(Hob, }\ulcorner(\exists x)\ (\text{Witch }(x)\ \&\ B1(x, \text{Bob's mare}))\urcorner\ )\ \&\ \text{Bel(Nob, }\ulcorner\text{Killed (she}_{13}, \text{Cob's sow})\urcorner)$$

$$\text{Bel(Hob, }\ulcorner(\exists y)\ (y=(\text{the}_{13}x)\ (\text{Witch}(x)\ \&\ B1(x, \text{Bob's mare})))\urcorner)$$

The arrow indicates that Hob's singular belief is entailed or presupposed by the original report, (1). The subscript marks the anaphoric or quasi-anaphoric connection between the terms.

This formal representation is meant to be only approximate. There is

not room here or in the appendix to develop and explicate the full viewpoint, since it should be articulated in conjunction with a longer discussion of fiction than I can undertake in section V. One might let the numerical subscript mark the chain in the sense of representing it. If one were to do this, quantification into subscript position would have to be allowed. A more explicit way of capturing the point of the subscripts would be to precede the blocked off expressions with a formalization of: "There is a chain to which Nob's application of 'she$_{13}$' and Hob's application of 'the$_{13}$' belong, and . . . ". (There is no requirement that Hob's 'the$_{13}$' be an indexical.) The attributed linkage between the terms 'she$_{13}$' and 'the$_{13}$' requires that any referent of the terms be the same. If Hob's and Nob's singular beliefs were true as interpreted in the context, then one and the same female blighted Bob's mare and killed Cob's sow. The truth conditions for their beliefs can be spelled out without commitment to there being such a female. (Cf. Appendix.)

V

The foregoing treatment of intentional identity is applicable to a wide variety of problems in the philosophy of language—problems involving myth, fiction, and the like. I cannot detail these applications here. But we can suggest them by considering a problem Castañeda raises. Castañeda points out that the locution "belief of" sometimes permits a certain substitutivity among non-synonymous but "equivalent" expressions even though existential generalization fails. In

(7)   Smith believes of the jolly good fellow who sneaks down chimneys on Christmas Eve, that he is a real resident of the North Pole,[15]

the definite description following 'of' need not be one Smith could give. It might be regarded as freely exchangeable with any other Santa Claus description. But we would not allow existential generalization on the definite description to yield

(8)   There exists something Smith believes to be a real resident of the North Pole.

Similar success of substitutivity combined with failure of existential generalization occurs in 'The Greeks worshipped the god which the Romans called 'Bacchus'" (For 'the god . . . ' substitute 'Dionysos' or 'the god featured in Euripides' *Bacchae*' and so on), and in 'Bill thought a lot about Hamlet'.

We should not assimilate (7) to *de re* belief. On our view, *de re* propositional attitudes form an epistemically interesting kind, not necessarily specifiable by reference to surface grammar. They are attitudes whose contents are incompletely conceptualized by the people who

have the attitudes and whose correct ascription places those people in an appropriate contextual, not-purely-conceptual relation with the objects they apply their contents to. In (7), there is no object for Smith to apply his belief to. The 'believes of' locution is here just a convenient device for freeing the reporter from the burden of specifying the particular Santa Claus concepts or descriptions Smith uses.

A thorough discussion of (7) would require a detour through the ontology and logical form of fiction. Without pretending to solve all the problems that might be raised for it, I shall simply state a view about fiction I will presuppose. The view, in its main outlines, has been articulated by a number of authors and is widely shared, though—especially in the present context—I cannot represent the consensus as unanimous. I reject the line of taking fictional characters to be objects denoted by descriptions or names in atomic, subject-predicate sentences having the same logical form as nonfictional sentences. (I find this view only slightly less implausible than the Meinongian view applied generally.) Instead, statements about fictional characters are to be seen as implicitly embedded in intensional contexts. These implicit contexts are often formed by expressions of the form "The contextually relevant fictional tradition has it that . . ." That is, fictional statements are often, in effect, that-clauses embedded in an implicit, but contextually understood, larger discourse that introduces the that-clause. (Cf. [23], [4], pp. 310–11, [25], [22].) Sometimes reference is made to (real) objects in these fictional statements, in which case the that-clauses undergo quantifying in.

There are also statements such as 'The wife of Agamemnon was a character in the *Oresteia*' and 'Alberich was one of several legendary characters who coveted the ring'. These cannot be properly regarded as equivalent to 'The *Oresteia* has it that the wife of Agamemnon was a character (or existed)', or 'Legend maintains that Alberich was one of several characters (or people) who coveted the ring'. For the latter sentences could be true without the former being true. It is one thing for the play to allege the existence of the wife of Agamemnon, and a further thing for the wife to be a character in the play. Similarly, the Niebelungen legend might say that others besides Alberich coveted the ring without making them characters. A thorough treatment of these cases cannot be attempted here. But the following paraphrases capture the leading idea: 'The *Oresteia* has it that the wife of Agamemnon exists and it characterizes her'; 'Legend maintains that Alberich and several others coveted the ring and it characterizes Alberich and those others'. In the first sentence the pronoun in the second clause, representing the legend's application refers back to the singular expression "the wife of Agamemnon" in the way illustrated by our formal representation of Geach's sentence. In the second example, the sentence entails that there are singular terms that legend purports to attach to each of several others, beside Alberich, who (it says) coveted the ring. The pronominal expression 'those others' takes these several singular expressions as antecedents. (I think that one never need worry that

there will be more fictional characters than terms characterizing them in fiction.) Again, the analogy with Geach's sentence is straightforward. In each case, the import of the anaphoric connection is that if the legend or fiction were true, the pronoun, as applied, and its antecedent singular term would have the same referent.

In fictions as rich as the Santa Claus myth, of course, numerous descriptions and names are said (or implicated) to apply to a single person. Thus 'Santa Claus', 'the jolly good fellow who sneaks down chimneys on Christmas Eve', and numerous other terms, are, *according to the myth*, extensionally equivalent. That is, the myth together with reasonable inferences from it, implies that they are extensionally equivalent. In reporting Smith's belief, the reporter of (7) is, of course, relying on this equivalence. The reporter makes no assumption about which Santa Claus description or name Smith uses. The application attributed to Smith by 'he' is anaphorically or quasi-anaphorically linked to 'the jolly good fellow . . . ' Thus (7) is formally quite analogous to (1). The analogy comes clear in paraphrase:

> (7′) The contextually relevant tradition has it that there is something identical to the jolly good fellow who sneaks down chimneys on Christmas Eve; and Smith believes that he is a real resident of the North Pole.

Exchanges of expressions that are counted co-extensive by the tradition are contextually, though not "logically", interchangeable in (7′), *salva veritate*. Similar remarks hold for the sentences about Bacchus, Hamlet, the wife of Agamemnon, and Alberich—and for this sentence.

Theories of reference failure and of intentional identity have shown a strong tendency to meddle with plausible principles of either ontology or grammar. Meinong and some of Brentano's followers have tended to warp views about what an object or entity is, to fit plausible grammatical preconceptions. Russell and his followers have tended to warp their views about what a singular expression is to fit plausible ontological preconceptions. Both tendencies are based on the assumption that in some sense, genuine singular expressions must succeed in securing a referent. This assumption has never received an impressive defense. I think that it is an unjustified, philosophical generalization from more restricted intuitive judgments. What is correct is that the truth of simple (atomic) sentences depends on the successful reference of singular expressions occurring in them. Moreover, it is true that singular expressions succeed in bearing information and carrying cognitive content—or at least in linking up with other terms that succeed in these ways. Neither ontology nor logical grammar need pronounce harsh sentences on the other.

FOOTNOTES

* An earlier draft of this paper was read in 1979 at a colloquium in honor of Prof. Castañeda at the University of Cincinnati. It has benefited as a result. I am grateful to David Kaplan for suggestions regarding the presentation of the appendix, and to Bernie Kobes for several improvements.

1. There are interesting questions here about whether there are any indexical expressions that cannot fail of reference, questions that lead into issues about first-person authority and private languages. Russell eventually postulated 'I', 'now' and 'this', as applied to sense data, as incapable of reference failure. It appears to me that in certain circumstances, "now" can fail. I suspect that "I" cannot fail. The case of "this" as applied to sense data is probably the most complicated, and for now I shall discretely pass it by.

2. I shall avoid discussing Russell's epistemology. Two of the more specific motivations we are about to discuss are explicit in Russell's [27]. One is among the three puzzles Russell lays out in that article. Of the other two puzzles, one is a variant of Frege's problem. I regard it as a test of Russell's theory rather than a motivation for it. It is a test that later drove Russell to exclude all expressions except for 'I' 'now' and "this" (the latter as applied to present sense data) from the category of singular terms. Even granted these moves, I think Frege's problem remains difficult for Russell's theory. The other puzzle, which I will not be discussing, concerns scope ambiguities of definite descriptions, and by analogy, ordinary proper names. Although this puzzle was a motive for Russell's theory, his intuitions about it have been disputed and its interest for many is primarily technical. So I shall not highlight it. In my view, the puzzle is genuine and causes problems for a number of other theories. But discussion of these questions would be at best tengential to the main issues here.

3. Cf. my [5], [6]. In [5] (p. 355) I point out that appealing to the linguistic meaning of demonstratives or (something some neo-Russellians have proposed) indexicals will not solve Frege's problem either. Nor is it sufficient to handle Russell's. Further, the account of attributes by many neo-Russellians runs into Frege's obstacle. If predicates (or common nouns) are seen as having no other role than that of designating objective properties (in the sense that water and H_2O are said to be the same property), then a version of Frege's problem can be raised for predicates. Only Russell's "acquaintance" epistemology stood between him and this sort of difficulty.

4. For discussion and criticisms of this viewpoint, see[5] and [6]. Some of what Castañeda writes suggests he takes up a Fregean or neo-Fregean position. See, for example, [9], p. 178; [8], p. 314 and *passim*. Individuating *properties* are said to be the means a believer has for picking out the relevant objects. On the other hand, Castañeda does not construe all "properties" in a traditional way—as eternal entities. There are what he calls "demonstrative properties" ([8], pp. 320–1) which are apparently contingent on someone's particular perceptual experience. (I doubt whether 'property' should be so used in this context.) Since I do not fully understand the notion of a

demonstrative property, I am not sure whether the criticism I raise against neo-Fregean views applies to Castañeda's. It is also unclear to me how Castañeda's view generalizes to non-perceptual cases, cases involving proper names of historical figures or indexicals used without an immediately present object. Castañeda's approach shares with Fregean approaches the strength of taking perspective seriously. The approach bears some apparent affinities to the Meinongian view, but these affinities seem fairly superficial in the context of Castañeda's generalized phenomenalism. I do find it perplexing, however, that Castañeda writes in one passage, [8], p. 316, that quantifiers in an adequate theory "must range over both existing and non-existing entities", and in another passage, [9], p. 177, that "some of us are not very happy about quantifiers ranging over non-existing entities". Surely, the latter passage is to be preferred. The former seems misleading even in the context of Castañeda's theory of guises, all of which are treated as existing.

5. Frege tried to utilize his notion of sense to fill all these roles, excepting the first. Russell tried to use his notion of proposition to fill all except the second. One might also argue over how much he was interested in the first role. Whereas Frege clearly abjured primary interest in linguistic meaning in natural languages, Russell's position is more equivocal. For criticism of Frege's attempt to tailor *sense* to fit this variety of roles, see my [5] last section, and [6]. Russell's use of his notion of proposition to fill these bills seems to me even more deeply problem-ridden.

6. This remark is not meant to exclude interpreting 'false' in such a way as to distinguish cases of truth failure involving failure of reference from ordinary cases of falsity. But the distinction is, I think, more pragmatic than semantic. For an account of the logic of non-denoting terms, including demonstratives, see my [4]. For a discussion of the pragmatic apparatus here invoked, see [3], the appendix, and note 7 below.

7. The term 'application' here is replacing the term 'act of reference' which I used in [2], [3]. The latter notion seems too tied to pretheoretical intuitions that I want to avoid. What follows indicates some of the primary features of applications that might in some minds distinguish them from acts of reference.

8. This point does not hold for certain *de re* attributions, where we ignore the predicative element in the name, and abstract from virtually any individuality of application in our attribution. See below. In our terminology, the *content* is that part of what is attributed in propositional attitude discourse that characterizes the person's mental state or his viewpoint. It thus does *not* include *res* to which he applies his thoughts.

9. It has been objected that since 'that F' and 'the unique F that is identical with that' are mutual paraphrases, we must admit either that demonstratives must be backed by context-free, non-indexical definite descriptions, or that demonstrative applications must sometimes be pure. I find this objection literalistic. The answer is that in view of the mutual paraphraseability of the expressions, the application of 'that' in either expression is not pure. The occurrence of 'that' on the right side of the identity is backed by the notion F, if by nothing else.

10. For a subtle discussion of these locutions, see Chastain's [10]. Chastain errs, I think, in denying that 'A man' in these contexts is a quantifier. The point is that the quantifier does not bind the subsequent pronouns, and is backed by a presupposed means of singular identification. Chastain is also mistaken in claiming, p. 206, that definite descriptions cannot be used to initiate anaphoric chains. With a sufficiently complete description, or a sufficiently supportive context, definite descriptions as well as names, demonstratives, and quantifiers can initiate such chains.

11. [16]. The most thorough discussion of Geach's problem I know of is Saarinen's [28]. I find Saarinen's treatment uncongenial, however, in its heavy use of possible worlds and unacceptable in its eventual resort to quantification over non-existent individuals.

12. The point about proper names is made by Geach [16], p. 632. Dennett, in [12], p. 341 rejects Geach's point writing, ' . . . unless *all* descriptions are shared, the notion of identity of intentionally inexistent objects dissolves into nonsense'. Dennett goes on to claim that there is no reading of (1) of the sort Geach intended, and to propose (5) and (6) as paraphrases of (1). Dennett's view seems to me to manifest the traditional over-reliance on descriptions and under-reliance on context in semantical discussions. Our earlier considerations about indexical cross-reference can get going in the absence of a referent and despite differences in the backing of descriptions support Geach in this matter.

13. I am inclined to believe that (1) implicates that either this term is indexically governed (so that Hob has a particular witch "in mind") or it is quasi-anaphorically tied to someone else's indexical application. (In view of the fact that (4) entails (1), this is at most an implicature, not an entailment.) Such an implicature is the analog in an intensional context, of the implicature generated when someone says, 'A man set out to establish a connection between the CIA, the Mafia, and the Cuban refugees' and then continues by talking about "the man". In both cases, there is the presumption that indexical applications back the quantifier ('a witch', 'a man'). But whether (1) carries this implicature is not crucial to my account. What is important is that if Nob's application is not carried out in cognizance of Hob's situation, it is quasi-anaphorically tied to some singular term, or singular notion, attributable to Hob.

14. One can settle disputes against the background of a tradition that is agreed to be authoritative. For example, we can settle the matter of whether Santa Claus is married by reference to what our tradition says. But here we construe disputes as disputes about the tradition. Sometimes coherence considerations will be persuasive in settling disputes. But often dispute is pointless.

15. [9] Castañeda's own solution is to treat (7) as saying

> There is an identifying property ϕness such that both the ϕer is identical with the jolly good fellow who sneaks down chimneys on Christmas Eve, and Smith believes that the ϕer is a real resident of the North Pole.

One objection to this solution is contingent on the question of what may count as an identifying property. As I urged earlier a person's referential apparatus does not always depend for its referential function on the nature of intrinsic features of intensional entities like properties or concepts. It often depends on nonconceptual contextual relations. Thus, although a person always uses properties or concepts in thought, these will not always purport to be adequate to determine the entities purportedly determined by their application. (Cf. section I.) So the phrase 'the ϕer' in Castañeda's analysis will sometimes be inappropriate unless 'the' is taken as a demonstrative (or ϕ is infected by indexicals.) This is incompatible with the usual notion of property. But then Castañeda's notion is not usual, and his view may be immune to this objection (Cf. note 4). Even if this objection is inapplicable, it suggests a second one that cannot be circumvented in the same way. The "property" a person uses to identify Santa Claus may not be correctly applicable—even according to the myth. His means of identification may be strictly through the name; his application may depend essentially on other people through quasi-anaphoric relations. No relevant definite description at the person's disposal could be said to be identifiable—even according to the myth—with the jolly good fellow. Santa Claus, for him, is just someone who lives at the North Pole. A further objection to Castañeda's solution is that

> the jolly good fellow who sneaks down chimneys on Christmas Eve is identical with the ϕer

is false or truth valueless for *any* filling of 'ϕ', unless it is regarded as, in effect, embedded in a sentence beginning, "According to the contextually relevant version of the Santa-Claus myth . . . '. That is, taken as a literal statement of fact (at the level of considering whether the myth is true) any identity statement involving the singular term 'the jolly good fellow who sneaks down chimneys on Christmas Eve' fails to be true. Such identity statements containing terms which do not refer to an existing object are true *only* according to the myth (and relevant inferences from it). (Ask yourself, once it is granted that the identity derives from the myth, whether what the myth says is true.) This point stands on its own and is in no way dependent on accepting Russell's theory of descriptions (which I reject). Castañeda gives up the intuition ([9], 177–8) essentially because of the sort of technical problems that Geach raised. He provides a theory of objects with a strongly idealistic cast. I cannot undertake to discuss why I find his metaphysical predilections unappealing. But I do hope to have shown that the technical problem Geach raised can be solved and is no basis for giving up the intuition that many statements from fiction are not literally or really true.

REFERENCES

[1] Baker, Lynne Rudder, and Jan David Wald, 'Indexical Reference and *De Re* Belief', *Philosophical Studies* 36 (1979): 317–327.
[2] Burge, Tyler, 'Reference and Proper Names', *The Journal of Philosophy* LXX (1973): 425–39.
[3] ———, 'Demonstrative Constructions, Reference and Truth', *The Journal of Philosophy* LXXI (1974): 205–223.
[4] ———, 'Truth and Singular Terms', *Noûs* 8 (1974): 309–325.
[5] ———, 'Belief *De Re*,' *The Journal of Philosophy* LXXIV (1977): 338–63.
[6] ———, 'Sinning Against Frege", *Philosophical Review* XXXVIII (1979): 398–432.
[7] Castañeda, Hector Neri, "'He': A Study in the Logic of Self-Consciousness", *Ratio* 8, (1966): 130–157.
[8] ———, 'Perception, Belief, and the Structure of Physical Objects and Consciousness', *Synthese* 35 (1977): 285–351.
[9] ———, 'On the Philosophical Foundations of the Theory of Communication: Reference', *Midwest Studies in Philosophy* II (1977): 165–186.
[10] Chastain, Charles, 'Reference and Context', *Minnesota Studies in the Philosophy of Science*, vol. IV.
[11] Dahl, O., 'On So-Called Sloppy Identity', *Synthese* 26 (1973): 81–112.
[12] Dennett, D.C., 'Geach on Intentional Identity,' *The Journal of Philosophy* LXV (1968): 335–41.
[13] Donnellan, Keith, 'Proper Names and Identifying Descriptions'. In Davidson and Harman, eds., *Semantics for Natural Language*, Dordrecht: Reidel, 1972.
[14] ———, 'Speaking of Nothing', *Philosophical Review* LXXXIII (1974): 3–31.
[15] Evans, Gareth, 'Pronouns, Variables, and Relative Clauses', *Canadian Journal of Philosophy* VII (1977): 467–537.
[16] Geach, P.T. 'Intentional Identity', *The Journal of Philosophy* LXIV (1967): 627–632.
[17] Hankamer, Jorge, and Ivan Sag, 'Deep and Surface Anaphora', *Linguistic Inquiry* 7 (1976): 391–428.
[18] Kaplan, David, 'What is Russell's Theory of Descriptions?' In *Bertrand Russell*, Pears ed. Garden City: Doubleday Anchor, 1972.
[19] ———, *Demonstratives* mimeograph, 1977.
[20] Kartunnen, Lauri, 'Definite Descriptions and Crossing Co-Reference', *Foundations of Language* 7 (1971): 157–182.
[21] Kripke, Saul, 'Naming and Necessity'. In Davidson and Harman eds., *Semantics for Natural Language*, Dordrecht: Reidel, 1972.
[22] Lewis, David, 'Truth in Fiction', *American Philosophical Quarterly* 15 (1978): 37–46.
[23] Moore, G.E., 'Imaginary Objects'. In *Philosophical Papers*. New York: Collier Books, 1966.
[24] Perry, John, 'The Problem of the Essential Indexical', *NOUS* 13 (1979): 3–21.
[25] Plantinga, Alvin, *The Nature of Necessity*. Oxford: Oxford University Press, 1974.
[26] ———, 'The Boethian Compromise', *American Philosophical Quarterly* 15 (1978): 129–138.
[27] Russell, Bertrand, 'On Denoting'. In *Logic and Knowledge*, London: Allen and Unwin, 1956.
[28] Saarinen, Esa, 'Intentional Identity Interpreted: A Case Study of the Relations Among Quantifiers, Pronouns, and Propositional Attitudes', *Linguistics and Philosophy* 2 (1978): 151–223.

APPENDIX

There follows a formal semantics for a language containing demonstrative pronouns.

I. *Vocabulary:*

    a. Punctuation: (,), [,],,.

    b. (i) An infinite set of individual variables, V_i.

        (ii) An infinite set of demonstrative pronouns, representing possible occurrences of 'she', D_s.

        (iii) An infinite set of demonstrative pronouns, representing possible occurrences of 'this', D_t.

    c. A finite set of predicates (we will do with two one-place predicates): H, M.

    d. Sentential Connectives: &, v, $\sim$, $\supset$, $\equiv$.

    e. Quantifiers: $\forall$, $\exists$.

II. Grammar:

    a. If s ϵ V_i, D_s, or D_t then s is a term.

    b. If p is a predicate and t is a term, then pt is a formula.

    c. If ϕ, ψ are formulae, then (ϕ & ψ), (ϕ v ψ), $\sim\phi$, ($\phi\supset\psi$), ($\phi\equiv\psi$) are formulae.

    d. If ϕ is a formula and v ϵ V_i, then ($\forall$ v)ϕ, ($\exists$ v)ϕ are formulae.

    e. If ϕ is a formula, then if d ϵ D_t, [d]ϕd is a term.

In this system we will not allow quantification on occurrences of demonstrative pronouns representing 'she' or 'this'. (Cf. IId.) Strictly, this entails that expressions representing ''she'' and ''this'' are what Carnap called ''dummy constants''. I think that demonstrative pronouns *are* quantified in natural language, so the restriction in IId. to V_i could be relaxed.

Intuitively, the brackets in IIe. are a scope marker for 'this'. 'H[d]Md' represents 'this male is human'. '[d]ϕd' can be intuitively understood according to the metalinguistically formulated equivalence:

$$(x)\ (x = [d]\phi d \longleftrightarrow x = (\imath y)\ (y \doteq d \wedge \phi y)).$$

III. *Definitions*

    a. α is a D-V-assignment $\longleftrightarrow$ α is a partial assignment of individuals to the union of demonstrative pronouns and variables.

If dϵD_s (i.e., if d represents an occurrence of 'she'), any value that a D-V-assignment α assigns to d has to be female.

The idea behind this definition is that free variables and unused demonstratives (cf. below, IV) are to be treated alike. When unused, 'she' is like a free variable restricted to the domain of females.

    b. If α is a D-V-assignment, s is a variable or demonstrative pronoun, and x is an individual, then α_x^s is that assignment that differs from α at most in assigning x to s.

    c. For any object x, x = α(s) $\longleftrightarrow$ x = the value assigned by D-V-assignment α to term s.

    d. x = $\left|s\right|_{pt\alpha}$ $\longleftrightarrow$ x = the denotation of term s, with respect to person (user) p at time t, and D-V-assignment α.

    e. Aydpt $\longleftrightarrow$ y is an application of demonstrative pronoun d by person p at time t.

This notation is an abbreviation of a fuller formulation, not needed here, to the effect: y is an application, and it is with d, and it is by p, and it is at t. An application y must be with a unique demonstrative pronoun, by a unique person, at a unique time. In this sense an application fixes a demonstrative, person, and time. It need not fix an individual which the application is *to*. Different applications may, of course, be chained together anaphorically. In such cases, a single demonstrative pronoun in the formal language will mark different applications of occurrences of the natural-language demonstrative pronoun.

    f. If α is a D-V assignment, then α Sat$_{pt}$ ϕ $\longleftrightarrow$ α satisfied ϕ with respect to person p and time t.

IV. *Semantics:*

We now formulate axioms to cover the three primary cases concerning the semantics of demonstrative pronouns: (a) where the demon-

strative pronoun is applied to an object, (b) where it is applied but not applied *to* an object (where it is used, but has no referent), (c) where it is not applied (unused). This latter case parallels ordinary assignments to free variables (d):

a. $d \in D_s \cup D_t \wedge (\exists y) (Aydpt \wedge To(y,x)). \rightarrow x = |d|_{pt}$

b. $d \in D_s \cup D_t \wedge (\exists y) (Aydpt \wedge -(\exists x)To(y,x)). \rightarrow -(\exists z) (z = |d|_{pt\alpha})$

c. $d \in D_s \cup D_t \wedge \alpha$ is a D-V-assignment $\wedge -(\exists y)Aydpt.$
$\rightarrow (x) (x = |d|_{pt\alpha} \longleftrightarrow x = \alpha(d))$

d. $v \in V_i \wedge \alpha$ is a D-V-assignment. $\rightarrow (x) (x = |v|_{pt\alpha} \longleftrightarrow x = \alpha(v)).$

In the first case (a), the object to which the demonstrative pronoun is applied is the relevant denotation. In the second case (b), there is no denotation; the logic underlying both object language and meta-language makes provision for nondenoting terms. (Cf. VI.) In my view, the notion of a free variable is partly derivative from intuitions about unused demonstratives. When considering their semantical value, one abstracts from actual contexts of use and even from epistemic constraints on human demonstrative reference. Apart from a context of application, sentences like 'that is male' are true of some objects and false of others. Thus 'that', when unused, is treated as an ordinary free variable; similarly with 'she' except that it "varies" only over females (III, a.) D-V-assignments are semantically inert for occurrences of demonstrative pronouns that are applied. I assume that 'She' can be applied successfully only to females (Cf. Vd.).

We now give the standard axioms for predicates and logical constants. Let 'α' range over D-V-assignments:

e. (i) $\alpha \, Sat_{pt} \, \ulcorner Hs \urcorner \longleftrightarrow |s|_{pt\alpha}$ is human

(ii) $\alpha \, Sat_{pt} \, \ulcorner Ms \urcorner \longleftrightarrow |s|_{pt\alpha}$ is male

f. (i) $\alpha \, Sat_{pt} \, \ulcorner \sim\phi \urcorner \longleftrightarrow -(\alpha \, Sat_{pt} \, \phi)$

(ii) $\alpha \, Sat_{pt} \, \ulcorner (\phi \, \& \, \psi) \urcorner \longleftrightarrow. \, \alpha \, Sat_{pt} \, \phi \wedge \alpha \, Sat_{pt} \, \psi$, etc.

g. $v \in V_i \rightarrow. \alpha \, Sat_{pt} \, \ulcorner (\forall v)\phi \urcorner \longleftrightarrow (x) (\alpha^v_x \, Sat_{pt} \, \phi)$, etc.

Finally, we turn to the term making symbol '[d]'. Although this expression forms a term from a sentence, it does not "bind" corresponding demonstrative pronouns in the sentence. What, in effect, binds them are applications. The denotation of the complex term depends on the same sort of parameters articulated in axioms a.–c. The only

difference is that one must consider the semantical contribution of the predicative expression in the complex term.

h. (i) $d \in D_t \wedge (\exists y) (Aydpt \wedge To(y,x)) \wedge \alpha^d_x \, Sat_{pt} \, \phi. \rightarrow x = |[d]\phi d|_{pt\alpha}$

(ii) $d \in D_t \wedge [(\exists y) (Aydpt \wedge -(\exists x)To(y,x)) .v. \, -(\exists y) \, Aydpt \wedge -(\alpha Sat_{pt} \, \phi .v. \, (\exists y) \, (\exists x) \, (Aydpt \wedge To(y,x) \wedge (-\alpha^d_x \, Sat_{pt} \, \phi))]. \rightarrow -(\exists z) (z = |[d]\phi d|_{pt\alpha})$

(iii) $d \in D_t \wedge -(\exists y)Aydpt \wedge \alpha \, Sat_{pt} \, \phi. \rightarrow (x) (x = |[d]\phi d|_{pt\alpha} \longleftrightarrow x = \alpha(d))$

Thus (i) if there is an application of the demonstrative pronoun d to an object that appropriately satisfies the term's predicate expression, the denotation of the term, with respect to the user and the time of application, is that object. (ii) If there is an application of the pronoun that is not *to* anything, *or* if the predicate expression is not appropriately satisfied, then the term lacks a denotation. (iii) If the term is unused, then the term's denotation, if any, relative to an assignment, is the value assigned to the demonstrative pronoun—if the predicate expression is appropriately satisfied. (If it is not appropriately satisfied, then by h(ii), the term lacks a denotation.)

It is understood that IV, a., b. and c. pertain to occurrences of demonstrative pronouns marked by square brackets as well as occurrences not so marked. Such an occurrence may have a denotation even though the complex term containing it lacks one (by a) or c) and h(ii)). This corresponds to certain situations in which intuitively a person uses a term like 'that male' referentially to pick out a female. We might want 'that' to refer to the female even though 'that male' does not. The definition of truth is obvious, given what we have already said:

i. $Tr_{pt}\phi \longleftrightarrow. \, \phi$ is closed and all demonstrative pronouns in ϕ are applied by p at t, and $(\alpha) (\alpha \, Sat_{pt} \, \phi)$. Intuitively '$Tr_{pt} \, \phi$' says '$\phi$ is true with respect to person p at time t.'

V. *Formal Conditions on Application:*

a. $Aydpt \wedge To(y,x). \rightarrow (z) (To(y,z) \rightarrow z = x)$

b. $Aydpt \rightarrow (z) (Azdpt \rightarrow z = y)$

c. $Aydpt \rightarrow (d_1) (p_1 (t_1) (Ayd_1p_1t_1 \rightarrow. \, d_1 = d \wedge p_1 = p \wedge t_1 = t).$

d. $Aydpt \wedge d \in D_s \wedge To(y,x) \rightarrow x$ is female

VI. *Free Logic Underlying Both Object-Language and Metalanguage:*

A1. If ϕ is a tautology, $\vdash \phi$

A2. $\vdash (x) (\phi \rightarrow \psi) \rightarrow . (x)\phi \rightarrow (x)\psi$

A3. $\vdash (x) (x=x)$

A4. $\vdash t_1 = t_2 \rightarrow . \phi(x/t_1) \longleftrightarrow \phi(x/t_2)$

A5. $\vdash (x)\phi \vee (\exists y) (y=t) . \rightarrow \phi(x/t)$, where y is not free in t.

A6. $\vdash (x) (x = (\iota y)\phi \longleftrightarrow (y) (\phi \longleftrightarrow y=x))$ where variable $x \neq$ variable y, and x is not free in ϕ.

A7. $\vdash (x) (\exists y) (x=y)$

A8. $\vdash (x) (x=t_1 \longleftrightarrow x=t_2) \rightarrow . \phi(y/t_1) \longleftrightarrow \phi(y/t_2)$
where x is not free in t_1 or t_2.

A9. $\vdash At_1 \ldots t_n \rightarrow . (\exists y_1) (y_1=t_1) \wedge \ldots (\exists y_n) (y_n=t_n)$
where A is atomic, including identity, and y_i is not free in t_i.

R1. If $\vdash \phi$ and $\vdash \phi \rightarrow \psi$, then $\vdash \psi$

R2. If $\vdash \phi \rightarrow \psi$, then $\vdash \phi \rightarrow (x)\psi$
where x is not free in ϕ.

'$\phi(x/t_1)$' signifies 'the result of substituting t_1 for all occurrences of x in ϕ, rewriting bound variables where necessary'. Since the object language lacks the definite description operator, the metalinguistically applicable A6. must be replaced for the object language by:

A6′. $(x) (x = [d]\phi d \longleftrightarrow (y) (y=d \vee \phi y . \longleftrightarrow x=y))$ where x and y are not free in ϕ; rewrite bound in ϕ y where necessary.

A3, A5, and A8 are non-independent, but are included for heuristic purposes.

Scope indications for terms are omitted, though they could be added without technical difficulty. Cf. Ron Scales, *Attribution and Existence*, dissertation, University of California, Irvine, 1969. The basics of the truth theory are set out in [3], although these have undergone refinement and formalization. The logic is set out in [4].

4

PREDICATION THEORY: GUISED AND DISGUISED[1]

Romane Clark

This is a paper on Hector-Neri Castañeda's metaphysical views on the nature of particulars. On the deepest metaphysical level Castañeda holds that ordinary things are really systems or structures of special individuals. He calls these special individuals "guises". Guises in turn are sets of properties which are made concrete by a special operator. This operator is a kind of inverse of the abstraction operators which are familiar to us from logicians' writings. It takes abstract entities, sets, into certain concrete particulars, the particulars which he calls guises and which are constituents in the structures which are ordinary things like lamp bulbs and azaleas. We may think of the operator as the definite description operator but, if we do, *not* as that is analyzed by Russell.

Castañeda as we already see has a very rich ontology: there are properties and there are sets and there are operators as well, and these are not merely formal or syntactical devices. Rich as his ontology is, these entities deploy nicely in his explanations of how it is that we get at the things we think of or see. All knowledge that is not general is knowledge gained by direct awareness of (some of) the special constituents of things, their guises. Exploiting this explanation, Castañeda gains a prise on a number of recalcitrant issues concerning modality and intentionality.

Castañeda's "guise-theory" of the nature of ordinary things is a kind of bundle-theory. Guises are concretized bundles, sets, of properties. Ordinary things are bundles, structures, of guises. Unlike naive bundle-theories of individuals, it is by no means the case that true attributions are, when fully stated, tautologous and false ones contradictory. On Castañeda's view, ordinary attributions are often ambiguous, disguised predications. When ordinary assertions are made explicit, properties turn out to be predicated of the guises which constitute the domain of direct singular reference in one of two ways. They are predicated *internally* when the property which is predicated belongs to the set of properties which constitutes the guise which is the (direct) subject of the predication. They are predicated *externally* when the guise referred to stands in one of a certain group of relations to a guise which contains the property internally.

The guise, then, is a particular of the form: $c \{F, G, H, \ldots\}$. Here, the capitalized letters within the braces are expressions for nominalized predicates and are interpreted as designating properties and conditions true of things. The braces themselves function as expressions for an operator which takes the items and the expressions for which they