# CRITICAL STUDIES

## *To Be and Not To Be*

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### I. INTRODUCTION

Since the mid-1970s, there has been a revival of interest in the philosophy of Alexius Meinong and an attendant flurry of Meinong-inspired theories.[1] One of the pioneering efforts was Terence Parsons's 1974 article, "A Prolegomenon to Meinongian Semantics" (Parsons, 1974), which was followed by a series of articles in which he extended and elaborated his theory, culminating in his 1980 book, *Nonexistent Objects* (Parsons, 1980).

The present essay is a critical and comparative study of Parsons's seminal and exciting work in this area, concentrating on the informal and formal versions of his theory as presented in his book.[2] I begin with a discussion of the nature of intentional objects, their properties, and modes of predication as presented in Parsons's informal version of his theory. I argue that his view of objects does not adequately reflect our ordinary ways of speaking and thinking, and I defend Meinongian theories that recognize two modes of *predication* against Parsons's objections, which are based on his preference for two kinds of *properties*. I then consider Parsons's application of his theory to fictional objects, pointing out problems with his view that can be avoided by maintaining (*contra* Parsons) that no existing entities ever appear in works of fiction. I conclude with an outline of one of Parsons's formal versions of his theory, raising some questions and pointing out some difficulties and a curious consequence about modes of predication.

### II. PARSONS'S STRATEGY

Parsons tells us that he originally viewed Russell's and Quine's criticisms of Meinong "as constituting one of the clearest examples of philosophical progress that we have. Clear progress is rare in philosophy, and I was pleased to have an example to cite'' (xi-xii).[3] His decision to seek a new ''paradigm'' carries with it a sense of loss, given what he sees as the two principal advantages of the Russellian paradigm, namely, the ''very effective'' arguments against Meinong (together with Meinong's failure to reply *persuasively*) and the philosophical system based on the belief that everything exists and on the technique of the theory of description which eliminates reference to apparent non-existents (2-9).

Of course, a rehabilitation of Meinong's theory doesn't so much show that Russell or Quine did *not* make ''progress'' as that Parsons himself can make ''progress'' in a different *direction* by devising and presenting an alternative theory. Progress in philosophy occurs, *inter alia*, with the creation of reasonably complete theories within which important problems can be solved and against which other reasonably complete theories can be compared.[4]

For a new paradigm to gain any foothold, it cannot arise from nowhere and it must be found useful. In the case of Meinongian theories, ''the way has been paved by a recent mood in logic according to which logic ought not to rule out nonexistent objects'' (8). Here, Parsons refers to Dana Scott's classic ''Advice on Modal Logic'' (Scott, 1970). But notice should also be taken of the importance of intensional (including, therefore, non-existent) entities—and such attendant apparatus as non-existentially loaded quantifiers—in current artificial-intelligence research, especially to semantic-network data structures.[5]

## III. THE INFORMAL THEORY

The ontology of Parsons's informal theory consists of objects, two kinds of properties (''nuclear'' and ''extranuclear''), and one mode of predication.

### 1. *Objects*.

The thrust of Parsons's arguments is to convince us, not so much that there *are* non-existent objects, but that there can be a viable theory of them (37-38).[6] But such a theory should also give us an inkling of *what* an object is, existent or otherwise. This is, admittedly, a much more problematic task, but Parsons does not face it as directly as one might wish.

He tells us that he is only concerned with ''concrete'' objects such as tables and unicorns, and not with ''abstract'' objects such as numbers, properties, or propositions (10). Yet, if numbers are to be ruled out, then so, it would seem, are *all* mathematical objects, even though this realm offers many of the most interesting and plausible examples of non-existents: the largest prime, inaccessible cardinals, and even (arguably) that well-known geometerical object, the round square. Moreover, if 'object' is being used as Meinong did, then anything about which one can think is an object, including, *a fortiori*, numbers, properties, propositions, and so on.

Part of the problem is that 'object' is ambiguous. Meinong used '*Gegenstand*' ( = object) in the sense of "object-of-thought"; that to which our acts of thinking are directed. In ordinary use, 'object' tends to mean something like "thing out there in the (real) world". On the first reading, an *existing* object might be, say, an object-of-thought with a special property (e.g., the property of existence, or consubstantiation, as in Castañeda (1972), or with a special relationship to objects understood according to the second reading (as in Rapaport, 1978). On the second reading, modifiers such as 'existing' or 'actual' seem redundant. It is not clear that Parsons is using a version of the second reading, though it often seems that way: witness his abstract/concrete distinction. But neither does he seem to be using the first one.

He provides an algorithm of sorts for generating non-existent objects: For each existing object, $o$, let $S(o)$ be the set of its properties. There are sets of properties that are not among the $S(o)$'s. For each $S$ among *them*, let $o_S$ be the object correlated with it. The $o_S$'s are the non-existent objects. But what *are* they? We are told that "This correlation is not one of identity ... " (18-19, fn. 1), but we are not told what it *is*, other than by being given its definition. This, however, does not tell us what the *objects* are—what the range of the correlation function is. (Note, incidentally, that here Parsons correlates an *object* to each *set*; later, in his formal treatment, he correlates a *set* to each *object*. Cf. Sect. V.3, below.) Thus, Parsons's theory appears to arise from an *axiom* that there are such $o_S$'s. This corresponds to Meinong's Principle of Freedom of Assumption,[7] but Meinong, at least, tried to derive this from his more general philosophy of mind (or to embed the claim therein): Objects, existing or not, are intentional entities—objects-of-our-thoughts.[8]

Some light is shed on the nature of objects by the following "assumptions" of Parsons's informal sketch (17):

(1) ...no two existing objects have exactly the same properties.
(2) ...for any existing object there is at least one property ... that it has and that no other existing object has.

Assumption (1) is consistent with both readings of 'object', as well as with the ruled-out identification of objects with the sets of their properties, so it is not of much help. Parsons suggests that (2) is a special case of (1). Clearly, (2) implies (1). But it is of crucial importance to observe that (1) implies (2) iff *existing objects are such that their property-sets are not subsets of each other.*

2. *Properties.*

As with most other Meinongian theories, Parsons's is two-sorted. There seem, in fact, to be two sorts of two-sorted Meinongian theories: those distinguishing between two modes of *predication*—e.g., Castañeda (1972) and Rapaport (1978)—and those distinguishing between two kinds of *properties*—e.g., Parsons, and Routley (1979).[9]

*Nuclear* properties include such ordinary properties as being blue, being a mountain, or being kicked by Socrates. *Extranuclear* properties include: existence, being possible, and being thought about by Meinong (23). The nuclear properties are the ones in the property-sets. Thus, the informal theory can be presented via two principles (19):

(3) No two objects (real *or* unreal) have exactly the same nuclear properties.
(4) For any set of nuclear properties, some object has all the properties in that set and no other nuclear properties.

Principle (3) is an extension of (2) (to non-existing ( = unreal?)) objects, and (4) is intended to "dispense with talk of lists and correlations" (19). To one sympathetic to this sort of enterprise, these principles are unobjectionable and, save for the restriction to nuclear properties, straightforward.

3. *Existing vs. Non-Existing Objects.*

For each set of properties not correlated with an existing object, Parsons correlates a new, hence non-existing object. But it is not clear that the new ones *are* non-existing or that we have to correlate *new* objects.

When someone says that John's brown chair exists, one is not necessarily saying something elliptical for "the object correlated with {belonging to John, being brown, being a chair, ...} exists", where the ellipses in the notation for the set are crucial. That is, normally one is not saying something elliptical for the *infinitely long* sentence, "John's brown, ... chair exists". Rather, one ordinarily means that the object whose properties are: belonging to John, being brown, and being a chair exists; i.e., one ordinarily means that there is some object correlated (in some way) with a *finite* set.[10].

To say that John's brown chair exists is *not* to say that John's brown reclining chair exists, even if John's (only) brown chair *is* John's brown reclining chair. Yet these *would* be the same on Parsons's theory, because his theory holds that the only existing objects are correlated with (certain) *infinite* sets, namely, (some of) the *complete* ones (20). This follows from a further (informal) assumption (19):

> (5) ...for any nuclear property $p$, there is another nuclear property $q$ which *existing* objects have if and only if they don't have $p$ ....

The restriction to *existing* objects is necessary. Without it, as Parsons notes, if $q$ were $p$'s non-restricted negation, then there could be no object whose property-set was $\{p, q\}$; but there can be, by definition.

However, it seems to be much more in keeping with our normal ways of speaking and thinking to say that each existing object is correlated with *many* sets, viz., the set of *all* its properties (as with Parsons) *as well as* each of the non-empty subsets of that set. On this view, the *rest* of the property-sets get correlated with non-existing objects. Parsons countenances many more non-existents than this view does, since he sees a 1-1 correspondence between objects and property-sets instead of a 1-many correspondence.

What about those objects about whose existence these views differ? John's brown chair, understood as the object correlated with the 3-element set {belonging to John, being brown, being a chair} is a *possible but non-existing object* for Parsons. Informally, an object $x$ is possible iff (by defintion) it is possible that there exists an (existing) object $o$ such that for all nuclear properties $p$, if $x$ has $p$, then $o$ has $p$ (21). This allows him to say that the golden mountain, i.e., the object correlated with {being golden, being a mountain}, is a possible object. Now, if there existed such an object—if the possible object were actual—then we might say that the existing object $o$ "contains" $x$ (though Parsons does not use this term), in the sense that $\{p|o \text{ has } p\} \supseteq \{p|x \text{ has } p\}$. So, John's brown chair (understood as before) is possible, but non-existent (because incomplete), yet associated in some way with an existing object, viz., the complete object correlated with the infinite set.

The trouble with this is that John's brown chair is, then, non-existent in precisely the same way that the golden mountain is, and that seems wrong. For Parsons, the difference between a non-existing object like the golden mountain and a non-existing object like John's brown chair is in the association (or lack thereof) with an existing object (there is no complete object that ''contains'' the golden mountain as there is a complete object that ''contains'' John's brown chair). But it seems to me that it is that association that precisely characterizes the structure of existence: it makes sense to say that the golden mountain does not exist, because it is not ''contained'' in a complete, existing object; and it makes sense to say that John's brown chair (the 3-propertied one) does exist because it *is* thus ''contained''. On Parsons's theory, the truth value of 'John's brown chair exists' varies with the number of properties in the property-set correlated with John's brown chair; but it seems more natural that the truth value should be the same no matter how 'John's brown chair' is interpreted.

4. *Properties and Predication.*

It is interesting that Meinongians feel a need for a two-sorted theory, either of sorts of properties or of sorts of predication. It would be nice if the differences were in some sense terminological, or even notational; but this is not the case: Suppose, for instance, that a theory admitted the nuclear/extranuclear-property distinction together with an internal/external-predication distinction. If all and only nuclear properties were internally predicated of their objects and all and only extranuclear properties were externally predicated, there would be no serious distinction between the two classes of theories. But those who favor different modes of predication allow both sorts of properties to be predicated in both ways; i.e., the two-modes-of-predication theories can admit two sorts of properties (though they do not make the distinction, nor—*pace* Parsons—is there a need to), while the two-sorts-of-properties theories do not explicitly admit two modes of predication (though, as we shall see, there are two modes in Parsons's theory).[11]

Parsons has two main criticisms of theories with two modes of predication. The first is that they *do* need two kinds of properties, that even on a two-modes-of-predication theory, there are some properties ''for which a distinction between having [i.e., external predication] and including [i.e., internal predication] is *forced* on the theory'' (172) and that these turn out to be the ''essentially'' extranuclear properties (such as existence), but that ''...we are not similarly forced to make this distinction for goldenness'' (172). However, insofar as this notion of ''forcing'' makes any sense, we *are* ''forced'' to make the distinction for *all* properties: A fairy-tale princess's golden ring is-internally golden, not externally so; but my golden ring *is* externally golden.[12]

Another problem with two-modes-of-predication theories, according to Parsons, is their inability to deal with certain definite descriptions. Parsons begins by rejecting what he calls "*the unrestricted satisfaction principle*" that "any definite description refers to an object *that satisfies the description*" (30). Two-modes theorists are normally quite happy with this principle. The fact that the principle is implicitly used in ordinary speech makes its adoption essential for a *natural*-language semantics (and, incidentally, for "knowledge"-representation data bases in artificial-intelligence systems), in turn providing a good reason for accepting non-existents into one's ontology.[13] This is in marked contrast to Parsons's view: "I do not think that the main evidence for unreal objects comes from this principle, and I do not intend to endorse it . . . . [T]he principle is in fact inconsistent" (30-31).

But, as is often the case in situations like this, the argument for the alleged inconsistency (31) is a *reductio* that reduces only one of many candidate assumptions to absurdity: Consider the definite description 'the $x$ such that $x$ is golden and it is not the case that $x$ is golden'. By the principle, this refers to some object, $g$, that satisifes the description, so it both is and is not the case that $g$ is golden, a contradiction. But why reject the principle? Another, implicit, assumption is that objects have properties in only one way. If *this* is rejected instead, the contradiction can be avoided as follows: Let $g$ be a (Meinongian) object having-internally only two properties: exemplifiying-goldenness and not-exemplifying-goldenness (i.e., the properties of having-goldenness-externally and of lacking-goldenness-externally). There *exists* no such $g$, to be sure; else, $g$ would have to exemplify and fail to exemplify goldenness. But to satisfy the definite description, $g$ merely has to have the properties internally, which it does without contradiction.

Now the *problem* with two-modes theories that Parsons sees is that Russell's objections to the existing golden mountain reappear: "the thing which *has* [i.e., externally] goldenness and *has* [externally] mountainhood and *has* [externally] existence' cannot refer to an object which has goldenness, mountainhood, and existence" (172), presumably because there exists no such object. But the English definite description can be taken to refer to the Meinongian object that has-internally three properties: exemplifying-goldenness, exemplifying-mountainhood, and exemplifying-existence, and *this* Meinongian object is not correlated with any actual object (in the sense that no actual object has-externally all these properties). That is, while the English definite description does not, indeed, refer to an (actual) object that exemplifies (has externally) goldenness, mountainhood, and existence, it *does* refer to an object (a

Meinongian object-of-thought) that has internally the properties of exemplifying-goldenness, exemplifying-mountainhood, and exemplifying-existence. There is no problem, since a Meinongian object *having-internally* such a property does not (necessarily) *exemplify* it, and the definite description does refer to an object that satisfies the description.

For Parsons, "$(\iota x)\ \phi$ refers to the unique object that satisfies $\phi$, if there is one, and, otherwise, $(\iota x)\ \phi$ just doesn't refer at all" (114). If we are to accept non-existents, how can we fail to refer at all? If we fail to refer to an *existent*, then why isn't it the case that we *succeed* in referring to a non-existent? Parsons believes that we can even fail to refer to non-existents: I fail to refer to one if I say, "The dragon in the Sherlock Holmes stories is silly" (113). Surely, here I'm failing to refer to any character in those stories, but isn't {being a dragon, being silly, being in the Sherlock Holmes stories} a set of nuclear properties? I may be mistaken in my beliefs about the Holmes stories, but I am referring to an object that does not exist.

Parsons offers two arguments in favor of the nuclear-extranuclear distinction, but neither is conclusive. First, consider the following formulas (24-25):

(6) There is a set $X$ of nuclear properties, not containing $F$, such that every object which has every member of $X$ has $F$.
(7) There is a set $X$ of nuclear properties, not containing $F$, such that every object which has every member of $X$ lacks $F$.

According to Parsons, no nuclear property satisfies these, yet there are are extranuclear ones that do. But consider an extranuclear $F$ that satisfies (6), say $F$ = having every member of $X$. Now, $F$ appears to depend upon the set of properties rather than upon one of the objects, and similarly for Parsons's other examples of extranuclear properties (23). For instance, the extranuclear property of being possible depends on the kinds of properties in the set. So the nuclear-extranuclear distinction seems really to be a distinction about the proper *application* of predicates rather than a distinction among predicates themselves. Moreover, the "having" in (6) and (7) is ambiguous: if it is external, then every object that has-externally every member of $X$ has-externally $F$. But if the "having" is internal, then even extranuclear properties fail to satisfy them.

The second argument (attributed in part to Dorothy Grover) assumes, *pro tempore*, that all properties are of one kind, nuclear. Next, it assumes that the predicate 'exists' stands for the nuclear property of existence. Now consider {existence}. There is an object, $o$, correlated with this set. Since objects correlated with property-sets have the properties in the set, *o* exists. But *o* is incomplete. So *o* does not exist. So existence is *not* nuclear (22-23).

But, again, there are many other assumptions in this *reductio* that could have been rejected: It was assumed that 'exists' was not ambiguous in English, that only complete objects exist, and that objects have properties in only one way. Since any one of these could have been rejected instead of the *pro tem.* assumption,[14] this argument is not conclusive either.

## IV. FICTIONAL OBJECTS

Partly as motivation for this theory, and partly as application of it, Parsons develops a theory of objects occurring in works of fiction. One of his assumptions is "that real objects occur in fiction as well as non-existent ones" (49). This commonly accepted assumption leads to a number of problems and, I believe, should be rejected.

How is one to demarcate works of fiction from works of fact? If it is not known whether a given text is fiction or fact, there is no way to tell whether the objects therein are real or not; hence, they should all be treated on a par. And since we may safely assume that non-existents can only appear in works of fiction, it is arguable that we should treat all objects in the text as non-existing. Thus, I prefer to hold that only non-existent objects occur in non-fiction, or as Robert Scholes puts it,

> The greatest mistake we can make in dealing with characters in fiction is to insist on their "reality." No character in a book is a real person. Not even if he is in a history book and is called Ulysses S. Grant. (Scholes, 1968, p. 17)

But this is not the place to argue for this (admittedly paradoxical) view. [15] Rather, let me point out some of the problems with Parsons's view.

First, Parsons is forced into an unhappy distinction:

> With regard to a given story, it's helpful to distinguish between two different sorts of fictional objects: objects *native* to the story versus objects that are *immigrants* to the story . . . . The distinction is, roughly, whether the story totally "creates" the object in question, or whether the object is an already familiar one imported into the story. (51)

Now, there is no doubt that as we read a story, we make such a distinction. We learn the properties of "natives" by addition—i.e., we "construct" their property-sets as we read—whereas we learn the properties of "immigrants" by deletion and replacement from antecedently-given or presupposed property-sets:

> . . . as the reader reads the story . . . a partial account is gradually developed . . . : (a) Typically, as a new sentence is read, that sentence is added to the account. (b) Typically, lots of other sentences are simultaneously added .... (c) Often, sentences are removed from the account. (176)

As a description of our psychological processes while reading, this is no doubt on target.[16]

However, it is crucial to realize that at the *end* of this process, we are not left with *any* real objects: The natives weren't real to begin with, and the immigrants no longer are. If Lincoln is imported into a historical novel, and we are then told that he is re-elected for a third term in 1868, this is no longer the Lincoln we're familiar with. Or take the London in the Sherlock Holmes stories: *In* the stories, it has properties that the *real* London *doesn't* have, so how can it *be* the real London? Thus, Parsons's intent to treat native and immigrant objects differently (cf. p. 51) does not get at the heart of the matter.

Parsons deals with these objections in a paragraph on p. 52 that can be read as suggesting the possibility of two modes of predication: real vs. fictional predication. Possibly to avoid this reading, he introduces a third kind of object, "surrogate" objects: "the *real* London occurs in the [Holmes] stories, but ... sometimes in discussing the stories *we* [my emphasis] discuss its surrogate instead" (57).

Even if *we* do, which London was Conan Doyle discussing? Which London do Holmes and Watson discuss? Can one tell *when* one is discussing the real London and when its surrogate? And what reason is there for thinking that the real London occurs in the stories?

Parsons's answer to the last question is that "it is true that London is such that, according to the [Holmes] novels, Holmes lived in it" (57-58). But why should we think that the London such that, according to the novels, Holmes lived in it *is* the *real* London? Doesn't this hold for the surrogate London, too? Why, then, not say that it is *always* the surrogate? A uniform treatment of all fictional objects as non-existent would seem to avoid these problems.

The core of Parsons's view seems to lie in the following passage:

> . . .I am inclined to accept it [viz., his just-cited answer] because I see no difference in the referential situations:
> (i) Telling a lie about Jimmy Carter.
> (ii) Telling a lie about Carter which is very long (e.g., book length).

(iii) Making up a story about Carter which is not intended to deceive anyone, and which contains falsehoods.
(iv) Writing a work of fiction in which Carter is a character. (58)

Presumably, 'Carter' refers to the real Carter throughout (i)-(iv) (in which case, real-life immigrants are *never* surrogates, and all predications about them solely in the novel are (really) false; wouldn't it be easier to have two modes of predication?). But the slope is not as slippery as Parsons believes. There is a distinction between the pairs (i)-(ii) and (iii)-(iv) in the *intent* of the tale-teller. There is *no* context in which the lies about Carter are true of him in (i) or (ii). But there *are* contexts in which the falsehoods about (the real) Carter are true of the *character* named 'Carter' in (iii) and (iv). Normally, there is a relation between the *character* Carter and the *real* Carter, but it is nothing more than their sharing some crucial properties (intentionally so, on the part of the author).[17]

## V. THE FORMAL THEORY

Parsons offers two formal theories, one with and one without possible worlds. I shall consider only the former here.

### 1. *The Language* $\mathcal{O}$.

The theses of Parsons's Theory of Objects are expressed in a formal language $\mathcal{O}$ (64ff), which is fairly typical except for the following distinguishing features:

(1) Lower-case letters $p^n_i q^n_i$ stand for n-place nuclear predicate constants and variables, respectively; and capital letters $P^n_i$, $Q^n_i$ stand for n-place extranuclear predicate constants and variables, respectively. '$E!$' is a 1-place extranuclear predicate constant.
(2) n-place predicates can be turned into complex, (n – 1)-place predicates by a formation rule that "plugs up" any place.
(3) There is a "watering-down" operator, $w$, that transforms any n-place *extranuclear* predicate $\alpha$ into an n-place *nuclear* predicate $w(\alpha)$. (It is curious that earlier Parsons said that for every such $\alpha$, there is *at least* one nuclear predicate corresponding to it (44), yet $w$ is clearly a function.)
(4) The quantifiers range over *all* objects. Thus '$(\exists x)$' is to be read as "there is an $x$", rather than as "there exists an $x$"; the latter is symbolized by '$(\exists x)$ $(E!x$ & ...$)$'.

### 2. *The Theory of Objects.*

The real interest, of course, lies in the axiom schemata formulated in

The first schema, the Axioms of Abstraction for Extranuclear Relations, assert that anything sayable about objects can be said using just one extranuclear relation (72). In the case of 1-place predicates, this is:

AB(E): Let $\phi$ be a wff without free $Q$. Then $(\exists Q)(x)(Qx \equiv \phi)$.

(Here and elsewhere, '$x$' ranges over singular terms.) This provides a way of combining predicates to form a complex predicate (cf. pp. 103f, esp. AB(E)*).

It might be thought to follow that the same would be true for *nuclear* relations, in view of the $w$-operator, but the nuclear analogues (AB(N), p. 73) only hold for *existing* $x$. This follows from AB(E) and the Watering-Down Axioms (again, I give the 1-place case) (73):

WD: $(Q)(x)(E!x \supset (Qx \equiv w(Q)x))$.

That is, if an *existing* object has an extranuclear property, then it has the watered-down version, too, and conversely. These two parts of WD raise several unanswered questions: What *are* the watered-down versions of such extranuclear properties as being thought about by Meinong, or being possible? Do existing objects really have the watered-down versions of these properties in precisely the same way that they have other, more plausible, nuclear properties (e.g., are they members of the object's property-set)? And the converse claim raises the possiblity that there is a logical or perhaps temporal priority of some sort: Consider the extranuclear property $P$ = being thought about by Meinong. Suppose that $a$ exists and has $w(P)$, the watered-down version of being thought about by Meinong. Now, $w(P)$ is nuclear, and so it is part of $a$'s property-set—it is an "essential" property, in some sense. Yet somehow it seems that $Pa$ must hold "before" $w(P)a$ holds, i.e., that $a$ should actually have been thought about by Meinong "before" "acquiring" $w(P)$.

One further axiom schema (there are others) that must be mentioned because of an important role it plays later is:

OBJ: Let $\phi$ be a wff without free $x$. Then $(\exists x)(q)(qx \equiv \phi)$.

This provides us with the golden mountain by letting $\phi$ be ($q$ = being golden $\vee$ $q$ = being a mountain).

3. *The Semantics of the Theory of Objects.*

The semantics of the theory (78ff) should shed some light on these puzzles, but it only raises deeper questions. An *interpretation*, I, of $\mathcal{O}$ consists of:

a non-empty class, $OB$, of *objects*;

a class $EX \subseteq OB$ of *existing objects* (which, presumably, may be empty);
non-empty classes, $N_n$, of n-place *nuclear relations* (for n = 1,2,...);
non-empty classes, $E_n$, of n-place *extranuclear relations* (for n = 1,2,...);
a *primary extension* function, ext, which is such that
for $r \in N_n$, ext $(r) \in \mathcal{P}(EX^n)$, and
for $R \in N_n$, ext$(R) \in \mathcal{P}(OB^n)$
(here, I am using $\mathcal{P}$ for the power set);
a 1-1 *correlation function*, $f{:}OB \rightarrow \mathcal{P}(N_1)$, which is such that
for $x \in EX$, $f(x) = \{r \in N_1 \mid x \in \text{ext}(r)\}$
(i.e., the correlate of an existing object is the set of all nuclear properties each of whose primary extensions contains the object);
a function PLUG, for "plugging up" n-place predicates (the details of which won't concern us);
a "watering-down" function, $W$, which is such that
for $R \in E_n$, $W(R) \in N_n$ & ext $(W(R))$ = ext $(R) \cap EX^n$;
and an *assignment function, A*, which assigns objects to constant singular terms, nuclear relations to nuclear predicate constants, and extranuclear relations to extranuclear predicate constants.

Further, the interpretation I must be such that OBJ and AB(E) are "true-in-I", a notion we shall look at shortly.

Some observations and questions are in order. The *full extension* of a property is the class of *all* objects that have it. So, in the case of extranuclear properties, the primary extension *is* the full extension; but in the case of a nuclear property, there may be non-existent objects that have the property, and these will not be in its primary extension. But now consider the correlation function. We *are* told which sets are correlated with existing objects, but we are not told which ones are correlated with non-existing objects. We are told that an object has a nuclear property iff the property is such that the object is in its primary extension (i.e., $x$ ($\in OB$) has $r$ ($\in N_1$) iff $r \in f(x)$). But then what does it mean for a non-existent object to have a nuclear property $r$, since a non-existent object cannot be in ext$(r)$?

The definition of truth in an interpretation (80-81) leads to the curious consequence promised earlier. First, $A$ is extended to a function $g$, thus:

for primitive constant terms $\alpha$, $g(\alpha) = A(\alpha)$;
for singular-term variables $\tau$, $g(\tau) \in OB$;
for n-place nuclear predicate constants $\alpha$, $g(\alpha) \in N_n$
for n-place extranuclear predicate constants $\alpha$, $g(\alpha) \in E_n$
for $\alpha = w(\beta)$, $g(\alpha) = W(g(\beta))$

(and there is a clause involving PLUG, which I shall pass over). The recursive definition of "$\phi$ is true$_{I,g}$" includes the following two clauses:

(D1) Let $\alpha$ be a 1-place *nuclear* predicate, and let $\tau$ be a singular term. Then $\alpha\tau$ is true $_{I,g}$ iff $g(\alpha) \in f(g(\tau))$.

(D2) Let $\alpha$ be a 1-place *extranuclear* predicate, and let $\tau$ be a singular term. Then $\alpha\tau$ is true $_{I,g}$ iff $g(\tau) \in \text{ext}(g(\alpha))$.

But these are *two* modes of predication! Now, of course, this does not put Parsons's theory in the same sub-paradigm with other two-modes theories, since he has a different mode for each type of property. But it would have been more in keeping with his informal theory to have had just one mode for both. And, indeed, he could have done this by using the *full* extension: for $\alpha \in N_i \cup E_i$, let full-ext($\alpha$) $\in \mathcal{P}(OB^i)$. Then $\alpha\tau$ is true$_{I,g}$ iff $g(\tau) \in$ full-ext($g(\alpha)$).[18]

4. *Relations and Relational Predicates.*

Parsons's early theory of relations in the "Prolegomena . . ." had some problems;[19] so does the present theory. The biggest problem is that he does not discuss the interesting (and, to my mind, difficult) cases:

> I have omitted consideration of relations, such as *worships*, that are nuclear at the first place and extranuclear at the second place. This is only for simplicity; treatment of such mixed relations would cause no theoretical difficulties. (65 n.1)

But there are theoretical difficulties (see Chisholm, 1982), and even within Parsons's theory, a number of questions can be raised that, because such relations are not considered, are not answered.

There are axiom schemata, PLUG(N), for plugging up *nuclear* relations (75ff).In the 2-place case, we have

$$E!x_1 \supset ([x_1 r]x_2 \ \&\ E!x_2 \equiv x_1 \ [rx_2]);$$

i.e., if $x_1$ exists, then $x_2$ both exists and has the (nuclear, relational) property of being $r$'d by $x_1$ iff $x_1$ has the (nuclear, relational) property of $r$'ing $x_2$. That is, both of the following hold:

(8) $E!x_1 \supset (([x_1 r]x_2 \ \&\ E!x_2) \supset x_1[rx_2])$
(9) $E!x_1 \supset (x_1[rx_2] \supset ([x_1 r]x_2 \ \&\ E!x_2))$

Now, (8) seems perfectly reasonable, but I find (9) somewhat puzzling: If $x_1$ exists and has the (nuclear, relational) property of being $r$'ing $x_2$, then $x_2$ exists and has the (nuclear, relational) property of being $r$'d by $x_1$. But what is a nuclear relation? Is it, as (8) and (9) suggest, one whose terms must exist? But surely, *being the* *roommate of* is a nuclear relation, yet it can hold of Watson and Holmes. Or is it one such that one of its terms exists iff the other does? This is a necessary but not a sufficient condition for nuclearity. (It also holds for $(\lambda x,y)\ [E!x \equiv E!y]$, which is extranuclear; cf. n. 19.) In any case, it would be nice to have the relevant axioms for relations like *worships*.

Parsons does give us PLUG(E), the axiom schemata for plugging up *extranuclear* relations (77); the 2-place case is quite simple:

$$[x_1R]x_2 \equiv x_1[Rx_2].$$

But this also seems to hold for *worships* (and for nuclear-extranuclear and extranuclear-nuclear relations generally): Surely, Zeus has the (extranuclear?, relational) property of being worshipped by some (real) ancient Greek iff that (real) ancient Greek has the (nuclear?, relational) property of worshipping Zeus, and similarly for a non-existent object (say, in a historical novel of ancient Greece). But what, then, is the difference between the classification in terms of the existence or non-existence of their *terms*? I hope that Parsons will clarify some of these points in the future. The treatment of relations in theories of non-existents is difficult, but important.[20]

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## NOTES

[1]For an excellent bibliography to 1978, see Routley (1979, pp. 963-89).

[2]See Rapaport (1978, pp. 167ff) for a discussion of Parsons (1974).

[3]Hereafter, numerals in parentheses are page references to Parsons (1980).

[4]This view of the nature of philosophical progress is discussed in more detail in Rapaport (1982a).

[5]Cf. Woods (1975), Shapiro (1981), Maida and Shapiro (1982), and Rapaport (1985). The interest in such notions among both logicians and computer scientists stems from similar reasons, as an examination of the relevant literature makes clear. Cf. esp. Scott (1970, p. 145).

[6]See also Parsons's recent discussion of the question whether there are non-existents, in (Parsons, 1982).

[7]Cf. Meinong (1915, p. 282) and Rapaport (1978, p. 156).

[8]One need not accept Meinong's philosophy of mind in order to ground the nature of objects. For alternatives, see Castañeda (1972) and Rapaport (1979b).

[9]Unfortunately, Routley's distinction between "characterizing" and "non-chracterizing" properties is inconsistent, since the property of being red-and-not-red turns out to be both; cf. Routley (1979, pp. 265ff) and Rapaport (1984), Sect. IV.

[10]For more defense of this point, see Rapaport (1978).

[11]Fine (1984, pp. 97-99) makes a similar observation about there being two sorts of Meinongian theories, though he draws a somewhat different conclusion about their relationships (he thinks they are intertranslatable), and he does not explore the nature of Parsons's mode(s) of predication (cf. my Sect. V. 3, below).

[12]As I have urged elsewhere (Rapaport, 1978, pp. 159ff). Castañeda (1972) contains the first type of view in which existential predication is external predication. Romane Clark has tried to build paradoxes on the idea that some objects can be externally what they are internally; cf. Clark (1978), Castañeda (1978), Rapaport (1978, pp. 176f), and Rapaport (1982b).

[13]On the argument from natural-language semantics, see Rapaport (1981).

[14]E.g. Castañeda (1972) and Rapaport (1978) reject all three.

[15]For that, see Scholes (1968) and Rapaport (1976, pp. 8ff). Another relevant—and different—discussion of fiction from the two-modes-of-predication paradigm is Castañeda (1979).

[16]Current research in artificial intelligence, notably Schank's work, as well as work on default logics and reasoning in multiple belief spaces, is helping to shed light on these processes (especially (b), i.e., the question of *which* sentences should be added: clearly not *all* the logically derivable ones should). On Schank's work, see Schank and Abelson (1977) or Schank and Riesbeck (1981). On default logics, see Nutter (1983a,b). On rasoning in multiple belief spaces—using a relevance logic to reason about intensional entities—see Martins (1983a,b) and Martins and Shapiro (1983).

[17]A full analysis of these issues requires, of course, a discussion of the semantics of proper names.

[18]Parsons (personal communication) has informed me that he agrees with this proposal.

[19]Cf. Rapaport (1978, p. 168).

[20]I am grateful to Terence Parsons for clarification of several issues. The research for this essay was done while on leave from SUNY Fredonia.

**TO BE AND NOT TO BE:**

**Critical Study of Terence Parsons's *NONEXISTENT OBJECTS***

**Noûs 19(1985)255-271**

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**ERRATA**

running head: PARSON'S *NONEXISTENCE OBJECTS*

should be: PARSONS'S *NONEXISTENT OBJECTS*

| | | | | | |
|---|---|---|---|---|---|
| p. 256, | para. 0, | L. -2: | description | should be | descriptions, |
| p. 257, | para. 1, | L. 7: | (1972), | should be | (1972)) |

p. 258: The last sentence of Section III.1 should be replaced by:

> But it is of crucial importance to observe that (1) does not imply (2), and that (2) is true only if *no existing object has a property-set that is a subset of the union of property-sets of all other existing objects.* This was pointed out to me by my colleague Jeffery Zucker.

| | | | | | |
|---|---|---|---|---|---|
| p. 261, | para. 3, | L. 3: | "the | should be | " 'the |
| p. 265, | Sect. 1(1): | | $p_i^n q_i^n$ | should be | $p_i^n, q_i^n$ |
| p. 266: | the first character (illegible in some copies) should be a cap script letter O. | | | | |
| p. 267, | L. 7: | | $\mathrm{N}_n$ | should be | $N_n$ |
| | | | ext $(r)$ | should be | ext$(r)$ |
| | L. 8: | | $N_n$ | should be | $E_n$ |
| | L. 18: | | $\mathrm{E}_n$ | should be | $E_n$ |
| | | | $\mathrm{N}_n$ | should be | $N_n$ |
| | L. -3: | | $N_n$ | should be | $N_n$ ; |
| | | | $E_n$ | should be | $E_n$ ; |
| p. 268, | para. 0, | L. -2: | U | should be | $\cup$ |
| p. 269, | para. 0, | L. 4: | (λx, y) | should be | $(\lambda x, y)$ |
| p. 270, | L. 19 | | Routley, 1979 | should be | Routley 1979, |
| | L. 25 | | Hillsdale | should be | (Hillsdale |
| p. 271, | fn. 16 | L. 5 | rasoning | should be | reasoning |