**Variable Objects and Arbitrary Objects**

**Comments on Kit Fine’s comments on ‘Variable Objects and Truthmaking’**

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In my paper ‘Variable Objects and Truthmaking’, I argue that terms of the sort *the book John needs to write, I-NPs* for short, are referential terms, standing for objects, I-objects. I moreover argue that I-objects should be conceived as variable objects, variable embodiments of a sort in Fine’s (1999) sense. That is, *the book John needs to write* stands for an object that has manifestations as ordinary objects (books John writes that meet his need) in exactly those circumstances (situations) that are completely relevant for the satisfaction of John’s needs. In my paper, two motivations are given for the invoking situations relative to which such variable objects have manifestations. Most important is the argument from uniqueness: it is assumed that the choice of the definite determiner is indicative of uniqueness, in the sense that the variable object has a unique object as manifestation in each of the relevant circumstances, which can only be the case for situations exactly satisfying the need. In a world in which John writes two books satisfying the relevant requirements, there won’t be a unique book as the manifestation of the variable object but two. However, there will be two situations exactly satisfying John’s needs, which allow the satisfaction of uniqueness. ‘The book John needs to write’ has manifestations only in such situations.

 Fine argues that there are problems with the involvement of situations in I-objects, in particular problems of the indiscernibility and indeterminacy of I-objects. Fine mentions two cases: one involving two missing screws, say in a package for a piece of furniture to be assembled, and one involving two dollars that John owes Bill. I set aside the second case since monetary entities by nature appear to be indiscernible and indeterminate, regardless of the use of intensional descriptions (the two dollars John has on the bank can take various manifestations or stay without one entirely, they are just as indiscernible and indeterminate as the two dollars John owes Bill). In the missing screw case, there appear to be two I-objects that are missing screws, but they are as such indistinguishable and moreover any situation that is an exact completion of what is missing will involve two screws and it is indeterminate which screw is the manifestation of which I-object, that is, which one the two missing screws. Thus neither can be conceived as a variable object that has exactly one screw as manifestation in any situation of completion.

 Fine takes this to be a motivation for conceiving of I-objects as arbitrary objects (Fine 1985) rather than variable objects. Arbitrary objects may be dependent on other variable objects and may take multiple values. Thus, the two missing screws would arbitrary objects that are mutually dependent (with the condition that their values are always distinct). Given that arbitrary objects may be dependent on other variable objects, I-objects can be conceived as arbitrary objects dependent on an ‘arbitrary circumstance’ (situation or world-time pair). This means that the two missing screws are arbitrary objects will take as values for any relevant situation or world-time pair i, screws in i that are distinct from each other. Given that arbitrary objects may have multiple values, arbitrary objects that depend on an arbitrary circumstance (or a sort), need not have a unique value relative to that circumstance. Instead the missing screws as arbitrary objects may just be made dependent on a world-time pair.

 Fine argues that there are further reasons not to involve situations for I-objects. A dependence on a situation appears to make the wrong predictions by overgenerating I-objects, such as ‘the book John needs to write to satisfy the department requirement’ and ‘the book John needs to write to satisfy the university requirement’, if the university permits two books to be written, but the department only one, in fulfilment of the tenure requirements. By making arbitrary object dependent on worlds such overgeneration would be avoided.

 I think there are good reasons to maintain the involvement of situations for I-objects such as ‘the book John needs to write’. First of all it appears that natural language permits descriptions of interdependent arbitrary objects such as the missing screws only derivatively, on the basis of a plural description of the sort *the two missing screws*. This description arguably does not describe the plurality of two I-objects, but rather a single I-object that has as a manifestation in any situation of completion a plurality of two screws. This would be a variable object which has a plurality of exactly two screws as manifestation in each situation of completion. The two arbitrary objects that are involved can be described separately, with the terms *the one missing* screw and *the other missing screws*. What is crucial in these terms is the occurrence of *one* and *other*. Just like plural morphology, those modifiers can be viewed as applying not to a plurality of two arbitrary objects, but to manifestations of a variable object, picking out one of a plurality of two screws in a situation of satisfaction. The function of *one* thus would be that of indicating a choice function, mapping the contextually restricted extension of the plural noun in a relevant situation onto one of its elements. *Other* in *the other missing screw* is obviously anaphoric to *one* and would again apply to any plural manifestation, picking out the screw that is distinct from the one chosen by *one* in the relevant situation. On this view, a variable plural object would serve as the primary semantic value of the (plural) I-term, but the two arbitrary objects involved would act as semantic values of derivative constructions with *one* and *other*.

 Fine does not consider definite I-terms such as *the book John needs to write* to imply the uniqueness of a manifestation in a circumstance. He cites example such *as the book John needs to write in addition to another book*, where every satisfaction will contain two books. In response one might argue that the situations satisfying John’s need may be divided into those satisfying one partial need concerning one book and another partial need concerning another book, the occurrence of other: situations completing situations containing a book to give situations satisfying the need. I actually find the example hardly acceptable, unless *another book* has a particular discourse-related interpretation, indicating a partial need as topic. The book *John needs to write to become famous in addition to a second book* sounds even worse and just like *the person in this room that is married to another person in this room*.

 It appears moreover that giving up uniqueness leads to counterintuitive results and involves a serious difficulty for the treatment of plural I-terms. The term *the bottle of wine John owes Bill* implies that John owes bill exactly one bottle of wine, not two or more and acts of giving Bill just one bottle of wine will count as paying off the debts. Similarly, *the glass of wine John is allowed to drink* implies John is allowed one glass of wine not two. Finally, *the bottle of wine John bought on the internet* should have only one bottle as value in a circumstance, not as many as John in fact will ‘have’ bottles of wine. Fine, however, allows arbitrary objects to have multiple values – either in a situation of satisfaction or a world satisfying the need.

 This view becomes particularly problematic in view of plural variable objects as described by plural terms of the sort *the two books John needs to write* or *the books John needs to write*, on a view of plural reference, that is, the view that plurals refer to several individuals at once rather than to a single collective entity. By allowing singular I- terms to stand for multivalued arbitrary (or even variable) objects, they are treated just the same as plural I-terms terms on the plural reference view, that is, on which plural I-terms should take several entities as values at a circumstance at once. Singular I-terms, however, do not behave like plural I-terms: The bottle of wine John bought on the internet’ cannot be ‘the same in price’, but ‘the bottles of wine John bought’ can. Plural I-terms allow for plural predicates, singular I-terms never do. *The people that fit into the bus* is another case of a plural term that the arbitrary objects approach has difficulty with. As is and given plural reference, the account would be unable to distinguish semantically between *the person that could be in the bus* and *the people that fit into the bus.[[1]](#footnote-1)*

 Fine argues that situations need not and should not be involved for I-objects. Rather if anything their values can be made dependent on entire worlds. I think there are a range of compelling reasons to maintain the role of situations in I-objects.

 One argument comes from the interaction of I-terms with conditionals and modals (in the main clause). If conditionals and modals involve situations rather than entire worlds, as in fact on Fine’s truthmaker semantics, then I-objects need to involve them too.

 First of all, as noted in my paper, there are I-terms constructed with conditionals discussed by Lasersohn (1996), as below:

(1) The consequences if we fail are considerable.

If the semantics of conditionals involves situations that are exact truthmakers of the antecedent (Fine 2012), then those situations should also the ones on which the values of the I-object depend that the I-term *the consequences if we fail* stands for.

 Furthermore, I-terms interact with modals not only in the sense that modals may occur in the I-term itself (*need* in *the book John needs to write*), but also may and generally must occur in the main clause (the Modal Compatibility Requirement):

(2) The book John needs to write must / needs to be about philosophy of language.

The Modal Compatibility Requirement is straightforwardly accounted for on the variable objects approach: the modal in the main clause will have the predicate apply to the manifestation of the variable object in any of the circumstances satisfying the modal object (the need or obligation), as roughly below, where f(i, s)) is the manifestation of i in s:[[2]](#footnote-2)

(2) For a predicate P and an I-object i, *must* P(i) iff for some modal object o, must(o) and for

 all situations s exactly satisfying o, Ps(f(i, s)).

 A different argument for the involvement of situations in I-objects comes from underspecification. Situations as satisfiers of entities like a need help pick out the right objects as manifestations of an I-object; entire worlds won’t do. Thus the I-term *the book John needs* refers to an I-object whose manifestations are books John has that are of the relevant sort, say about philosophy of language. The I-term itself need not specify the restrictions on the books that could be manifestations, and in fact a speaker using the I-term need not even know what restrictions there may be. But any situation exactly satisfying the need should contain only books John has that meet the relevant restrictions, and in fact it should contain only one such book. In any situation satisfying John’s need, the restriction ‘ book John has’ will pick out exactly one book meeting the relevant conditions, but not so for the entire world in which the need is satisfied.

 Yet another argument for situations comes from the more particular role situations may sometimes play as satisfiers, a role that worlds cannot play. Certain types of modal or attitudinal objects do not just have situations or actions as satisfiers, but rather situations or actions that stand in a particular relation to the modal or attitudinal object. Thus Searle (1983) notes that intentions, decisions, promises, and requests do not have as satisfiers actions as such, but rather actions ‘by way of’ satisfying the intention, decision, promise, or request. The satisfiers are thus not just parts of the world, but actions whose intention is to fulfill the modal or attitudinal object in question. This means that the manifestations of I-objects need to be objects involved in actions relating to the modal or attitudinal in this particular way. They cannot just be objects satisfying a particular description relative to some world.

 Other intensional verbs ‘generating’ I-objects may require a causal relation to obtain between satisfiers and modal object. This is so, for example, for *buy* and *sell*.[[3]](#footnote-3) The bottle of wine John bought over the internet involves as a modal object a ‘purchase’. The purchase is realized only by situations of John’s ‘having’ a bottle wine that are caused by the purchase. The manifestations of the I-object that is ‘the bottle of wine John bought’ must be involved in such situations; they cannot just be bottles of wine (meeting relevant conditions) that John has in the actual world.

 The same holds for I-objects generated by a search. If John is looking for a house, his search is satisfied only by a situation in which John comes across a suitable house as a result of his search, not just one meeting relevant descriptive conditions. More strikingly even, the assistant John is looking for can only have manifestations that are assistants hired by John as a result of his search, not assistants John would have hired anyway. Situations of finding (which may involve events of coming across, of nomination or recognition) can satisfy a search only if they are caused by the search, not if just if they are of the right sort.

 This dependence of satisfiers on modal or attitudinal objects also helps explain intuitions about the identity of I-objects. If John promised to write a message yesterday and he promised to write a message again today, then the message he promised to write yesterday is identical to the message he promised to write today only if the act of promising today involved the very same promise as was made yesterday, that is, if, intuitively, he ‘repeated’ the promise or made the same promise ‘again’. What matters for the identity of the I-object is the identity of the promises made, not the speech acts. Moreover, what matters for the identity of I-objects generated by promises is the satisfiers involved, with their dependence on the promise, not just their information content and not just the worlds of which they may be part.

 Situations also play a role in explaining restrictions on the sharing of the semantic values of ‘special quantifiers’ with different intensional transitive verbs (Moltmann 2008, 2013). Special quantifiers include *something* or *what Mary needs* below:

(3) a. Mary needs something, namely an assistant.

 b. John needs what Mary needs an assistant.

In general, I hold the Nominalization Theory about special quantifiers like *something* and descriptions like *what Mary needs* (Moltmann 2003a, 2013). That is, such expressions stand for the very same things as could be described by the corresponding nominalizations of the verb, which would be entities of the sort ‘Mary’s need for an assistant’ (a particular modal object) or ‘the need for an assistant’ (a kind of modal object).

 The Nominalization Theory was originally motivated by observations about restrictions on the sharing of the objects associated with different attitude verbs (Moltmann 2003b, 2013):

(4) a. John thought what Mary thought, that it is raining.

 b. # John thought what Mary said, that it is raining.

(5) a. John promised yesterday what he promised today, to help with the preparation.

 b. # John promised yesterday what he decided today, to help with the preparation,

What is said to be shared in (4a) is ‘the thought that S’, a kind of attitudinal object, and in (5a) a promise. No object of this sort is shared in (4b) and (5b), which is why the examples are unacceptable under normal circumstances.

 The Nominalization Theory accounts for sharing described in sentences involving occurrences of the same intensional transitive verb, as below:

(6) John needs what he always needed, a good assistant.

 The Nominalization Theory, without modification, is not generally tenable, though, for special quantifiers with intensional transitive verbs since there are cases permitting sharing even if different sorts of different nominalizations would be involved. First, certain intensional transitive verbs that would give rise to different nominalizations can share their object:

(7) a. Mary needs what she is looking for.

 b. John needs the money Bill owes him

Second, even an intensional verb and an apparently extensional verb permit sharing. These are examples:

(8) a. John found what he was looking for – an assistant.

 b. Mary has what she needed, an assistant.

At the same time, such sharing is not always available (unlike what is predicted on the Montagovian account on which both extensional and intensional verbs just take intensional quantifiers as arguments, Montague 1977). Sharing is impossible below, on the intensional reading of *look for* and *need*:

(9) a. ??? John greeted what he was looking for an assistant.

 b. ??? Mary now met what she needed, an assistant.

Restrictions on modifiers of *something* show the same constraint:

(10) a. John needs something that is hard to find, a good assistant.

 b. Mary needs something she does not yet have, a good assistant.

(11) a. ??? John is looking for something he would be happy to greet, an assistant.

 b. ??? Mary needs something that her collaborators would like to meet, an assistant.

The restrictions indicate that what special quantifier with intensional transitive verbs stand for is not needs or searches, but satisfiers of needs or searches: (8a) is fine because a finding- situation is a satisfaction situation of the need, and (8b) because a having-situation is a satisfaction situation of the search. The special quantifiers in (7) and (8) more precisely range over ‘variable satisfiers’ that are shared by what is described by the main clause and the need or search described by the relative clause. The variable satisfiers are variable objects that, crucially, have as manifestations in an actual situation an assistant John finds in (8a) (that is a person that John hires as an assistant) and an assistant Mary has in (8b).[[4]](#footnote-4)

 Sharing may also involve a kind of variable satisfier, when different agents are involved as below (Moltmann 2013):

(12) John has what Mary still needs, a good assistant.

Here what is shared is a variable satisfier for the kind that is ‘the need for an assistant’, which involves satisfaction situations in which John has a good assistant and in which Mary has a good assistant, and thus has as manifestations both assistants John has and assistants Mary has.[[5]](#footnote-5)

**References**

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1. One may ask how the variable objects approach accounts for plural complements as below, on a reading on which John made two promises each involving one paper:

(i) John promised exactly two papers.

The analysis should be as follows: *promised* takes a plural event that is associated with a plurality of two promises. The sum of any satisfaction of the one promise and any satisfaction of the other promise the needs to contains exactly two papers that John has written for the sentence to be true. [↑](#footnote-ref-1)
2. There are interesting observations about modals of possibility and of necessity that not as yet accounted for. While modals of necessity in the I-term go together with modals of necessity in the main clause, modals of possibility go together with would. Could in both cases fails to have the ‘harmonic’ interpretation:

(i) a. The book John needs to write must / could be about philosophy .

 b. The mathematician John could have become would / # must / could have solved the

 problem in no time.

The use of *would* with modals of possibility, but not modals of necessity is puzzling for the account as it stands. In fact it is not clear how the account deals with the difference between modals of necessity and of possibility in the I-term, except by making use of different modal objects—needs vs abilities etc. [↑](#footnote-ref-2)
3. The classification of *buy, sell, owe* as modal verbs is made plausible by implications of the sort: buy 🡪 may have , sell 🡪 may no longer have , owe 🡪 must give. [↑](#footnote-ref-3)
4. The compositional semantics requires recognizing both *find* and *have* in (8a) and (8b) as intensional verbs (Moltmann 2013). [↑](#footnote-ref-4)
5. It appears that there are the same restrictions on predicates with I-terms:

(i) a. John found the assistant he was looking for.

 b. ??? John greeted the assistant he was looking for.

The construction of I-terms should not involve nominalization of the main predicate, so the Nominalization Theory does not have anything to say about why the restriction occurs here. [↑](#footnote-ref-5)