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**Quantification with Intentional and with Intensional Verbs**

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The questions whether natural language permits quantification over intentional objects as the nonexistent objects of thought is the topic of major philosophical controversy. Many philosophers deny the possibility of there being ‘nonexistent’ objects of thought. Others following Meinong, take ‘nonexistent’ objects of thought to be entities individuated only by a particular set of properties, and as having a weaker form of being than existence. Yes others, in the tradition of Brentano Brentano (1897, 1911), admit the possibility of intentional, nonexistent objects, but take them to be dependent on an intentional act or state. This paper will argue that certain types of natural language constructions (generally disregarded in the philosophical literature) cannot be analysed without positing intentional objects. At the same time, though, intentional objects do not come for free; rather they are strictly dependent on intentional acts that generally need to be present, in one way or another, in the semantic structure of the sentence. The constructions in question display a particular dependence of intentional objects on the event argument of an intentional verb in the same sentence, a verb like *think about, refer to, describe,* or *imagine*. Intentional verbs, I will argue, involve a semantics different from that of extensional verbs and their semantics needs to be sharply distinguished from that of intensional verbs, verbs like *need* or *owe*. Intentional and intensional verbs differ in a range of semantic properties, in particular with quantificational complements, differences largely ignored in the philosophical literature.

 In the constructions in question, intentional objects will be part of the domain of quantifiers and act as semantic values of referential terms, but as entities they are mere projections what I call *quasi-referential acts*, namely either unsuccessful intentional acts or pretend acts of reference. Moreover, what matters for the identity of intentional objects is relations of coordination among quasi-referential acts: two intentional objects are identical if the acts on which they depend are coordinated, regardless of what properties the entities are attributed. Intentional ‘nonexistent’ objects, on that view, are ‘projections’ from quasi-referential acts.

**1. Quantification over intentional objects in the context of intentional verbs**

**1. 1. Intentional objects in the semantics of natural language**

There is hardly a general agreement among philosophers that intentional or fictional object need to be posited, for the semantics of natural language or or other purposes. One common strategy for avoiding fictional or intentional objects consists of making just use of quasi-referential acts and the relation coordination among them.[[1]](#footnote-1) There are, however, constructions in natural language for which intentional objects not onlyappear to provide a straightforwardly analysis, but that could hardly be analysed compositionally without them. These are not the usual constructions discussed in the philosophical literature, though. The philosophical literature focuses on simple negative existentials, consisting of a proper name or definite NP and an existence predicate such as *exist* as in (1), and sentences with transitive intentional verbs of the sort in (2):[[2]](#footnote-2)

(1) a. The golden mountain does not exist.

 b. Vulcan does not exist.

(2) a. John thought of the golden mountain.

 b. John imagines a beautiful castle in the sky.

While intentional objects may provide a straightforward account of (1) and (2) preserving the uniformity in the semantics of definite and indefinite NPs, such sentences have hardly convinced philosophers in general of the necessity of intentional objects. A prominent approach to negative existentials as in (1), defended by Salmon (1987, 1998) as well as Sainsbury (2005), is to take the subject of a negative existential to have an empty denotation and negation to be external. On that view, (1a) is to be understood as ‘it is not true that the golden mountain exists‘, denying the truth of the sentence *the golden mountain exists*, rather than asserting its falsehood. Also the sentences in (2) do not seem to require intentional objects. The complements of verbs like think of or imagine could be taken to be intensional, not requiring an actual referent, or as acting ‘adverbially’, as on adverbial approaches to intentionality.[[3]](#footnote-3)

 However, there are natural language constructions whose compositional analysis can hardly do without intentional objects. The *there*-sentence below is an example:

(3) a. There is a woman John is thinking about that does not exist.

In (3a), the object of John’s thought belongs to the range of objects that the *there*-construction quantifies over, but it is an object that the existence predicate *exist* is not true of.

 These are further examples making the point ((3d) being a negative existential with the existence predicate *happen*):

(3) b. There are several buildings described in the catalogue that do not exist.

 c. There are several buildings mentioned on the map that does not exist.

 d. There is an accident described in the book that did not happen.

What is crucial in those examples is the occurrence of the *intentional verb* in the relative clause, that is, a transitive verb describing a mental act or speech act directed toward something possibly nonexistent. Without it, the sentences can hardly be considered true:

(4) a. There is a woman that does not exist.

 b. There are several buildings that do not exist.

 c. There is an accident that did not happen.

Sentences of this sort pose problems for certain Meinongian views on which nonexistent objects are mind-independent objects constituted by a (noninstantiated) set of properties.[[4]](#footnote-4)

 Quantification over intentional objects can also be achieved with two other sorts of constructions. One of them involves quantificational NPs, modified by relative clauses containing an intentional verb, as in (5):

(5) a. Some women John mentioned do not exist.

 b. Many buildings that John had planned never came into existence.

The other one involves quantificational NPs that are complements of intentional verbs:

(6) a. John mentioned some woman that does not exist.

 b. Mary had described a building that never had come into existence.

 c. Mary made reference to a poet that does not exist.

 d. The book is about a detective that does not exist.

Intentional verbs allow for the introduction of intentional objects both as main verbs and in relative clauses. Intentional verbs are not the only linguistic means, though, of making intentional objects available for quantification. Also adjectival noun modifiers can enable quantification over intentional objects:

(7) There are imaginary women that do not exist.

Of course, also the relational-noun construction *objects of thought* itself can be used for that purpose: [[5]](#footnote-5)

(8) There are objects of thought / objects of imagination / objects of fantasy that do not

 exist.

Also nouns like *topic* and *subject matter*enable quantification over intentional objects: [[6]](#footnote-6)

(9) a. There are many topics John talked about, the woman Bill had mentioned, the pet Joe

 dreamt about etc.

 b. There is a subject matter we did not discuss, namely the house John plans to build.

While the construction *object of thought* involves generic reference to intentional acts, nouns like *topic* and *subject matter*do n’t involve reference to intenstional acts, at least not overtly.

**1.2. The notion of an intentional object**

Constructions with intentional verbs display a particular notion of an intentional object as an object strictly dependent on an intentional act. Here a terminological distinction is needed between ‘object of thought’ and ‘intentional object’. The object of a thought is what the thought is directed toward, which may be a real object or an object that does not exist, that is, a merely intentional object. In case a thought is not directed toward a real object but a merely intentional one, I will call the latter simply an ‘intentional object’, thus distinguishing -- in a nonstandard way -- the term ‘object of thought’ (which expresses a function that objects, real or nonexistent, may have) from the term ‘intentional object’ (as a term for a certain sort of nonexistent entity). Thus, for any object-directed attitude that is not directed towards a real object, there will be a corresponding intentional object.

 Even though real and intentional objects may both play the role of objects of thought, they are not on a par otherwise. A merely intentional object is one that does not ‘exist’, and it may be an indeterminate or an impossible object.[[7]](#footnote-7) Positing intentional objects thus does not mean taking unsuccessful acts of reference to in fact be successful, referring to intentional objects. Rather intentional objects are pseudo-objects entirely constituted by unsuccessful or pretend acts of reference itself (and acts they are coordinated with). The non-existence of intentional objects thus is ‘essentially and constitutively failed intentionality’, as McGinn puts it (McGinn 2000, p. 43). Intentional objects are not part of the ontology; they are mere projections from intentional acts, which is why they have the status of nonexistents. In this sense, intentional objects are not peculiar types of objects that are by nature nonexistent.

 Intentional objects are dependent on intentional acts in a particularly strict way. An intentional object *o* dependent on an intentional act *a* does not have an (ordinary) property *P* as such, but only relative to an act *a’* coordinated with *a* such that *a* involes the attribution of *P* to *o*. Whether two intentional objects are the same does not depend on whether they are attributed the same properties in intentional acts but whether the acts they depend on are coordinated. I will return to the relevant notion of coordination among intentional acts later.

**1.3. Intentional objects and fictional objects**

Intentional objects as nonexistent need to be distinguished from fictional objects as objects that come into being by an act of creation. Intentional objects are the objects of certain object-related attitudes and linguistic acts that fail to be successful or were not meant to be successful. A fictional object is an entity that is created by producing a piece of fiction, and as a creation it exists. A fictional object is an object that an author creates as something going along with the story he is writing. A fictional object as a created object in that sense is an existent object, not a nonexistent one. It is an abstract artifact, to use Thomasson (1999) term.[[8]](#footnote-8)

 Intentional objects and fictional otherwise share important features. Both may be underspecified for a range of properties and be attributed contradictory properties in different acts (and even in a single act).[[9]](#footnote-9) Both depend on intentional acts, in particular coordinated acts. But whereas fictional objects as abstract artifacts are true objects, intentional objects are quasi-objects: they are mere projections from unsuccessful or pretend referential acts. They in general can bear a property only relative to an act involving the attribution of that property, namely the object an associated referential act is meant to refer to.[[10]](#footnote-10)

 Intentional objects obviously can bear certain properties, such as the property of being a topic of conversation or a subject matter, being the objects of object-directed attitudes, and of course the property of not existing. This is due to the status of intentional objects as mere projections of quasi-referential acts. Intentional objects are not in space or time, whereas fictional objects as abstract artifacts have a temporal lifespan (Thomasson 1999).[[11]](#footnote-11)

 Given the distinction between fictional and intentional objects, a fictional name can be used in three different ways: first, for pretend reference (the referential use within a pretend context); second, as standing for an intentional object; and third, as standing for a fictional object. Only the fictional object can be the referent of a more complex term, of the sort *the fictional character Hamlet*, with its specific sortal *fictional character*.

 The basis for intuitions about fictional objects are different from the intuitions of intentional objects as discussed in this paper. Intuitions about fictional objects are based on our talk about fiction. By contrast, for the present purposes, intuitions about intentional objects will be focused on intentional-verb constructions.

**1.4. Intentional objects and the relation of coordination among referential acts**

Intentional objects can be shared by different agents and by different acts of the same agent.

Whether different acts or states share an intentional object depends not so much on whether the acts attribute the same properties to the object, but whether they are coordinated, that is, when the one act is meant to refer to or pretends to refer to the same object as the other act. Coordination among referential acts is an asymmetric relation among acts and to be understood roughly as follows: an act *a* is coordinated with an act *a’* iff *a* is meant to refer (or to pretend to refer) to the same object as *a’*.[[12]](#footnote-12) Intentional acts of the same agent and of different agents may be coordinated.

 The possibility of the same intentional objects to be shared by different, coordinated intentional acts is well-reflected in natural language: different intentional objects can be the arguments of several intentional predicates, as long as the intentional acts they describe are coordinated:

(10) a. John mentioned the woman the book is about.

 b. John is thinking about the woman Mary told him about.

 c. John described the palace he had imagined.

 d. Jane told me about the woman John had described.

Clearly (10)-(11) would be true even if John said different things about the woman than the book does. Intentional objects cannot be shared when there is no coordination among the relevant intentional acts, even if the respective acts involve the attribution of the same properties.

 Coordination among intentional acts is also reflected in the applicability of *the same* N. For two intentional acts to share ‘the same N’, it does not suffice that they involve intentional objects to which the same properties have been attributed (which is not even a necessary condition); rather the intentional acts (with respect to the relevant property attributions) have to have been coordinated -- unless of course the objects of the acts are real objects. Consider the inference from (11a) and (11b) to (11c) and from (12a) and (12b) to (12c):

(11) a. John imagined a blue circle.

 b. Bill imagined a blue circle.

 c. John and Bill imagined the same circle.

(12) a. John thought of a tall woman with red hair.

 b. Bill thought of a tall woman will red hair.

 c. John and Bill thought of the same woman.

The inference in (11) is invalid, unless ‘the same circle’ is understood as ‘the same type of circle’, and similarly for (12) (assuming that the women in question do not exist).

 The noun phrase *the same* N, for an ordinary noun N, needs to be sharply distinguished from the noun phrase *the same thing*, which gives rise to very different intuitions. The inference from (11a) and (11b) to (13a) is in fact valid, as is the inference from (12a) and (12b) to (13b):

(13) a. John and Bill imagined the same thing.

 b. John and Bill thought of the same thing.

However we will see that *the same thing* involves an entirely different semantics than *the same* N, for an ordinary noun N: with *the same thing* in (13a,b), *imagine* and *think of* are used as intensional verbs, not merely intentional verbs, and *the same thing* in such sentences does not serve to express the sharing of an intentional object, but rather the sharing of a different, more abstract kind of entity.

 The use of anaphora also reflects the importance of coordination for the identity of intentional objects:

(14) a. John described a castle. Bill described it too.

 b. John dreamt about an extraordinary country. Bill dreamt a

As long as no real objects are involved, (14a) and (14b) imply that John’s and Bill acts of describing and dreaming are coordinated (which includes being related to a common source, for example a representation John and Bill both saw).

 Thus, the identity of intentional objects does not so much depend on what properties they are attributed, but on the acts they depend on and on relations of coordination those acts enter with other acts. If John describes the woman he read about, John’s description shares its intentional object with the one the book is about, as well as the act of writing the book. But John’s description need not ascribe the very same property to that intentional object. John may remember the woman described incorrectly and the author may not be able to present the intended character well. Similarly, several acts of imagination may be about the same intentional object, involving the attribution of different properties. Of course, also different kinds of intentional acts may be coordinated. An act of describing may be coordinated with an act of imagination. We can then state the following conditions on intentional objects:

(15) Conditions on intentional objects

 a. For any quasi-referential act e, there is an intentional object f(e) of e.

 b. For quasi-referential acts e and e’, the intentional object of e = the intentional object

 of e’ iff e and e’ are coordinated.

 c. For a quasi-referential act e, for an existence predicate E suited for the sortal property

 that f(e) has in some act, E is false of e.

The condition that the existence predicate be suited for the sortal property attributed to an intentional object accounts for the observation that, for example, *exist* can apply only to material and abstract objects and not events, whether actual or intentional, whereas an existence predicate like *happen* can apply to events only, whether actual or intentional.

**2. The semantics of intentional verbs**

**2.1. The interpretation of the complement of intentional verbs**

We have seen that the object position of transitive intentional verbs may involve intentional objects that may not be available for quantification otherwise. The availability of intentional objects as entities in the domain of a quantifier obviously is tied to the intentional act described by the intentional verb. Given Davidsonian event semantics, this intentional act will be the Davidsonian event argument of the intentional verb. The availability of intentional objects should not be made dependent directly, though, on the presence of an intentional event in the semantic structure of the sentence since intentional objects can also be the semantic values of NPs with like *subject matter* or *topic*. What is special about transitive intentional verbs is not so much the described event making available an intentional objects, but rather the ability of the complement to attribute property to an intentional object in a certain way, namely relative to the described that constitutes the intentional object. The complement of an intentional verb thus is not evaluated in isolation, but relative to the event described by the verb. For present purposes, I will capture this dependence by simply taking nouns and adjectives to be polysemous, with one variant involving an additional event argument position; For a noun N, ‘N(e, x)’ is to be understood as’ some act e’ coordinated with e attributes N to x. The appeal to a coordinated act of attribution is needed because the property expressed by the noun need not itself be attributed in the intentional act in question or even a coordinated act. Complements of intentional verbs can range over intentional objects, without actually attributing the property they express to the intentional object itself. Thus, if John thought of a detective, namely Sherlock Holmes, he need not know that Sherlock Holmes according to the fiction is a detective. But some coordinated act, at least that of the speaker uttering the sentence, attributes the property of being a detective to the object of John’s thought.

 The relativization of the attribution of the property conveyed by the complement also accounts for when the complement quantifies over actual objects. Thus the very same interpretation of the intentional verb – complement relation applies if the object of the intentional act or state turns out to be an actual object. This is important, since the semantic interpretation of sentences with intentional verbs should stay neutral as to whether the described intentional act or state is successful or not.

The interpretation of the construction ‘intentional verb-complement’ will thus be based on coindexing of the nominal with the verb as below:

(16) a. Vi D N’i

This syntactic relation then is interpreted by making use of the event argument of the verb in the interpretation of the nominal. Formally, the index borne by the nominal will be shared by the verb, which means the index will act as a function picking out a particular property attribution that is part of the event argument of the verb. The interpretation of a sentence like (16b) will then be as in (16c):

(16) b. John mentionedi [a womani]

 c. ∃e ∃o(mention(e, John, o) & woman(x, e))

(16c) reads ‘There is an event of mentioning, on the part of John coordinated with an event of attributing the property of being a woman.

**2.2. Relative clauses with intentional verbs, with past tense and with modals**

The semantic analysis of intentional verbs cannot as yet apply to constructions with relative clauses containing an intentional verb as below:

(17) a. the woman John has described

The problem is that the standard compositional semantics for relative clause constructions cannot apply: the head noun would have to take as one of its arguments the event described by the intentional verb inside the relative clause, which is impossible. However, there is a syntactic view according to which the head of the relative clause originates from the lower position inside the relative clause. More specifically, it has been argued that the head noun of a relative-clause construction may originate from inside the relative clause.[[13]](#footnote-13) If moreover movement of an expression is in fact copying, then an unpronounced copy of the expression moved will be left behind which will then be the one taken into account by semantic interpretation. The copy left behind should in fact have the status of a restricted variable, bound by a silent operator that stands for the relative pronoun. This means that the construction can be interpreted as if the head noun was in the lower position, either by having left a copy in that position (on the copy theory of movement) or by being reconstructed into the lower position. The syntactic issues need not concern us detail, it suffices to take advantage of the general syntactic view that permits (17a) to be interpreted as below:

(17) b. the e [that John described e woman]

 c. ιx[∃e(mention(e, John) & woman(x, e))]

 Quantification over nonexistent objects can also be made available with modals and past tense which extend the range of the quantifier to past and possible objects. Modals and past tense pattern exactly the same as intentional verbs in relative-clause constructions:

(18) a. There are buildings I could have built that do not exist.

 b. There are many buildings built in the eighteenth century that do not exist anymore.

 c. There are buildings that do not exist.

The relative clauses in (18a) and (18b) permit *there*-sentences to range over possible and past objects of which the existence predicate is not true, which is not the case for (18c), which can hardly be considered true. While the denotation of the noun *buildings* as such can contain only actual buildings, the denotations of *building that I could have built* and *buildings built in the eighteenth century* contain possible and past objects as well.[[14]](#footnote-14) The reason why (18c) cannot be true must be that nouns are existence-entailing, unless they are modified by a suitable intensional modifier[[15]](#footnote-15).

 Not only *there*-sentences may range over nonexistent (past or possible) objects, also quantificational NPs by themselves can, provided they are modified by the same sorts of modifiers:

 (19) a. Some buildings John could have built will never exist.

 b. Some houses built in the eighteenth century do not exist anymore.

The general function of *there*-sentences appears to be to locate entities within either the larger domain of entities available for quantification in general or a domain that is explicitly or implicitly restricted -- spatially, temporally, or otherwise, a function that seems to be reflected in the appearance of the locative *there*.[[16]](#footnote-16)

 The semantics of intensional modifiers of existence-entailing nouns is straightforward: they act as modal operators in the definition of the property expressed by the complex nominal, as in (20):

(20) λx[◊ building(x)]

The relative-clause constructions in (18a, b; 19a, b) require, as in the case of intentional verbs, that the head noun be interpreted in the lower position inside the relative clause. This permits the noun to be interpreted in the scope of the modal or temporal operator as in below:

(21) a. [that John could have built e buildings]

 b. buildings [that John could have built e ]

 c. λx[◊(building(x) & build(John, x)) ]

 There are various syntactic criteria for when a relative clause will involve an internal head and when not (Carlson 1977). One of those criteria is the impossibility of stacking of relative clauses. More precisely, the same type of relative clause, with the same head-internal interpretation, cannot be stacked, as below, which does not sound very good:

(22) ?? the buildings that I could have built that could have been financed

Only under certain circumstances is stacking possible, namely when the predicate of the second relative clause is not existence-entailing, for example by containing a negated existence predicate:

(23) a. the buildings that I could have built that never came into existence

 b. the buildings that were built in the eighteenth century that do not exist anymore

The reason for the acceptability of (22a) and (22b) is straightforward: the second relative clause, on a head-external interpretation, simply expresses a restriction on the set specified by the first relative clause. By contrast, a head-external interpretation of the second relative clauses in (23a) and in (23b) is impossible for semantic reasons, and a head-internal interpretation is unavailable for syntactic reasons: the head of the entire construction is already used for the head-internal interpretation of the first relative clause.

**3. Intentional verbs and intensional verbs**

The complements of intentional verbs share some similarities with the complement of transitive intentional verbs, such as *need* and *look for*, in particular a lack of specificity and the lack of a requirement that the complement stand for an actual objects in order for the sentence to be true or false. However, intensional verbs need to be sharply distinguished from intentional verbs.[[17]](#footnote-17) The complement of intentional verbs behaves just like an ordinary referential or quantificational NP, though it sets up a ‘new’ domain of intentional objects, objects that depend just on the intentional act described by the verb. By contrast, the complement of intentional verbs, on all of the existing analyses, contributes a semantic value of a different type from that of the complement of an intentional or extensional verb. On one view, the complement contributes an intensional quantifier; on another it contributes a property. I mention four linguistic criteria that distinguish intensional and intentional verbs.

**3.1. Nonspecificity and underspecfication**

For a subclass of the latter, that of verbs of absence such as need or look for, the lack of specificity can be revealed by the addition of ‘any will do’ (Moltmann 1997, 2008, Zimmermann 2001):[[18]](#footnote-18)

(24) John needs a horse, any will do.

Whereas intensional verbs exhibit indeterminateness of the objects that intentional verbs may take as their argument. The indeterminateness of intentional objects consists in their underspecification with respect to properties, whereas the nonspecific reading of intensional verbs like *need* has to do with the semantic type of their complement: a quantifier (Montague 1973, Moltmann 1997), or a property (Zimmermann 1995). The very same unspecific reading may in fact be displayed by a quantificational complement such as *at least two* N:

(25) John needs at least two assistants.

*Need* is a modal verb of absence, and the semantic contribution of the complement is best displayed by analysing (25) as ‘For any minimal situation s satisfying John’s needs, there are at least two assistants John has in s’ (Moltmann 1997). There are other intensional verbs besides modal verbs of absence that may involve quantificational arguments. They include *owe, buy, sell, recognize,* and *find* (Moltmann 1997, Zimmermann 2001).

 Some intensional verbs may be intentional verbs at the same time. The psychological verb *want* is an example. *Want* can clearly take intentional objects as arguments in examples like (26), where ‘the house described in the book’ may be an intentional object:

(26) John wants the house described in the book.

But *want* also takes quantificational complements with the relevant nonspecific reading:

(27) John wants at least three children.

**3.2. The choice of neutral proforms**

Besides nonspecificity, there are two other linguistic characteristics of intensional verbs that distinguish them from extensional and intentional ones (Moltmann 1995). First, intensional verbs generally require impersonal proforms, regardless of whether the complement is specified as human or not:

(28) John needs something / ?? someone, namely an assistant.

(29) a. There is something / ?? someone John needs, namely an assistant who speaks French.

 b. There is something John made reference to, namely a person who speaks French

 fluently.

By contrast, intentional verbs generally go with proforms that match the features of the NP they replace:

(30) John mentioned someone / ? something, a woman (in fact, a woman that does not

 exist).

 A related difference between the two sorts of verbs consists in the ‘identity conditions’ concerning what is shared by two different occurrences of intensional or intenstional verbs. Two distinct occurrences of intensional verbs share the same object (‘the same thing’) in case they would involve the same property or quantifier:

(31) Mary needs an assistant and John needs an assistant, thus John and Mary need the same

 thing.

(32) a. John needs the same thing as Bill, namely an assistant that speaks French.

 b. John is looking for the same thing as Bill, a house with a garden.

By contrast, for two occurrences of intentional verbs to share the same object, they either need to share as arguments actual objects or else the intentional acts they describe need to be coordinated and thus constitute the same intentional object:

(33) a. John and Mary mentioned the same book.

 b. John and Mary were thinking about the same woman.

The proforms that can take the position of NP-complements of transitive intensional verbs belong to a particular class of *special quantifiers and pronouns*, which include *everything, nothing, the same thing*, but also the proform *that* and the relative pronoun *what*.[[19]](#footnote-19)

On a common view such quantifiers stand for the higher-order semantic objects that complements of intensional verbs stand for, properties or intensional quantifiers.

On an alternative view, which I defended in Moltmann (2003, 2013a, Chapter 5), special quantifiers do not like ordinary quantifiers range over objects that are potential arguments of the predicate, but rather they are nominalizing quantifiers that introduce ‘new’ entities into the semantic structure, entities of the same sort as the semantic values of corresponding nominalizations. According to that view, what is shared in (33a) is the need for an assistant that speaks French and what is shared in (33b) the search for a house with a garden.

 Special quantifiers and pronouns and the associated identity conditions are characteristic of intensional verbs, but not intentional verbs. The identity conditions associated with intenstional verbs crucially involve the coordination of intenstional acts: no two intentional objects may be ‘the same N’ that depend on different, uncoordinated acts. Thus, an argument such as the following is invalid, in a circumstance in which the women John and Bill mentioned do not exist:

(34) John mentioned a woman with red hair.

 Bill mentioned a woman with red hair.

 John and Bill mentioned the same woman.

If John‘s and Bill’s acts are not coordinated under the circumstances, then (34) is invalid.

 The same holds for predicates describing nonlinguistic intentional acts, such as acts of imagination or (nonveridical) perception:[[20]](#footnote-20)

(35) John imagined a woman with blue hair.

 Bill imagined a woman with blue hair.

 John and Bill imagined the same woman.

(36) John saw a red spot.

 Bill saw a red spot.

 John saw the same spot as Bill.

Instead of *the same* N, also special quantifiers and pronouns can at least be tolerated in the conclusion in those arguments. But with special quantifiers or pronouns in the conclusion, the arguments become valid. Thus we get valid arguments when replacing the conclusions in (34), (35), and (36) by (37a), (37b), and (37c) respectively:

(37) a. John mentioned what Bill mentioned (a woman with red hair).

 b. John imagined the same thing as Bill (a woman with blue hair).

 c. John saw the same thing as Bill (a red spot).

For (37a,b,c) to be true, it is sufficient that the type of object be shared. By contrast, for the conclusions in (34), (35), and (36) to follow, the intentional acts need to be coordinated (in which case the intentional objects will be the same).

 Why can special quantifiers and pronouns (with the identity conditions that go along with them) be tolerated as complements of intentional verbs? A simple explanation is that intentional verbs may have, in addition to their usual ‘intentional’ interpretation, an interpretation as an intensional verb. Many verbs have both intensional and extensional interpretations. *Owe, buy* and *sell* are examples. It is familiar from Montague Grammar, that every extensional verb can be ‘type-lifted’ to an intensional verb. It is similarly possible to type-lift intentional verbs to intensional ones, as in below (adopting, for the sake of simplicity, the view that intensional verbs take properties as arguments).

(38) V(e, x, y) = V(e, x, P), where P is the only property such that for some event e’, e’

 attributes P to y.

 The same difference in identity conditions displayed by *the same* N and *the same thing* can be observed with anaphora. The anaphor that classifies with *the same thing* is *that*, rather than *it, he*, or *she*. *That* cares about the identity of a type, whereas the pronoun *it* requires the identity of the intentional object:

(39) a. John imagined a circle. Mary imagined that too.

 b. John imagined a circle. ?? Mary imagined it too.

(40) a. John wants a nice book. Mary wants that too.

 b. John wants a nice book. ?? Mary wants it too.

The second sentences in (39b, 40b) is unacceptable unless there is a particular book, existent or intentional, that both John and Mary want.

**3.3. The semantics of special quantifiers with intensional verbs**

I had so far adopted the standard view on which intensional verbs take entities of higher semantic type as arguments, namely properties or intensional quantifiers. Given that view, expressions like *the same thing* and *that* would stand for precisely such entities, rather than individuals. Since higher-type semantic entities are not marked for person or gender, the obligatory choice of the neutral form is explained straightforwardly.

 In Moltmann (2008, 2013a, Chapter 5), I argued for a different view of special quantifiers and pronouns with intensional verbs, the ‘Nominalization Theory’ of special quantifiers. On that view, the complement of an intensional verb does not actually provide an argument of a relation expressed by the intensional verb. Rather it forms a complex predicate together with the verb and special quantifiers or pronouns are taken to have a ‘nominalizing’ function, ranging over entities one would make reference to with a nominalization of the verb. Thus*, what Mary needs*below would stand for ‘the need for a house’, which is said to be something John shares with Mary:

(41) John needs what Mary needs, a house

Part of the motivation for the Nominalization Theory of special quantifiers come from the predicates that can g with special quantifiers. In (42a) *count* can hardly be understood as a predicate of semantic objects such as quantifiers, and neither can *unusual* in (42b):

(42) a. John counted what he needs.

 b. John needs something unusual.

Rather *count* in (42a) applies to entities of the sort John’s needs, as does unusual in (42b).

Whereas (42) involves quantification over particular entities of the sort of John’s need, (43) involves quantification over kinds, entities of the sort the need for a house (which has both John’s need for a house and Mary’s need for a house as instances)

(44) John needs what Mary needs, a house.

There are cases which at first sight present problems for the Nominalization Theory, namely acceptable examples such as those below (Moltmann, 2008, 2013a, Chapter 5):

(45) Mary has what she needs, a house.

Such cases however, are not a counterexamples to the Nominalization Theory, but simply require a modification of it. What is special about (45) is that the situation described in the main clause, Mary owning a house, is a situation satisfying her need. *What she needs* in (46) does not stand for Mary’s need, but rather for the satisfier of Mary’s need’, or rather a variable satisfier of her need. (Moltmann 2013a, Chapter 5). A variable satisfier of a need is a variable object that has manifestations as ordinary objects in different circumstances and may lack a manifestation in the actual circumstances. In general, special quantifiers and pronouns with transitive intensional verbs stand for such variable objects, rather than what the nominalizations of the verbs would stand for, entities like needs.

**3.4. Relative clause constructions with intensional and with intentional verbs**

NPs formed with relative clauses with intensional verbs and with intentional form referential NPs, NPs that are arguments of ordinary predicates and ca act as antecedents of anaphora:

(46) a. The woman John described is American. She is fluent in French and German .

 b. The assistant John needs must speak French. He should also be fluent in English.

Whether or not the woman John described exists does not bear in the acceptability of (46a).

However, NPs modified by relative clauses with intentional verbs and with intensional verbs differ in what they stand for. First of all, this is reflected in the applicability of the predicate *exist*. NPs with intentiontional verbs can stand for intentional objects of which *exist* is false, as in (47a), but those with intensional verbs cannot, as seen in (47b):

(47) a. There is a book John mentioned that does not exist.

 b. ?? There is an assistant John needs that does not exist.

(47b) is acceptable only on a reading on which the indefinite characterizes a type of object, rather than a particular actual or intentional object – unless of course the verb has in fact the extensional rather than the intensional reading.

 (47b) contrast with (47c) with a psychological verb of absence, which is not so bad:

(47) c. There is a book John wants that does not exist.

Similarly, (48a) is not really worse than (48b):

(48) a. There is a woman John is thinking about that does not exist.

 b. There is a woman John is looking for that does not exist.

The reason is that psychological verbs generally have a variant as intentional verbs, leading to a domain of intentional objects.

 There is another difference between NPs with intentional verbs and with intensional verbs. Definite NPs modified by a relative clause with an intensional verb generally are subject to the Modal Compatibility Requirement, the obligatory presence of a modal in the main clause (Moltmann 2012):[[21]](#footnote-21)

(49) a. The assistant John needs must speak / may speak / ??? speaks English.

 b. The woman John is looking for must be / may be / ??? is tall and blond.

By contrast, definite descriptions with a relative clause containing an intentional verb are subject to no such requirement:

(50) a. The woman John is dreaming about is tall and blond.

 b. The building John described is made almost entirely of glass.

While definite NPs modified by relative clauses with intentional verbs describe intentional objects, definiteNPs with intensional verbs describe variable objects generated by the described event ( Moltmann (2012, 2013, Chapter 5). Variable objects are entities that have different manifestations as ordinary objects in different circumstance and may lack a manifestation in the actual circumstance.

(51) [*the assistant John needs e*] = the variable object o such that for some e,

 need(e, John), for any situation s satisfying e, manif(o, s) = ιx[assistants(x) & Rs(x,

 John)]

Thus the requirement of the modal: the modal allows accessing nonactual manifestation for the purpose of applying the predicate., by the condition below:

(52) A variable object has a (circumstance-relative) property P in a circumstance s iff if the

 manifestation of o in s (manif(o, s)) has P in s.

**4. Actual objects acting as intentional objects?**

The present account sharply distinguishes between intentional objects and actual objects as denotations of are complements of intentional verbs. There are examples, however, where actual objects appear to qualify as intentional objects:

(53) a. John now lives in the house he had dreamt of.

 b. John finally bought the house he had always dreamt about.

 c. John now owns the car he had always been fantasizing about.

(53a) suggests that the actual house John lives in qualifies as the house John dreamt of, which means that the latter is in fact an actual object (though of course, John did not dream of all the aspects of the house he now lives in). This would mean that at the time of his dreaming John’s dream is directed toward an actual object not an intentional one, unbeknownst to him. This is not plausible though: there are lots of aspects of the house that later fulfill his dreams that should not play a role for his dreaming at the time, and more importantly a different house could just as well have fulfilled his dreams as well. There are constraints on when actual objects may qualify as the objects of thought or imagination: there needs to be a causal connection, fulfilling the relevant properties is not enough. The examples in (51) in fact turn out to be special. In many cases, an actual object meeting the conditions on the object of thought does not make the construction in question acceptable:

(54) a. ?? Yesterday John saw the castle he had imagined.

 b. ?? John noticed the car he had always been fantasizing about.

 c. ?? John now lives in the house Mary once thought about.

 Problematic are also cases where there are in fact several actual objects that meet the conditions on the object of thought, for example (55), in a context in which John dreamt of a generic castle and then saw several that match the one he had dreamt of:

(55) ?? John saw several castles he had dreamt of.

The reason for the acceptability of (53a-c) thus cannot be an actual object meeting the conditions on an object of thought. In (53a), the main clause describes an actual situation that satisfies John’s dream, which is not just directed toward an object. John’s dream is not just a dream about a house, but a dream about a house to live in. On the shared reading, the complement of *dream* does not in fact describe an intentional object, but rather it acts as the complement of an intensional verb specifying a variable object generated by event of dreaming. That is, *the house John had dreamt of* stands for a variable object that in each situation satisfying John’s dreams has a manifestation that is a house John lives in.

Intensional verbs of absence can share their ‘object’ with extensional verbs in case the intensional verb describes a situation that is a satisfaction situation for the intensional verb as in the case of (46) repeated below:.

(56) Mary has what she needs, namely a house.

This means that the acceptability of (53a-c) is due to an intensional interpretation or rather reinterpretation of the intentional verb.

 Let us turn to the other predicates that are possible with intentional objects. Predicates of comparison take generic objects for just the same reason, I have suggested, as they take intentional objects: they care about the properties of objects only, not whether or not they exist. Predicates of emotional and evaluative attitude take intentional objects as well (though not generic objects). Obviously, such attitudes are based on an actual or pretended presupposition of an object’s existence. The corresponding predicates thus do not involve an event-dependent interpretation of their complement. This appears supported by the order of relative clauses in stacked-relative-clause constructions. Predicates of comparison and evaluation may occur in the second relative clause if the first relative clause contains an intentional verb, but not conversely:

(57) a. Some women that John described that Mary compared Sue to do not exist.

 b. ?? Some women that Mary compared Sue to that John described do not exist.

(58) a. Some women that John mentioned that Bill likes do not exist.

 b. ?? Some women that Bill likes that John mentioned do not exist.

 The intensional argument of a predicate of resemblance is not the result of abstraction from the Davidsonian event argument of the verb. Thus, no head-internal interpretation should be available for sentences with a predicate of resemblance applying to an intentional object. This seems to be correct. A sentence such as (59a) does not seem to be able to be true, just like (59b), and unlike (59c):

(59) a. ?? There is a woman that John likes that does not exist.

 b. ?? There is a woman that does not exist.

 c. ok There is a woman John mentioned that does not exist.

**5. Generic and intentional objects**

There are certain predicates that take objects similar to intentional objects, but that in fact should be viewed as generic objects rather than intentional objects. These are predicates of comparison, which include verbs of resemblance as well as comparatives. The arguments of those predicates are generally given by indefinites:

(60) a. This animal resembles a unicorn

Intensional predicates of comparison do not permit quantficational complements:

(60) b. This animal resembles at least one unicorn.

Predicates of comparison differ in that respect from intensional verbs of absence, such as *need*, which allow for quantificational intensional complements.

 Predicates of comparison may also take intentional objects:

(61) a. Mary resembles the woman John described.

 b. Mary is more intelligent than the woman the novel is about.

 c. The building is taller than the building John had described.

In fact, intentional objects can occupy the two argument positions of a comparative:

(62) The woman John described is more attractive than the woman that Bill described.

Also generic indefinites can occur in the two positions of a comparative:[[22]](#footnote-22)

(63) A unicorn is smaller than a dragon.

Why should predicates of comparison allow for intentional objects as arguments? This seems related to the intensional uses of such predicates on which they take indefinite complements.

The indefinite complements do not in fact have a predicative function. More plausibly, they stand for generic or perhaps ‘arbitrary’ objects, just as in other contexts such as (64):

(64) a. the example of a unicorn

 b. the description of a unicorn

 Like intentional objects which are partially specified by the properties they incorporate, there is nothing more to generic objects than their partial qualitative nature. Unlike intentional objects, however, generic objects are intuitively not ‘nonexistent’ objects. Rather they appear to be neutral as to existence or nonexistence: the existence predicate seems neither true nor false of them:

(65) a.?? Charlie resembles a unicorn, which does not exist.

 b. ?? Charlie resembles a pony, which exists.

 c. Charlie resembles the man Bill described who does not exist.

Instead of being existent or nonexistent, generic objects are instantiated, exemplified, or manifested in particular objects.

 It appears then that comparative predicates are able to apply to entities on the basis of their qualitative specification only, regardless of their existential status.

 There is a further connection between generic objects and intentional objects and that is the possibility of generic objects acting as arguments of intentional verbs, as on a generic reading of the verbal complement in (66a,b):

(66) a. When asked about examples of mythical beasts, John mentioned a unicorn.

 b. John described a unicorn.

In fact, some intentional verbs, such as *imagine*, naturally take generic objects as arguments, and predicates of comparison can then apply to such intentional generic objects, as below:

(67) Charlie resembles the animal John imagined.

Yet such generic objects need to be sharply distinguished from intentional objects, though. If an existence predicate is applied to a generic object, it can state only the existence of a particular instance, not the existence of the generic object as such:

(68) The animal John imagined exists: there are ponies.

**6. Negative existentials**

Negative existentials with descriptions of intentional objects based on intentional verbs have hardly received attention in the philosophical literature. The more familiar negative existentials involve a proper name or ordinary definite description in subject position:

(69) a. The king of France does not exist.

 b. Vulcan does not exist.

Such negative existentials arguably involve involve intentional objects as well. In fact, McGinn (2000) argued that apparently empty terms in negative existentials stand for intentional, nonexistent objects, in roughly the present sense, as entity constituted by failed intentionality. Obviously in that context, intentional objects would not depend on a described intentional act or state. Rather, they would depend on a contextually given quasi-referential act. Thus in (69a), the subject presumably relates to a pretend act of reference, or better a simulated unsuccessful act of reference, by a recent or contemporary philosopher; in (69b) the subject presumably relates to an attempted act of reference on the part of astrophysicists in the past. More precisely, the utterance of the subject will be a pretend act of reference coordinated with a contextually given quasi-referential act involving the same name or description.

 There is a range of evidence that the subject of negative existentials stand for an intentional object, an object dependent on a quasi-referential act (evidence not considered by McGinn). First, not any ordinary definite description is acceptable as the subject of a negative existential. The definite descriptions in the following examples are appropriate only insofar as their use is coordinated with a relevant previous quasi-referential use of the same description:[[23]](#footnote-23)

(70) a. Mary’s child does not exist.

 b. The tree in the square does not exist.

(70a) cannot just be used to state that Mary does not have a child and (70b) cannot be used to state that the square does not have a tree. Rather someone must have tried to refer to Mary’s child or the tree in the square before.

 Furthermore, not just any name that fails to have a referent can act as the subject of a negative existential. Newly created names cannot act in that function, and neither can names whose use does not relate to a preceding quasi-referential act. For example, an expression that could be a proper name, but has not been used as such, let’s say *Barkab*, cannot occur in the subject position of an *exist*-sentence:

(71) ??? Barkab does not exist.

Such intuitions are unaccounted for on a view on which the subject of negative existentials such as (71a, b) is empty and negation is understood as external negation (Salmon 1997, 1998), unless it is supplemented by conditions on previous name-using practices (Sainsbury 2005) (this, though, would not carry over to definite descriptions).

 The view that the subject of a true negative existential stands for an intentional object also accounts for the intuition that with non-referring singular terms negative existentials are false rather than just not true: *the golden mountain exists* is simply false, rather than neither true nor false, unlike a sentence such as *the present king of France is bald*, where there is a good intuition that the sentence is truth-valueless.

 In addition, Salmon’s view that negation in negative existentials is external negation is problematic. On that view, *not* in a negative existential would be the same kind of negation as in (72), which is naturally followed by a *because*-clause:

(72) The king of France is not bald, because there is no king of France.

But (72) involves a particular intonation, namely a focus on *not*, rather than, as with ordinary negation, the predicate. By contrast, in a sentence with *exist* it is the predicate that is focused. That is, negative existentials do not appear to be cases of ‘metalinguistic negation’ in the sense of Horn (1985). Another problem for the view that negation in negative existentials is external is that negation as ‘external negation’ should be negation taking wide scope over the subject. However, with a quantificational subject, no wide-scope can be attested, unless *not* is strongly focused:

(73) a. Every one we talked about does not exist.

 b. At least two people we talked about do not exist.

The treatment of negation as external negation also has difficulties with the sentence below:

(74) Every one we talked about except Anna Karenina exists.

Except also involves negation, but negation here could hardly end up as external negation in the logical form of the sentence.

 Thus, the subject of a negative existential does not appear to have a special semantics, involving an empty denotation that triggers an external interpretation of negation. Rather it is on a par semantically with referential NPs, and negation in negative existentials is ordinary negation rather than special. [[24]](#footnote-24)

 Turning to the semantics of negative existentials, the interpretation of negative existentials, the entire subject NP will be coindexed with a quasi-referential act given by the linguistic or nonlinguistic context.

 For proper names, I will, for the present purposes, make the same assumption as for common nouns when used to possibly describe intentional objects: proper names have a two-place variant with an additional event argument place for an act of attribution. Simplifying, the interpretation of a proper name coindexed with a contextually given quasi-referentially act will then be as below:

(75) a. [*Anna Kareninai*]ei = ιx[x = f(ei) & *Anna Karenina*(x, ei)]

That is, the referent of the name *Anna Karenina*, co-indexed with some event *e* is the intentional object projected from *e* that involves the attribution of the name in an act coordinated with *e*.

 Similarly, a definite description coindexed with aquasi-referential act given by the context will be interpreted as follows:

(75) b. [*the king of Francei*]ei = ιx[ = f(ei) & *king of France*(x, ei)]

That is, the referent of *the king of France* coindexed with an intentional event *e* stands for the intentional object projected from *e*, which is coordinated with an act of the attribution of the property of being king of France.

 One question that arises with negative existentials is, why could the subject not stand for a fictional character, so that (69a,b) would in fact come out false? Fictional characters obviously can be referents of terms making explicit reference to them such as *the fictional character Hamlet Anna Karenina.* The question then is, under what circumstances can ‘nonreferring’ names and descriptions stand for fictional characters, rather than intentional objects? I will restrict myself to just a few observations and generalizations. First of all, there clearly are contexts in which empty names and definite descriptions can stand for fictional characters rather than intentional objects:[[25]](#footnote-25)

(76) a. Anna Karenina was created by Tolstoy.

 b. Anna Karenina serves as a model for an unhappily married, intelligent woman.

However, it appears that in negative existentials, as below, an empty name or definite description cannot refer to a fictional character:

(77) a. Anna Karenina does not exist.

 b. The golden mountain does not exist.

It is impossible to get a reading of (83a) and (83b) on which the sentences come out false.[[26]](#footnote-26)

This is in contrast to a negative existential with a subject making explicit reference to fictional character:

(78) The fictional character Anna Karenina does not exist.

The reason why the subject in (77a) and in (77b) *has* to stand for an intentional object and cannot stand for fictional characters may be the following. A term can stand for an intentional object in only those contexts in which it could have been used to refer in the ordinary way (as in the case of *exist*), and it can be used to refer to a fictional character only in those contexts that exclude ordinary reference (as in the case of the verb *create*).

 **7. Restrictions on predication of intentional objects**

Only certain predicates, it appeared, can be predicated of intentional objects, such as intentional verbs and (negated) existence predicates, as well as predicates of evaluation and comparison. However, when a subject stands for an intentional object, then any sort of predicate can follow:

(79) a. The person John described is a woman who knows many people.

 b. The woman the book is about is someone that likes everyone.

For applying an ordinary predicate, the term that for the intentional object *must* be in subject position. The sentences below are impossible if there is no actual woman the book is about:

(80) a. Many people know the woman the book is about.

 b. Everyone met the woman the book is about.

 The asymmetry between subject and object position indicates that for ordinary properties to be predicated of intentional objects, the intentional act needs to be accessible on which the intentional object depends. Given standard syntactic views, the intentional act on which the subject depends is accessible for the predicate (the subject c-commands the predicate), but not so the intentional act on which an object depends (the object does not c-command the predicate). Let us first take the case of proper names in subject position as in (59a):

(81) a. Anna Karenina is a woman.

 b. [Anna Karenina]i is [a womani]i

 c. woman(ιx[x = f(ei) & *Anna Karenina*(x, ei)], ei)

The syntactic configuration of (81a) allows sharing of an index of the subject and the predicate, as in (81b). This in would be interpretated as the relativization of the interpretation of the subject and the predicate to the same contextually given intentional act as roughly in (81c).

 Note that the predicate may at the same time combine with a negative existential:

(82) The person the book is about is a woman that does not exist.

 This means that not all of the predicate will be interpreted relative to the intentional act on which the subject depends, namely not the relative clause.

 Definite descriptions with intentional verbs as in (79) are more difficult to handle. On the analysis employed so far, the intentional act on which the intentional object depends is introduced by an existential quantifier inside the definite description operator. In order for that event to be accessible for the interpretation of the predicate, the existential quantifier would have to be understood dynamically, allowing it to bind variables outside its scope.

**8. Conclusions**

This paper has argued that transitive intentional verbs go along with a special sematic interpretation of their complement, involving intentional objects in a particular, event-dependent sense. This semantics is quite different from the semantics of the complement of transitive intensional verbs, which has long been recognized as being special. The difference in semantic interpretation of constructions with intentional and with intensional verbs accounts for a range of linguistic differences, in particular with quantificational complements.

 Intentional objects, I have argued, do play a role in the semantic structure of natural language and are reflected in particular linguistic constructions. But the role of intentional objects is strictly limited: intentional objects in general can be made available only by the presence in the semantic structure of the sentence of intentional acts on which the intentional objects depend. This view is thus significantly different from the standard Meinongian view, whose ontology is much harder to accept.

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**1. Intentional Objects in Scientific and Mathematical Contexts**

Following McGinn (1980), one may also consider entities postulated in scientific or in fact mathematical theories as intentional objects. It has been pointed out that *there-*sentences are naturally used for asking questions about such objects as postulated within the theory, whereas *exist*-sentences are naturally used to ask about their actual existence. The same terms or quantifiers are used in the relevant *there*-sentences and *exist*-sentences:

(91) a. Are there numbers between 2 and 5? – There are numbers between two and ten.

 b. Numbers exist.

(92) Are there electrons? Electrons exist.

But intuitions here are not strong: even a *there*-sentence admittedly could do the job of an *exist*-sentence, with sufficient emphasis on *are/is*. Conversely, it is not obvious that an *exist*-sentence could not be used for the internal question (*Do natural numbers smaller than 1 exist?*). It is rather, it seems, that if a *there*-sentence and an *exist*-sentence are used contrastively, the *exist*-sentence will be used for the external question and the *there*-sentence for the internal one.

 There is another general difference between the kinds of intentional objects discussed in this paper and entities postulated in scientific or mathematical theories. The latter can be predicated any properties internally, by ordinary predication, whereas internal predication with intentional objects as discussed in this paper is very limited.[[27]](#footnote-27)

**11. Intentional Objects and Clausal Complements**

The philosophical discussion of nonexistent objects traditionally has focused on or even limited itself to intentional objects that are arguments of transitive intentional verbs. There is a somewhat different, more recent discussion, though, of the need for intentional objects, namely for the semantics of *that*-clauses with anaphora that involve so called intentional identity. Anaphora appear to be able to make reference to intentional objects across different attitudes of the same agent or of different agents in sentences such as these:

(93) a. Mary believes that someone will succeed her. She hopes that he will be a

 worthwhile successor.

 b. John believes that an armed man is in the garden. Bill believes that he is not armed

 and that he is just trying to steal the apples.

There are a number of similarities between intentional objects as discussed in this paper and the kinds of entities such anaphoric pronouns appear to stand for. First, both obviously depend on intentional acts or states. Second, anaphoric reference across attitudes of the same or different agents clearly requires coordination (for example, John’s and Bill’s reported beliefs in (91b) are likely directed toward the same evidence). However, it is not obvious that intentional objects as they were conceived in this paper are suited as semantic values for anaphora in embedded sentences in attitude reports. In the latter case only internal predication is at play, predication within the attitude context, and we have seen that internal predication is restricted for intentional objects in the former sense. Second, the phenomenon of anaphora in attitude contexts, if it involves entities at all, involves heavily information-driven entities (‘discourse referents’). Thus, what is constitutive of the semantic value of *he* in (91a) is that it is associated with the property of succeeding Mary, information conveyed by the preceding sentence, but nothing else. It could not be associated with a property attributed by another intentional act coordinated with the belief of Mary that is reported. Thus, it is more likely that anaphora in attitude contexts require first of all a level of discourse referents that have nothing to do with the present notion of an intentional object. However, in the end, the overall interpretation of a discourse reporting the propositional attitudes of agents may involve such intentional objects.

There is a second class of predicates that take intentional objects, namely predicates of evaluation and emotional attitude, such as *admire, like*, and *worship*:

(18) John admires / likes the woman described in the novel.

*Something* can also quantify over intentional objects (or reifications thereof).

1. For such a view see Everett (2000), Kendall (2000), and Taylor (2000). [↑](#footnote-ref-1)
2. Throughout this paper I assume that *exist* is a predicate. See Miller (1975, 1986) and Salmon (1987, 1998) for a philosophical defense of that view and also Moltmann (2013b). [↑](#footnote-ref-2)
3. See Tye ( 1984) . [↑](#footnote-ref-3)
4. Such sentences are not a problem, though, for the Meinongian theory of Priest (2005), who takes nonexistent objects to have ‘existence-entailing’ properties (such as the property of being a woman) only in other possible worlds, the worlds that realize the content of the fiction or the relevant intentional acts or states. It seems that this account makes predictions about modal statements, though, that are unsupported by linguistic intuitions. Sentences such as (ia) below do not seem any better than (ib):

(i) a. There is something that could be a tree that does not exist.

 b. There is a tree that does not exist. [↑](#footnote-ref-4)
5. The noun *object* in the construction ‘object of thought’ is in fact a relational noun since it cannot be replaced by a noun like *entity* or *thing*. *Object of thought* describes whatever entities may stand in the object of-relation to a thought or other intentional state or act, be it a real object of some type or a ‘nonexistent’ object.. [↑](#footnote-ref-5)
6. Also the non-sortal noun *thing* allows for quantification over intentional objects in *there*-sentences:

(i) There are things that John imagined / thought about / made reference to that do not exist.

In this function, it need not match gender features of the intentional object:

(ii) There is something John was thinking about, a son who would one day takeover his company. [↑](#footnote-ref-6)
7. One might posit the same type of intentional object for the two cases of attitudes and, in the case of an attitude being directed toward a real object, allow an intentional act to be related to two sorts of objects simultaneously: an intentional object and a real one. However, such a move is notoriously problematic: an intentional act just cannot relate to two such objects at once: it has a single object. This is a common objection raised against Brentano. See, forexample, Voltolini (2009a) for discussion. [↑](#footnote-ref-7)
8. The particular conditions that may distinguish a fictional object from an intentional object are further discussed in Thomasson (1999) and Voltolini (2009b). [↑](#footnote-ref-8)
9. The underspecification of intentional objects should not be confused with the nonspecificity of the complement of intensional transitive verbs, a point that will be discussed later. [↑](#footnote-ref-9)
10. It is customary in the philosophical literature on fiction to distinguish between ‘internal predication’ and ‘external predication’. Sherlock Holmes lives on Baker Street is true because the property of living on Baker Street is predicated of Holmes internally, whereas Sherlock Holmes is a fictional character is true because the property of being a fictional character is predicated of Sherlock Holmes externally. This suggests that intentional objects are predicated properties only internally, whereas fictional objects can be predicated properties both externally and internally. However, I think this distinction is not helpful. Intentional objects simply do not have properties as such, internally or externally predicated, rather they have properties only relative to an intentional act (including the intentional acts that make up a context of fiction).

 A related distinction is Meinong’s distinction between nuclear predicates and extranuclear predicates (see also Parsons (1980)). However, the distinction between two ways of predicating is a better one, since one and the same predicate may be both internally and externally predicated. [↑](#footnote-ref-10)
11. What is described in a piece of fiction can also be viewed as an intentional object rather than a fictional object, namely as the intentional object that corresponds to the coordinated intentional acts that make up the writing of the fiction. It is the object the fiction is about, but it is not the object the author intended to create. The same pretend acts of reference thus give rise to two distinct objects: nonexistent intentional objects and fictional objects. The two kinds of objects may share the same internally predicated properties, but they differ in ontological status: one of them is a quasi-objects, the other one is an abstract artifact. [↑](#footnote-ref-11)
12. The relation of coordination as a relation among intentional acts thus differs from that of Fine (2006), which is viewed primarily a relation among occurrences of expressions. [↑](#footnote-ref-12)
13. See Carlson (1977) and Grosu / Landman (1998). [↑](#footnote-ref-13)
14. Other kinds of intensional modifiers that allow extending the range of quantification of a *there*-sentence are those in the sentences below:

(i) a. There are possible buildings that do not exist.

 b. There are philosophers of the past who hold the same view. [↑](#footnote-ref-14)
15. Past objects may allow for other predicates that do not entail existence besides psychological predicates, namely predicates describing the causal effects or historical influence of an object, such as *influential* or *important*. Even sortal predicates may in certain cases not be existence-entailing, namely in the case of individuals whose influence endures beyond their life span or whose achievements are meant to endure. Thus if a and b are individuals of the past, (1a) is acceptable in the present tense if a was a philosopher whose work is still known, but if a was a baker, (1b) is not likely to be acceptable, unless a, let us say, initiated a tradition or created a lasting recipe:

(1) a. a is a philosopher.

 b. a is a baker. [↑](#footnote-ref-15)
16. [↑](#footnote-ref-16)
17. The distinction is often ignored both in the philosophical and in the linguistic literature. [↑](#footnote-ref-17)
18. For arguments that nonspecificity, rather than failure of substitutivity or existential quantification, is characteristic of intensional transitive verbs see Moltmann (1997) and Zimmermann (2001). [↑](#footnote-ref-18)
19. Such quantifiers are called ‘nominalizing quantifiers’ in Moltmann (2003). [↑](#footnote-ref-19)
20. In fact the same kind of contrast can be observed with verbs of creation, which themselves are in fact intensional verbs (Moltmann 1997):

(i) a. John is writing a poem. Mary is writing the same thing.

 b. John is writing a poem. ?? Mary is writing the same poem.

(ib) has only a reading on which John’s literary creation miraculously coincides exactly with that of Mary, which is not something implied by (ia). [↑](#footnote-ref-20)
21. The Modal Compatibility requirement has been noted first for a related construction by Grosu / Krifka (2007). [↑](#footnote-ref-21)
22. The acceptability of (63) is quite surprising in fact, since the positive, as is familiar from the linguistic literature on generics, would not allow for a singular generic indefinite:

(i) ?? A unicorn is small.

The difference obtains whether or not the NPs range over existent or nonexistent objects. Thus, it also obtains for the examples below:

(ii) a. A mouse is smaller than an elephant.

 b. ?? A mouse is small.

I do not know of an explanation of this difference. [↑](#footnote-ref-22)
23. The philosophical literature also discusses the following sentence:

(i) The largest natural number does not exist.

This sentence seems to me to be subject to the same condition involving a previous quasi-referential act, pace Russell’s (1905) account of definite descriptions acting as quantifiers in such sentences. [↑](#footnote-ref-23)
24. Another option one might think of would be to take *the king of France* to stand for a merely possible object and say that it does not exist. But see Kripke (2013) for a critique of that view. [↑](#footnote-ref-24)
25. Another apparent case of reference to a fictional character is (i) below:

(i) Anna Karenina is an interesting fictional character.

However, *fictional character* has a ‘reifying’ function in this context, mapping a presentation of a name (a non-referential use of the name) onto a fictional character of which *interesting* is then predicated. It is the same function that *fictional character* has in *the fictional character Anna Karenina*, where it guarantees reference to a fictional character on the basis of a non-referential use of the name *Anna Karenina*. See Moltmann (2013, Chapter 6) for a discussion of the reifying function of certain sortals in predicate position. [↑](#footnote-ref-25)
26. See Thomasson (1999). In some of the literature, the intuition is not quite recognized as such, for example in Salmon (1987). [↑](#footnote-ref-26)
27. Note that if intentional objects are also to account for the entities posited by empirical postulation, they will also make up the denotations of certain bare plurals and mass nouns, namely ‘empty’ kind terms. [↑](#footnote-ref-27)