JAMES SUMMERFORD

Neither Universals Nor Nominalism.
Kinds and the Problem of Universals

Neither nominalists nor realists who accept universals have solved the problem of universals. However, both sorts of theorists have contributed important insights into the nature of this problem — insights that must be accommodated by any adequate solution. The insight nominalists contribute is the phenomenon of property possession needs no ontological explanation. This is what advocates of universals have traditionally denied and it is this denial that gives rise, on their view, both to the metaphysical necessity of universals and to the regress problems theories that accept universals encounter. The insight advocates of universals contribute is the phenomenon of abstract reference demands *abstracta* beyond those the nominalist is willing to accept. This is what nominalists deny and it is this denial that leads them to offer often tortured and generally inadequate translations of sentences containing abstract singular terms. Any adequate solution to the problem of universals will accommodate both of these insights: property possession needs no explanation and the phenomenon of abstract reference requires the admission of *abstracta*, though not necessarily universals, into one's ontology.

The aim of this paper is to forward a solution to the problem of universals that accommodates both of these insights. To do this one must depart from the traditional answers given to this problem. What I suggest is this: We should accept the ostrich nominalist's solutions to the problems of property possession and predication and couple them with an ontology that admits kinds, carefully distinguished from universals, as a form of abstract entity. Such a theory, is superior both to ostrich nominalism and to theories that admit universal.

Ostrich nominalism originates in Quine's essay "On What There Is" and the recognition that one need not conduct an analysis of pro-

perty possession in order to account for property possession.[1] The name 'ostrich nominalism' comes from David Armstrong's brief discussion of the view in *Nominalism and Realism*. After detailing several reductive varieties of nominalism, Armstrong writes:

> Besides the five versions of nominalism already outlined, we should perhaps include a sixth: Ostrich or Cloak-and-dagger nominalism. I have in mind those philosophers who refuse to countenance universals but who at the same time see no need for any reductive analyses of the sorts just outlined. There are no universals but the proposition that a is F is perfectly all right as it is. Quine's refusal to take predicates with any ontological seriousness seems to make him a nominalist of this kind.[2]

Elsewhere in "Against Ostrich Nominalism", Armstrong charges the ostrich nominalist with dodging the compulsory metaphysical questions. Identifying Quine as an ostrich nominalist, he writes:

> Any comprehensive philosophy must try to give some account of Moorean facts. They constitute the compulsory questions in the philosophical examination paper. If sameness of type is a Moorean fact, then, because Quine sees no need to give an account of it, he is refusing to answer a compulsory question.[3]

Such complaints, however, miss their mark. Armstrong mistakes as shallow and uninteresting what is really a subtle and profound philosophical thesis. It is true that the ostrich nominalist provides no analysis of either property possession or so-called "Moorean facts of sameness." Armstrong interprets this as a refusal to answer compulsory questions. He compares the ostrich nominalist to the recalcitrant student who refuses to respond to an examination question. But there is

---

1. W.V.O. Quine, "On What There Is," in *From a Logical Point of View* (Cambridge, Harvard University Press, 1953); See also: David Lewis, "New Work for a Theory of Universals," *The Australasian Journal of Philosophy*, 61 (1983), pp.343-377.

2. David Armstrong, *Nominalism and Realism: Universals and Scientific Realism*, Vol.1 (Cambridge, Cambridge University Press. 1978), p.16.

3. David Armstrong, "Against Ostrich Nominalism: A Reply to Michael Devitt," *Pacific Philosophical Quarterly*, 61 (1980), p.441.

more than one reason a student might fail to answer an examination question. **Reason one**: The student is lazy or ignorant. In such a case, the student deserves to fail. He earns his failing grade through his ignorance or inattention. **Reason two**: The question on the examination is ill formed and unanswerable. In this second case, a student leaving the question blank may well be an indication that he sees the subject matter more clearly than does the examiner. Of course, in order to draw this conclusion, more is generally required than a blank examination booklet. One wants some evidence that the student has confronted the question — marks in the margins, erasings, verbal testimony, what-have-you. But where there is such evidence *and* the question *is* unanswerable, a failing grade would be an injustice. A putative requirement that cannot be met is no requirement at all.

To understand ostrich nominalism is to understand that the ostrich nominalist occupies the second of these two positions. In *Nominalism and Realism*, Armstrong suggests the solution to the problem of property possession is reductive. The phenomenon of property possession is to be reduced to some more basic or fundamental phenomenon.

> If then in the course of a nominalist analysis it should happen that covert appeal is made to the notion of a property, kind, or type, the analysis has failed to achieve its purpose.[4]

But this (*viz.*, the reduction of properties to something else) is precisely what the ostrich nominalist denies is possible. There is no more fundamental phenomenon in virtue of which property possession may be analyzed. All theorists must take property possession as primitive and as being, at root, unanalyzable. Reductive attempts to explain property possession run afoul of infinite regresses.[5][6] This is true for realists just as it is true for nominalists.[7] It is the recognition of this

---

4. David Armstrong. *Nominalism and Realism: Universals and Scientific Realism* (Cambridge, Cambridge University Press, 1978), p.19.

5. David Armstrong. *Universals* (San Francisco, Westview Press, 1989), p.54.

7. David Lewis. "New Work for a Theory of Universals," *The Australasian Journal of Philosophy*, 61 (1983), p.353.

fact that motivates the ostrich nominalist to reject Armstrong's requests as illegitimate. There is no breaking out of the circle of properties to explain an object's having the properties it possesses. Objects have properties and relations (including resemblances to other objects) and there is nothing further, on the metaphysical front, to be said of this fact. Two objects *a* and *b* resemble one another in respect to being F just in case *a* is F and *b* is F. Brute facts about property possession ground facts about resemblance. Such a theory explicitly rejects a strategy of ontological posits. There is no need, at least as far as the problem of property possession is concerned, for universals, classes, or sets. The ostrich nominalist rejects such entities as useless for the tasks at hand. But this rejection is not unmotivated or ill-considered. It stems from the recognition that such entities cannot satisfactorily carry out the work they are called upon to perform. The philosophically interesting thesis the ostrich nominalist offers is this: The request for a reductive analysis of property possession is ill-conceived and hinders progress towards a solution to the problem of universals. It is only when this request is abandoned that progress can resume. Such a thesis is well rooted in the history of analytic philosophy. It is the same thesis Wittgenstein enjoins us to consider in the *Blue Book*; he writes,

> Philosophers constantly see the method of science before their eyes, and are irresistibly tempted to ask and answer questions in the way science does. This tendency is the real source of metaphysics and leads the philosopher into complete darkness. I want to say here that it can never be our job to reduce anything to anything...[8]

One is tempted to think that an acceptance of this answer will somehow halt the metaphysical conversation. It is a way of expressing disapproval of how the dialectic has progressed. Yet, conversation need not be halted. Even if it is fruitless to discuss the ontological grounds of property possession, there are still important semantic questions that must be considered. What grounds the application of a predicate to a subject? To what do abstract singular terms refer? It is these questions and not those Armstrong identifies that are the compulsory metaphysical questions. And the acceptance of ostrich nominalism

---

8. Ludwig Wittgenstein. *The Blue and Brown Books* (New York, Harper and Row, 1965), p.12.

does not excuse one from having to answer these questions. Whether or not ostrich nominalism is satisfactory is ultimately to be settled by means of the answers it gives to these questions. To determine the overall attractiveness of the theory, one must move from an ontological plane to a semantic one

Once this move has been effected, the immediate concern is that of offering an account of predication. To what does the use of predicates commit one? In "On What There Is", Quine suggests the correct criterion for measuring one's ontological commitments lies not in the names one countenances within one's vocabulary, but, rather, in one's use of bound variables. "To be assumed an entity is, purely and simply, to be reckoned as the value of a variable."[9] The importance of Quine's criterion is this: Realists have claimed the truth of sentences in which predicates occur to be evidence for the existence of a certain class of object, namely universals. In doing so, they have treated predicates as names and reasoned that as these alleged names appear within true sentences there must be something for them to name — qualities or relations. In "On What There Is", Quine repudiates this style of metaphysical thinking. In first order logical theory, quantifiers do not range over predicates. Quine denies predicates any independent ontological significance. They are neither names nor do they constitute evidence for the existence of universals.

'Some dogs are white' says that some things that are dogs are white, and in order for this to be true, the things over which the bound variable 'something' ranges must include some white dogs, but need not include doghood or whiteness.[10]

How, then, is one to understand the semantic significance of predicates? As follows: Predicates derive their significance not through a relation of reference but one of satisfaction. One is to pro-

---

9. W.V.O. Quine. "On What There Is," in *From a logical Point of View* (Cambridge, Harvard University Press, 1953), p.13.

10. Ibid., p.13.

vide "a semantical interpretation for sentences containing predicates in such a way that no extensions are assigned to the predicates."[11]

The essential thought is that predicates generate open sentences of the form 'x is F' or 'x φs' and such sentences are true if and only if an object α within the domain of discourse satisfies them. As Ruth Barcan Marcus explains in "Nominalism and the Substitutional Quantifier" predicates are, "speaking elliptically, true of the objects that satisfy them."[12] Indeed, there is more than a passing suspicion that what Quine has offered is a circular account of predication. In order for a predication claim to be true the object of that claim must satisfy the open formula generated by the predicate, and the object will satisfy that formula only if it is the case that the predication claim is true. To think this a criticism of the account, however, is to misjudge the nature of the account Quine offers.

What Quine is saying is this: There are not in addition to the objects we talk about separate features or properties of objects. This, however, is not to reject the notion of a feature or a property *simpliciter*. It is simply to reject the notion of a feature or property that enjoys a separate existence from the object that has it. Objects have properties — this is an essential and inseparable feature of objects; it must be accepted as a brute fact. Where traditional metaphysics has seen two or more objects in every one, a Quinean metaphysics (an ostrich nominalism) sees only the one. When one says that a sentence such as 'Fido is a dog' is true, what one is saying is that there exists an object, namely a dog named 'Fido', that satisfies the open formula 'x is a dog.' Far from leaving the truth of such sentences ill-explained, such a theory does all one could ask of it. It provides an account of how sentences may be said to be true or false while at the same time explaining the ontological grounds for the application of a predicate. A subject-predicate sentence is true if and only if the subject satisfies the predicate; and a predicate is correctly attributed to a subject if and only if the subject is of the sort the predicate claims. Ostrich nominalism is not laid low by

---

11. Rolf Eberle. *Nominalistic Systems* (Dodrecht, D. Reidel Publishing Co., 1970), p.107.

12. Ruth Barcan Marcus. "Nominalism and the Substitutional Quantifier," in *Modalities: Philosophical Essays* (Oxford, Oxford University Press, 1993), p.116.

concerns over predication. As regards the problems of property possession and predication, ostrich nominalism is a satisfactory theory.

Still there are problems. Even if the use of predicates does not force one to countenance universals, the use of other terms may. I have in mind here terms such as 'redness' or 'triangularity'— what are often labeled "abstract singular terms." The most forceful arguments for realism depend on the use of these terms. Such terms are taken by the realist to refer to universals. They are, the realist claims, genuine singular terms and they take as their referents universal properties. If the nominalist is going to reject universals, then he must demonstrate that the use of these terms does not involve countenancing such entities.[13]

The nominalist has two very different strategies available to him. First, he could try, within the ontology he accepts, to assign such terms *denotata*. According to this strategy, he concedes that such terms are genuinely singular and, hence, object denoting. He disputes not the semantic status of these terms, but, rather, their proper objects of reference. Second, the nominalist could dispute the semantic status of these terms as genuinely singular. According to this strategy, such terms are not referential at all. Instead, they are merely linguistic conveniences used to abbreviate discourse about physical objects.

It must be conceded that neither of these strategies look promising. Take the second strategy first, i.e., the strategy according to which abstract singular terms are merely linguistic conveniences. Adoption of this avenue of response commits one to the claim that all sentences containing abstract singular terms may be paraphrased in such a way as to excise the apparent reference to abstract objects. An illustration will be helpful. Consider the sentence 'red resembles orange more than it resembles blue.' According to this suggestion, 'red', 'orange' and 'blue' are not genuine singular terms but are used to abbreviate talk of red, orange, and blue objects generally. One should be able, then, to provide a truth-preserving paraphrase of the above sentence; one in which abstract singular terms do not appear. How would such a paraphrase go? "For all particulars x, y, and z, if x is red and y is

---

13. More generally, the nominalist must show for each abstract entity he or she rejects that the use of abstract singular terms does not involve countenancing such entities. It is this requirement that the nominalist is unable to meet.

orange and z is blue, then x resembles y more than it resembles z." But there is a problem: Truth is not preserved. Even if red resembles orange more than it resembles blue, it may not be the case that all red objects resemble all orange objects more than they resemble all blue objects. Think, for instance, of two fountains pens — one red and one blue, and a pair of orange Bermuda shorts. The universally quantified sentence is false in circumstances in which the original sentence might, nonetheless, be true. Nor have there been convincing proposals as to how the nominalist might solve this problem.[14] The moral would seem to be: Abstract singular terms do *not* abbreviate discourse about physical objects.

The nominalist, then, must fall back to the position that abstract singular terms are genuinely singular. According to this position, it is not the status of these terms that is in question, but, rather, the objects they denote. The nominalist seeks objects other than universals capable of serving as the referents of these terms. Nonetheless, the notion of a paraphrase will still figure prominently in any proposed solution. To illustrate, suppose I identify classes as being the referents of abstract singular terms, then I commit myself to the claim that in transparent contexts this reference should be able to be made explicit by substituting for each abstract singular term the name of the class to which it is said to refer. So, if I hold that 'red' refers to the class of red objects, then, in transparent contexts, I must hold that I may substitute 'the class of red objects' for 'red' *salve veritate*. Hence, the availability of truth preserving paraphrases remains an adequacy condition on any proposed solution. The search for suitable referents, however, has not gone well. In the literature there are two suggestions for how the nominalist might proceed. First, as indicated above, he might designate classes or sets as the proper referents of abstract singular terms. Second, he might try to secure their reference by designating as their *denotata* mereological sums of individuals. (This is a suggestion Quine considers in "Identity, Ostension, and Hypostasis.") Both of these suggestions merit our attention. Neither, however, is satisfactory.

Consider the view that abstract singular terms refer to classes. On this view, 'red resembles orange more than it resembles blue' is to

---

14. Frank Jackson. "Statements About Universals" in *Properties*, ed. by D.H. Mellor and Alex Oliver (Oxford, Oxford University Press, 1997), pp.89-92.

be understood as expressing a relation of resemblance among different color classes: "The class of red objects resembles the class of orange objects more than it resembles the class of blue objects." As before, with the first strategy I considered, this paraphrase fails to be truth preserving. The same considerations employed previously show this. Suppose the only red, orange, and blue objects that exist (or ever will exist) are two fountain pens, one red and one blue, and an orange pair of Bermuda shorts. Then, while it would still be the case that red resembles orange more than blue, it would not be the case that the class of red objects resembles the class of orange objects more than the class of blue objects. Truth is not preserved.

This, however, may owe much to the manner in which I have assumed the nominalist would construct his classes. So far, I have assumed the nominalist would construct his classes out of items found only within the actual world. His classes are classes of actuals. In this case, it is unsurprising that the nominalist's paraphrases fail to be truth preserving. The simplest case for showing this is that in which there are no red or blue objects at all. Then, because classes are identical if and only if they have the same members, the class of red objects would simply be the class of blue objects. There would be no question at all which classes more closely resembled one another. The class of red objects and the class of blue objects would be identical. Such problems, however, can be ameliorated by going modal. Provided one is willing to construct the relevant classes out of possible objects as well as actual ones, one can provide a truth preserving paraphrase of the sentence in question. With class construction understood in this way, the resulting paraphrase is as follows: "It is necessarily the case that the class of red objects resembles the class of orange objects more than it resembles the class of blue objects." This is a plausible translation of the original sentence. It is true in all and only those cases where the original sentence is true. To see this one need only recognize that color is a contingent property. Hence, for any member α of the class of red objects, there is a counterpart to α in both the class of blue objects and the class of orange objects — a counterpart that differs from α only in respect to its color. The same is true of any member of the class of blue objects or the class of orange objects — they too have counterparts in the other two classes, ones that differ only in respect to their color. Hence, if there are differences among these three classes, then it must

be the color of the objects within each class that accounts for these differences. Hence, red resembles orange more than it resembles blue if and only if the class of red objects (taken across all possible worlds) resembles the class of orange objects (taken across all possible worlds) more than it resembles the class of blue objects (taken across all possible worlds).

This avenue of response, however, cannot be maintained. It cannot accommodate necessarily coextensive properties. Two classes are identical if and only if they have the same members. There exist, however, properties which, though distinct, are necessarily related — that travel in pairs across possible worlds. Triangularity and trilateralness seem to be such a property-pair — always together, yet different. If one regards abstract singular terms as referring to classes of individuals, then one is forced to conclude (*pace* the previous assumption) that triangularity and trilateralness are identical and that 'triangularity' and 'trilateralness' are co-referential terms. But this is not the case. One should reject the suggestion that identifies classes as the referents of abstract singular terms.

A second suggestion for how the nominalist might solve this problem is explored by Quine in "Identity, Ostension, and Hypostasis." In this essay, Quine suggests the nominalist might secure the reference of 'redness' by allowing it to designate the spatio-temporally scattered individual that is the scattered total of all red things.[15] On this view, redness becomes "the largest red thing in the universe."[16] Though attractive for its theoretical parsimony, such a view cannot be consistently maintained. Quine himself concedes this when his discussion turns to shape terms. Imagine that this is the correct (or at least a satisfactory) account of color terms: Color terms name the mereological sums of spatio-temporally scattered individuals.[17] What should one now say of shape terms? Do they too have as their referents the mereological sums of spatio-temporally scattered individuals? If so, then 'squareness' refers to the sum of all squares; 'triangularity', the sum of all triangles. But this is problematic, for when one sums the squares

---

15. W.V.O. Quine. "Identity, Ostension, and Hypostasis" in *From A Logical Point of View* (Cambridge, Harvard University Press, 1953), p.69.

16. Ibid., p.72.

17. Ibid., p.73.

and triangles there is no guarantee that these sums will not be identical.[18] Suppose, for instance, that each isosceles right triangle is generated from bisecting a square and, moreover, that all squares are so bisected. In such a case, the sum of all squares is identical to the sum of all isosceles right triangles. This leaves one in the intolerable position of concluding that squareness is identical to this form of triangularity. Now this in itself is not an objection to the account of color terms that Quine has given. Perhaps, the nominalist could accept Quine's account of color terms and employ some other account for shape terms. Still, such a move strips the original account of much of its attractiveness. We seek a unified account of abstract singular reference in order to aid in the formation of a systematic semantics. In the case we are considering, there could be no such unified account. The reference of abstract singular terms would have to be fixed in a piecemeal fashion.

What conclusion then should one reach? This one: Though ostrich nominalism can satisfactorily answer the first two problems constituting the problem of universals, it is unable to satisfactorily answer the third. Hence, ostrich nominalism fails as a solution to the problem of universals.

II

In fact, the above considerations license a stronger conclusion than that just reached. The most plausible avenues of response the ostrich nominalist has to the problem of abstract reference just are the same avenues of response any nominalist is likely to use. Hence, the conclusion that they are all likely to fail generalizes into a conclusion that nominalism of any sort is likely to fail. The problem is that nominalism lacks the resources necessary to fix the reference of abstract singular terms.

Advocates of universals have been quick to seize upon these results as evidence that their position should be adopted. Such a conclusion, however, is premature. Even if nominalism is doomed to failure, it still remains that there may be nominalist *inspired* solutions that are

---

18. Ibid., p.72-73.

superior to views that accept universals. These solutions would be realist solutions in that they admit into their ontologies *abstracta* the nominalist would reject, but which respect the nominalist's insights into the problems of property possession and predication while avoiding the use of universals. My own view is that we should adopt the answers the ostrich nominalist offers to the problems of property possession and predication and couple them with an ontology that admits kinds. In this section, I argue such a hybrid theory adequately answers the problem of universals. In section III, I argue such a theory enjoys certain advantages over a traditional realism that admits universals.

Of course, as soon as I mention kinds as the vehicles by which I intend to solve the problem of abstract reference, the advocate of universals (henceforth, the traditional realist) will object. "Kinds", he will claim, "simply are universals."[19] Hence, to help oneself to the notion of a kind is to help oneself to the notion of a universal. But this identification of kinds as universals can be disputed. *Prima facie*, universals make poor kinds. Intuitively, kinds have as their members appropriately propertied things. The kind Horse, for instance, has as its members all actual and possible horses. The kind Green-thing has as its members all actual and possible green things. The identification of kinds with universals, however, forces a theorist to abandon this intuitive understanding of kinds. In the traditional realist's hands kinds cease to be collections of propertied things and become the properties themselves. Indeed, once universals are mobilized as the referents of kind terms, one can no longer talk of kinds having members. Universals are not the sorts of things to which things belong. Universals have instances, not members. Hence, the traditional realist's identification of kinds with universals forces one to abandon the notion of a kind as a collection of individuals. This is not to say that one cannot group things according to the universals they instance, but these grouping could not be, on the analysis the traditional realist offers, kinds. Instead, they would be groupings based on the instancing of a shared kind or universal and, hence, would be distinct from the universal or kind itself.

---

19. Nicholas Wolterstorff. *On Universals*, (Chicago, University of Chicago Press, 1970), pp.235-260.

However, if kinds are not to be identified with universals, then what are they? It is to this question I now wish to turn. In order to determine whether an ontology of kinds solves the problem of abstract reference, I must first articulate an acceptable notion of a kind and, second, say something about the logic that relates kinds to one another and to their members. It is worth stressing that from here out what I will explore is whether or not there is an acceptable notion of a kind that both differentiates kinds from universals and proves adequate to the semantic task of explaining abstract reference. My goal is to be in a position to take the answers the ostrich nominalist offers for the problems of property possession and predication and couple them with an ontology of kinds that is capable of providing a solution to the problem of abstract reference so as to generate an adequate solution to the problem of universals itself.

I will begin by detailing the intuitive notion of a kind. As noted above, it is a part of the intuitive notion of a kind that kinds are collections of individuals and not properties. Kinds have members and their members are propertied things. It is not the case, however, that every collection or assortment of individuals constitutes a kind. The following collection, for instance, fails to constitute a kind: The collection of all things that are either blue or found on a farm. The reason is this: "Kinds are similarity making."[20] In "Complex Kinds," Eli Hirsch understands this similarity making condition in the following way: "If (and only if) the Fs are a kind then the similarity between two things is enhanced by the fact that they are both Fs."[21] So, if *a* and *b* both belong to the same kind and *c* does not, then if all other resemblances between *a*, *b*, and *c* are equal, *a* and *b* resemble each other more than they resemble *c*. Hence, as being either blue or found on a farm is not resemblance enhancing in this way, the collection of things that are blue or found on a farm does not constitute a kind. Similarly, this collection fails to be a kind: The collection made up of Silver, Secretariat, and Black Beauty. Though each of the members of this collection is a

---

20. Eli Hirsch, "Complex Kinds", *Philosophical Papers*, Vol. XXVI (1997), p.48. In general my thinking about kinds owes much to the above article as well as Gary M. Hardegree's "An Approach to the Logic of Natural Kinds, " *Pacific Philosophical Quarterly*, 63 (1982), pp.122-132.

21. Ibid., p.48.

horse, since the collection itself does not include all horses, there is no guarantee that the similarity making condition on kinds will be satisfied. Provided this is just a random collection of horses, membership in the collection is not resemblance enhancing. Conceived of in this way, the acceptance of this similarity making condition yields two conclusions. First, it entails that there can be no disjunctive kinds. This follows from the fact that any collection based on a disjunctive criterion for kinds would fail to satisfy the similarity making constraint. Second, it entails that there is no guarantee that a proper subset of a kind is itself a kind. Though this can happen, there can be cases in which it does not. This suggests that there is a difference between kinds and classes. While every subset of a class is itself a class, it is not the case that every subset of a kind is itself a kind.

Of course, one might reply that kinds are simply a special sort of class — a maximally consistent similarity class perhaps. Though kinds resemble classes in that they both have members, the relation of a kind to its members differs from the relation of a class to its members. Two kinds can differ even if they have all and only the same members. For instance, the kinds Triangular-thing and Trilateral-thing differ even though every object that is a member of the former is also a member of the latter and *vice versa*. Such is not the case for classes. Any two classes that have an identical membership are themselves identical. Classes are constituted by their members in a way in which kinds are not. In this respect kinds are similar to universals; they are not extensionally definable. Neither, though, are kinds universals. Kinds resemble classes and differ from universals in having members. Kinds and classes are both the sorts of things to which things belong.

It is a kind's similarities and differences with classes that allow one to articulate what is a kind. As I shall use the term, *a kind is an intensional entity exhibiting a class-like structure that nonetheless differs from a class in the following way: though kinds have members, no kind is identified in terms of its membership; rather, each kind is identified in terms of the membership requirements an object must satisfy in order to be a member of that kind*. The crucial difference between a kind and a class is that the members of a kind must earn their right to membership through the satisfaction of some membership requirement. Hence, it is the membership requirement that defines a kind and not its members. The most straight-forward analogy by which to under-

stand the notion of a kind is that which one may draw between a kind and a social club or social organization. Consider two such organizations: the local PTA and the local chapter of MADD (Mothers Against Drunk Driving). It is conceivable that these two organizations might have all and only the same members. Nonetheless, they constitute two distinct entities — they are two and not one. This is so, because what matters to the identification of a social organization is not its membership but, rather, the purpose for which those members come together. The members of such organizations must earn their membership in various ways. The members of the PTA earn their membership through a concern for educational excellence. The members of MADD earn their membership through a concern for road safety. Similarly, membership in kinds is earned. It is earned by a particular through its properties. Hence, though the kind Trilateral-thing and the kind Triangular-thing have all and only the same members — they constitute two different kinds. This is so, because membership in these two kinds is earned in differing ways. In the first case, it is earned through being trilateral, by satisfying, that is, the open formula 'x is trilateral.' In the second case, it is earned through being triangular or satisfying the open formula 'x is triangular.' For each genuine similarity making predicate, then, there exists a kind the membership requirement for which simply is the satisfaction of that predicate within an open formula.

Once the membership requirements for kinds are defined in terms of the satisfaction of predicates, one can then begin to construct a logic for kinds. One starts by defining the notion of a basic kind.

> (A) A kind K is *basic* iff the membership requirements for K may be given in terms of a simple (non-conjunctive and non-disjunctive) predicate P and the following conditions are met:
>   1) Every individual that satisfies P is a member of K
>   2) No individual that fails to satisfy P is a member of K
>   3) The satisfaction of P is similarity making; and
>   4) Given conditions 1-3 (above), K is not necessarily empty

All basic kinds will be treated as irreducible entities. Condition 1 ensures that all basic kinds will be exhaustive of their members, while

conditions 2 and 3 ensure that such kinds will be genuinely similarity making. Finally, condition 4 ensures that there will be no necessarily empty kinds. For a kind to exist, it must at least be possible that it have members.

Once basic kinds are admitted, one may then proceed to articulate a logic for the construction of non-basic kinds. There are three logical relations that demand scrutiny: negation, conjunction, and disjunction. It is important to note that these logical relations are taken to operate on the membership requirements that define each kind. As with basic kinds, the discussion will be constrained by the similarity making condition. Whatever else one says of kinds, kinds are similarity making. Now of these three logical relations it is only conjunction with which one needs to be concerned. Neither disjunctive membership requirements nor those containing negation will satisfy the similarity-making condition on kinds. I have already shown that this is so for disjunctive membership requirements and it should be clear in the case of negation.[22]

In general, the conjunction of any two membership requirements will yield the membership requirements for a third kind. So, the conjunction of the membership requirements for the kind Red-thing and the kind Square-thing yields the membership requirements for the kind Red-Square-thing. And this meets the similarity making condition. Membership in the kind Red-Square thing is resemblance enhancing. Note that the conjunction of the membership requirements for any two kinds yields a collection that has as its members all and only those items found in the intersection of the original kinds out of which it was constructed. One may express this as follows:

$$(K_1, M_1) \wedge (K_2, M_2) = K_1 \cap K_2$$

Before one can accept conjunction as a principle for kind construction, however, the following problem must be addressed: If one allows an unbridled principle of conjunction to guide one in the construction of kinds, then one will be forced into accepting an ontology in which

---

22. It follows in the case of negation because it is unreasonable to think that not being F could be a genuine point of similarity between two or more objects. After all, objects may fail to be F in differing ways.

there are kinds for which there could be no members, kinds like the kind Square-Round-thing. This in turn would lay a theorist open to the charge of having accepted an unnecessarily bloated ontology. The solution is to limit the circumstances in which conjunction is accepted as a legitimate kind forming operation: The conjunction of the membership requirements for any two kinds K_1 and K_2 yield the membership requirements for a third kind K_3 if and only if it is possible for there to exist objects that satisfy those conjunctive requirements. If not, then the resulting membership requirements are not the requirements for a kind. Kinds are the sorts of things to which things either do or could belong.

Before I turn to the question of whether or not an ontology of kinds is capable of grounding an adequate answer to the problem of abstract reference, there is one further issue concerning kinds that I must address. It is this: Kinds are largely thought to exist in a hierarchically ordered structure. Before I continue, I need to say something about the hierarchical relations that may obtain between various kinds. I will do this in terms of the relation of implication. As I will construe implication, a kind K_1 implies a kind K_2 if and only if it is necessarily the case that all the members of K_2 are also members of K_1. In such a case one may say that K_2 is a sub kind of K_1. The essential thought is that a genuine similarity-making predicate collects under itself all and only those objects that satisfy the predicate within an open formula. Once this is done, these collections can be treated like sets and the relations of implication and being a sub-kind for kinds will not differ substantially from those like relations for sets. The notion of a sub-kind will play an important role in my answer to the problem of abstract reference.

Let us return to the problem of abstract reference. The traditional realist maintains that universals and universals alone allow a theorist to solve this problem. This is what I dispute. I claim the acceptance of kinds provides a theorist with the semantic resources necessary for solving the problem of abstract reference.

In *Substance and Attribute*, Michael Loux identifies three contexts within which abstract singular terms play a referring role. These contexts, and his descriptions and examples of them, are as follows:[23]

1) **Exemplification contexts**: Contexts in which to all appearances we pick out some object and say that it exemplifies or exhibits some universal

Examples: a) Socrates possesses wisdom.
            b) The scalene exemplifies triangularity.
            c) The American Flag instantiates redness.

2) **Intentional contexts**: Contexts in which we specify the objects of a person's mental states or acts.

Examples: d) Alcibiades aspires to wisdom
            e) Quine prefers redness to whiteness
            f) Mathematicians think about triangularity

3) **Classificatory contexts**: Contexts in which we use abstract singular terms as tools for identifying a universal that we want to go and classify in some way.

Examples: g) Wisdom is a virtue.
            h) Redness is a color.
            i) Triangularity is a shape.

If an acceptance of kinds is to prove adequate as a solution to the problem of abstract reference, then I must show that each of the above sentences may be reinterpreted as really being about kinds. An additional constraint on this investigation is Loux's *Condition of Semantic Uniformity*. "In rough terms this amounts to the claim that to be acceptable an analysis of sentences incorporating abstract singular terms must show any given abstract singular term to have one and the same role in [these] various contexts."[24] The rationale for this constraint is that in natural language abstract singular terms appear to play the sa-

---

23. Michael J. Loux. *Substance and Attribute* (Boston, D. Reidel Publishing Co., 1978), pp.61-63.
24. Ibid., p.63.

me role in each of these contexts. It is this sameness of role that explains the validity of the following sort of inference:

      1) Socrates possesses wisdom
      2) Wisdom is a virtue
      3) Alcibiades aspires to wisdom
      4) ⊢ Alcibiades aspires to a virtue Socrates possesses.

If 'wisdom' played a different role within one or more of these premises, then the argument would not be valid. The challenge that a kind theorist faces is that of providing an analysis of sentences like (a) through (i) that does not presuppose the existence of universals, but which also shows "a given abstract singular term to have a single function in the different sentences into which it enters."[25] The strategy I will adopt is to first consider each context in isolation. Once this is done, I will argue that the conjunction of these answers satisfies Loux's Condition of Semantic Uniformity.

Exemplification contexts are "those contexts in which to all appearances we pick out some object and say of it that it exemplifies or exhibits some universal."[26] Such contexts are closely related to the phenomenon of predication. If one accepts the traditional realist's claim that the phenomenon of predication is best understood in terms of the exemplification of universals, then each applied predicate will be understood as entailing an exemplification claim of the sort Loux considers. For instance, 'a is F,' will be understood as entailing 'a exemplifies F-ness.' In this regard, exemplification contexts can be thought the most ontologically biased of the three contexts to be considered. Superficially, such contexts presuppose a traditional realist ontology.

To this extent, those wishing to rid themselves of universals might be inclined to think all such claims false. The terms 'exemplification' and 'instantiation' are, after all, terms of philosophical art. They are items of the traditional realist's lexicon and relate to universals. Hence, once one has rejected such entities, it becomes attractive to think sentences employing these terms need no longer be taken

---

25. Ibid., p.64.
26. Ibid., p.62.

with ontological seriousness. To adopt this strategy, however, is to ignore the other methods by which exemplification claims may be expressed. Though sentences such as 'Socrates exemplifies wisdom' can be thought to presuppose an ontological view, sentences such as 'Socrates possesses wisdom' do not. Sentences of this latter sort are uttered and understood even by those lacking all philosophical sophistication. Some account of these latter sentences is in order.

My suggestion is this: All such sentences can be recast as really concerning the kinds to which particular entities belong. 'Socrates possesses wisdom' should be understood, under philosophical analysis, as really being concerned with the kind Wise-thing and Socrates' relation to this kind, namely the relation of 'belonging to.' Generally, the form of exemplification claims is S Es W. What I am suggesting is that for each such sentence the verb, 'E', may be replaced with the phrase '...belongs to the kind...' In this way, exemplification claims are recast as explicitly being about the kinds to which various particulars belong. Under such a strategy, sentences (a), (b), and (c) will be understood as equivalent to (a′), (b′) and (c′) respectively:

a′) Socrates belongs to the kind Wise-thing.
b′) The scalene belongs to the kind Triangular-thing.
c′) The American Flag belongs to the kind Red-thing.

More complex exemplification claims can likewise be understood as being about the kinds to which one or more entities belong. Once the interpretation for basic exemplification claims is set, more complex claims can be understood in terms of the basic interpretative scheme and the formation rules. For example, 'Plato and Socrates both exemplify wisdom' can be understood as stating that both Plato and Socrates belong to the kind Wise-thing, in virtue of their being wise individuals. The other connectives will likewise be treated in a familiar manner.

Such reinterpretations are truth preserving. In fact they are necessarily so. According to the theory I have articulated, each genuine similarity making predicate that a particular satisfies earns that particular membership in a certain kind. The satisfaction of "is red" earns an object membership in the kind Red-thing; satisfying "is triangular" earns an object membership in the kind Triangular-thing; and so on...

But, then, if an exemplification claim is true, so too is a claim about kind membership. After all, if talk of exemplification is understood as attributing a genuine similarity making property to an object, then in such an attribution one also necessarily attributes membership in a certain kind. Hence, the method of reconstruction I have suggested is not only truth preserving, it is necessarily truth preserving.

Now before I continue, I want to head off any misunderstanding before it occurs. Given the above reconstructions and the importance exemplification claims play in the traditional realists' understanding of predication, it is tempting to think I am suggesting that predication claims may be understood as expressing a relation between entities and the kinds to which they belong. One may be tempted to view me as a type of class nominalist who has substituted kinds for classes. Nothing could be further from the truth. For this to be the case, kind membership would have to play a role in explaining predication. In the theory I am articulating, however, the ontological phenomenon of predication is more basic than the phenomenon of kind membership. Objects have properties. This is an ontologically fundamental fact about objects. So too, kinds exist. But objects do not possess their properties as a result of their membership in kinds. Rather, objects belong to the kinds they do in virtue of the properties they possess. Kind membership is explained in terms of property possession, not *vice versa*. That is, kinds, while useful for certain semantic tasks, play no explanatory role in accounts of property possession or predication. Regarding these topics I recommend the answers given by the ostrich nominalist.[27]

Loux's identification of sentences (d)-(f) as "intensional" is a bit misleading, for it brings to mind the puzzles about synonymy that dominate the literature on propositional attitude ascriptions. These puzzles rest on a *de dicto* reading of propositional attitudes and demonstrate that on such a reading the substitution of co-referential expressions within propositional attitude contexts in not always truth preserving. To illustrate, imagine that Superman is Clark Kent. Further, imagine that Jimmy Olsen believes that Superman can fly. What the literature on propositional attitude ascriptions has taught is

---

27. This is important for it allow my theory to avoid the regress problems that plague so many other proposed solutions to the problem of universals.

that from these two facts it does not follow that Jimmy Olsen believes that Clark Kent can fly. The reason of course is that Jimmy Olsen may be unaware that Clark Kent is Superman. But the sentences that Loux offers are not to be read as *de dicto* attributions of content. Instead they are intended as *de re* attributions of content. One is, Loux writes, "to identify the abstract entity that a person's mental act or state is of, for, or about."[28] Hence, there is no requirement within the paraphrases one offers that the individual(s) with whom each sentence is concerned be ready to accept one's identification of the objects of their own mental states. Hence, though such contexts are indeed "intensional" in that they concern the objects of an individual's thoughts, they are not concerned with the problematic intensional statements with which so much recent literature has been concerned. This in turn frees me to offer the very same sort of reconstruction for (d)-(f) that I offered for sentences (a)-(c). On reconstruction (d)-(f) become (d′)-(f′) respectively:

    (d′) Alcibiades aspires to inclusion in the kind Wise-thing.
    (e′) Quine prefers the kind Redness to the kind White-thing.
    (f′) Mathematicians think about the kind Triangular-thing.

An ontology of kinds, then, provides the means for understanding Alcibiades' aspirations, Quine's preferences, and mathematicians' programs of study.

    Finally, the kind theorist's understanding of classificatory contexts is predicated on his understanding of the relationships that obtain between various kinds. According to the realist, classificatory contexts are contexts in which abstract singular terms are used as a tool for identifying universals that we want to classify in some way.[29] The examples Loux gives are sentences such as 'wisdom is a virtue', 'redness is a color', or 'triangularity is a shape.' But these sentences can just as easily be read as concerning the relationship of implication that obtains between kinds.

---

28. Ibid., p.62.
29. Ibid., p.62.

Within my previous discussion of kinds, I characterized the notion of implication as follows: A kind K_1 implies a kind K_2 if and only if it is necessarily the case that all the members of K_2 are also members of K_1. With the notion of implication so defined, I then characterized the notion of a sub-kind as follows: A kind K_2 is a sub-kind of a kind K_1 when K_1 implies K_2. And it is these companion notions of implication and sub-kind that help to explain the hierarchical structure of kinds. Sentences (g)-(i) are properly understood as talking about the relationships that obtain between various kinds and their sub-kinds. Specifically, each may be interpreted as claiming of a kind that it is a sub-kind of another kind. On reinterpretation (g)-(i) become (g′)-(i′) respectively:

> (g′) The kind Wise-thing is a sub-kind of the kind Virtuous-thing
> (h′) The kind Red-thing is a sub-kind of the kind Colored-thing
> (i′) The kind Triangular-thing is a sub-kind of the kind Shaped-thing.

Again, as with my reconstructions of the previous sentences, these reconstructions are truth preserving. The sentences (g′), (h′), and (i′) are true in all and only those instances in which (g), (h), and (i) are true. This is so because on the theory I have sketched it is required of each thing belonging to a kind that it satisfy the membership requirements for that kind. But then, if the kind Wise-thing is a sub kind of the kind Virtuous-thing, anything that satisfies the membership requirements of the former also satisfies the membership requirements for the latter. This just is to say, colloquially, that wisdom is a virtue.

What I have shown is this: The kind theorist is able, through the use of kinds, to offer, on a context by context basis, adequate reconstruction of the sentences (a)-(i). What remains to be seen is whether or not the kind theorist can also meet what Loux calls the condition of semantic uniformity. Recall what this condition requires. It requires that one's analysis of abstract singular reference be such that it show any given abstract singular term to have one and the same role in exemplification contexts, intentional contexts, and classificatory contexts. The reason for this requirement is, again, in natural language such terms appear to play but a single role. How else could one ac-

count for the ease with which (a), (d), and (g); (b), (e), and (h); and (c), (f), and (i) can be combined to yield (1), (2), and (3) below?

(1) A virtue Alcibiades aspires to is a virtue Socrates possesses

(2) A property mathematicians think about is a shape that the scalene exemplifies

(3) A color Quine prefers to whiteness is a property instantiated by the American Flag

The account I offer is able to meet this condition. Using kinds and the foregoing discussion of these various contexts, the reconstructions of (1), (2), and (3) will be as follows:

(1′) The kind to which Alcibiades aspires is a sub-kind of the kind Virtuous-thing and is a kind to which Socrates belongs.

(2′) The kind mathematicians think about is a sub-kind of the kind Shaped-thing and is a kind to which the scalene belongs.

(3′) The kind Quine prefers to the kind White-thing is a sub-kind of the kind Colored-thing and is a kind to which the American flag belongs.

The condition of semantic uniformity is met. According to the analysis I have given, each abstract singular term plays the same role in each of the contexts considered. Consequently, I conclude that kinds prove semantically adequate to the task of analyzing abstract reference. Kinds, I conclude, may serve as the *denotata* of abstract singular terms.

Moreover, since the answers the ostrich nominalist offers for the problems of property position and predication are satisfactory, and as they are not at odds with the account of abstract reference the kind theorist offers, the combination of these answers provides a satisfactory solution to the problem of universals.

III

What remains is to show that the view I have articulated enjoys an advantage over a traditional realism that admits universals. There are at least two areas in which a kind theorist of the sort I envision may claim to have provided an advantage. First, as noted early, universals make poor kinds. Hence, if the traditional realist is to avoid doing

damage to the intuitive notion of a kind, then he must admit into his ontology both kinds and universals and forego the identification of kinds with universals. Thus, for those interested in preserving as intuitive a notion of a kind as possible, the view I have articulated enjoys an advantage of theoretical parsimony. Once one foregoes the temptation to identify kinds with universals it behooves one to explore how much work the notion of a kind will perform As it turns out it does enough work to free one from the need for universals altogether.

The chief benefit of the view I have articulated, however, is that it avoids the regress problems that plague traditional realist theories. According to traditional versions of realism, the phenomenon of property possession is to be explained through the posit of a relation of instantiation that binds particulars to their properties. Hence, a's being F is to be understood in terms of a's instantiation of the universal F-ness. But there is a problem with this proposed analysis. Instantiation is itself a property. Hence, it too must be explained in terms of a relation of instantiation; this time a higher order instantiation relation that binds the original relation of instantiation to the particular in question. It is clear how a regress ensues, for now this higher order relation itself needs to be bound to the particular in question. It seems to me that so long as one remains within traditional realism there is no satisfactory answer to this problem. Of course solutions have been forwarded, but these solutions simply engender more difficulties. For example, it is often claimed the traditional realist may take the relation of instantiation to be *sui generis*. But if this is done, then the theorist has an obligation to explain either: A) why instantiation, though a relation and a one over many, is not a universal and thus not subject to the traditional treatment, or B) why instantiation, despite being a universal, merits such different treatment. I have yet to see an adequate defense of either of these strategies. I think it is far better to be able to sidestep this issue altogether.

By adopting the ostrich nominalist's solutions to the problems of property possession and predication the kind theorist is able to do this.[30]

---

30. It might be asked why the traditional realist can't also adopt this same strategy and embrace the ostrich nominalist's solutions to the problems of property possession and predication and use universals only to ground the phenomenon of

ABSTRACT

The aim of this paper is to forward a plausible solution to the problem of universals that is able to avoid both the problems that nominalism encounters and those that realist theories admitting universals encounter. I argue that a view that accepts the ostrich nominalist's answers to the problems of property possession and predication and couples them with an ontology that admits kinds as a form of abstract object proves superior both to existing nominalist theories and to traditional realist theories. It avoids the regress problems that have plagued traditional realism and is able to offer a satisfactory account of abstract reference in a way which nominalist theories cannot.

abstract reference. The reason this strategy would fail for the traditional realist is that the very nature of universals grows out of the work they are said to do in explaining predication and property possession. That is, the task of grounding the phenomenon of abstract reference does not require multiply exemplifiable entities. Hence, in order to admit such entities into one's ontology there must be other work for them to perform — work that requires the feature of being multiply exemplifiable.