HUMANA MENTE

Meinong Strikes Again

Return to impossible objects 100 years later

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Foreword

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The destiny of Meinongianism in the Anglo-American analytic philosophy in the first half of the 20th Century is summarized by G. Ryle, 1972's well-known remark:

> Let us frankly concede from the start that *Gegenstandstheorie* itself is dead, buried and not going to be resurrected. Nobody is going to argue again that, for example, 'there are objects concerning which it is the case that there are no such objects'. Nobody is going to argue again that the possibility of ethical and aesthetic judgments being true requires that values be objects of a special sort.

Unfortunately, philosophers typically make bad prophecies. Nine years before, in 1963, John N. Findlay published the second edition of one of the most important studies on Meinong's philosophy: *Meinong's Theory of Objects and Values* (Findlay, 1963). In 1967, Gustav Bergmann published his *Realism. A Critique of Brentano and Meinong* (commented in this issue by Guido Bonino) (Bergmann, 1967). Seven years later, in 1974, Reinhardt Grossmann published another important book on Meinong's theory of objects (Grossmann, 1974).

Yet, this was only the beginning of the Meinong-Renaissance. In the United States, the growing interest of two philosophers in Meinong's theories (Roderick M. Chisholm and Hector-Neri Castañeda) provided the Meinong-Renaissance with deep and insightful new theoretical intuitions. While Findlay's and Grossmann's studies aimed at clarifying Meinong's thoughts after several historical misunderstandings – even provided that it was difficult for English-speaking philosophers to read and understand Meinong's original texts –, Chisholm's and Castañeda's works somehow anticipated the

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development of Neo-Meinongianism, i.e. a renewed and (at least in part, as we will see) simplified version of Meinongianism. In 1967, Chisholm wrote the entry “Meinong, Alexius” in the *Encyclopedia of Philosophy* published by MacMillan (Chisholm, 1967). Seven years before, in 1960, he published the English translation of Meinong’s 1904 *Über Gegenstandstheorie* (Chisholm (ed.), 1960) and in 1973 he summarized some typical Meinongian theses in his paper *Beyond Being and Nonbeing* (Chisholm, 1973). On the other hand, Castañeda exposed in 1974 his Guise Theory, that seemed to present important connections with Meinong’s theory of objects (Castañeda, 1974), even though Castañeda cannot be properly considered a Neo-Meinongian for many reasons (e.g., guises are different from Meinongian objects). However, Castañeda introduced the idea that there is more than one way of predication and this idea was already part of Meinong’s legacy (it was suggested by one of Meinong’s pupils, Ernst Mally, who also suggested the distinction between characterising and non-characterising properties, thus being the legitimate founder of two Neo-Meinongian doctrines).

In 1976, in turn, one of Castañeda’s pupils, William J. Rapaport, completed his PhD dissertation on *Intentionality and the Structure of Existence* (Rapaport, 1976 and 1978). Rapaport examined some data and some problems that typically affect our ontology when we try to introduce in it intentional objects. He proposed a theory according to which there are two kinds of objects (Meinongian and actual objects) and two ways of predication (constituency and exemplification): Meinongian objects both are constituted by properties and exemplify them, while actual objects only exemplify properties. This distinction was motivated by recalling, among other, the well-known Russell’s objections against Meinong (Russell, 2003, 80–84). Rapaport’s theory was perhaps the first example of the Neo-Meinongian dual copula strategy (Orilia, 2005[2] and Berto, 2012) or, as we would better claim, of the instantiation-centered Neo-Meinongianism. Unfortunately, this theory was affected by the paradox originally discovered by Roman Clark with regard to the guise theory (Clark, 1978) and much discussion focused on that critical point.

In 1974, Terence Parsons published *A Prolegomenon to Meinongian Semantics* (Parsons, 1974), that was followed by an article on fictional objects (Parsons, 1975), and, in 1980, he exposed his Neo-Meinongian theory to a larger extent in the book *Nonexistent objects* (Parsons, 1980). In opposition to the dual copula strategy and developing Mally’s second suggestion, Parsons accepted a distinction between characterising and non-characterising properties of objects: ontological properties, for example, are non-characterising and cannot be assumed to constitute an object. Parsons' theory represents the second, Neo-Meinongian strategy to deal with the problems surrounding the objects' theory: the property-centered Neo-Meinongianism.

However, the most comprehensive book on Meinongianism was written in 1979 by an Australian philosopher, Richard Routley (then Richard Sylvan): *Exploring Meinong's Jungle and Beyond. An investigation of noneism and the theory of items* (Routley, 1979), that was anticipated by many articles (for example, Routley, 1966). The publication of this monumental book perhaps represented the moment in which Meinongians became strongly aware of their distinction from (and opposition to) the mainstream Frege-Russell-Quine view of ontology: Meinong's jungle and its flourishing of items (even strange ones)overtly contrasted Quine's desert landscapes, i.e. Quine's principle of economy in ontology (Quine, 1948), even though one diffused reading of this opposition misunderstands Meinong's ideas, by claiming that, for Meinongians, there *exist* (or, simply, there *are*) objects that Quinean ontologists could not accept, so that such objects turn out to be part of ontology. However, Meinongianism, by accepting that there are objects that do not exist, was considered by Routley a minority view, that went against the "establishment philosophers". In reply, David K. Lewis declared that Routley was not a noneist, but an allist, since he simply accepted the existence of controversial items (e.g., fictional and merely possible ones) (Lewis, 1990). In order to make Meinongian positions intelligible, many Non-Meinongians still follow this interpretation, by claiming that Meinongians are committed to the existence of strange items *or* that they at least distinguish being from existence, so that every item has being, even though not all the items exist. Thus, even the definition of the disagreement between Meinongians and Non-Meinongians became problematic.

In 1983, in his book *Abstract objects*, Edward N. Zalta developed the dual copula strategy by using a vast logical apparatus (Zalta, 1983 and 1988). In the same year, after a long series of articles on Meinongian themes, Karel Lambert published his *Meinong and the Principle of Independence* (Lambert, 1983). On the other hand, Dale Jacquette accepted the property-centered Neo-Meinongianism (that was defended by Routley too) and tried to define the distinction between characterising and non-characterising properties on logical grounds (for example, Jacquette, 1996).

More recently, a third form of Neo-Meinongianism emerged: Graham Priest's modal approach (adopted by Francesco Berto too) (for example, Priest, 2005 and 2006[2], and Berto, 2010 and 2012). Following the modal approach, items do not only instantiate properties in the actual world, but they instantiate them in other possible (and impossible) worlds too. Thus, Pegasus is not a unicorn in the actual world (there are no unicorns here!), but it is a unicorn in some possible world, while the round square is not round and square in the actual world, but it is round and square in some impossible world. In the actual world, it is legitimate to refer to such items that instantiate strange properties in other worlds, and this seems to set the distinctions between modes of predications or between kinds of properties apart. Together with a growing interest in paraconsistent logic (i.e., logic that accepts that there are – in the actual world or at least in some impossible world – true contradictions and that such contradictions do not obey the *ex falso quodlibet* law), the definition and the status of impossible worlds nowadays is one of the most discussed topics in ontology and logic.

After these historical remarks, it is now time to ask: what do Neo-Meinongians believe? They typically accept many theses that reasonably derive from Meinong's philosophy: objects are what they are – i.e. they instantiate or they are characterized by their properties – independently of their ontological status (principle of the independence of the *Sosein*); every set of properties (at least under some qualification) constitutes an object (principle of the freedom of assumption); our primary quantifiers are not ontologically loaded, so that there are objects that do not exist; more generally, there are objects that do not have any kind of being at all. One important and obvious consequence of such theses is that there are many objects that do not exist and that nevertheless have some properties: Pegasus, the round square, and so on.

Neo-Meinongians learnt from the Russell-Meinong debate that it was necessary to qualify the principle of the freedom of assumption, in order to deal with difficult cases, such as the case of the existent round square. In fact, if we take the existent round square at face value, it is characterized by the properties of being round, of being a square and of existing, so that, given the unqualified reading of that principle, the existent round square exists, even though we all know that it does not exist. Furthermore, Neo-Meinongians had to defend their theses from the Russellian objection according to which they violate the law of non-contradiction and the law of excluded middle *or* they had at least to justify such violations, in order to make them reasonable and unproblematic. Finally, further difficulties emerged from the general problem of implicit properties: for example, is Pegasus an animal, provided that it is a unicorn, even though the Greek myth does not explicitly asserts that it is an animal? Is it legitimate to claim that it is characterized by the property of being an animal too? Or is it incomplete with regard to that property, i.e. it is neither true, nor false that it has it?

In order to reply to the first objection, Neo-Meinongians limited the principle of the freedom of assumption under some qualification. For example, property-centered Neo-Meinongians (such as Parsons, Routley, Jacquette) claimed that every set of *characterising* (or *nuclear*) properties constitutes an object, while instantiation-centered Neo-Meinongians (such as Rapaport and Zalta) accepted that every set of properties constitutes an object, insofar as those properties are *encoded* (in Zalta's terms) by that object. Finally, modal Neo-Meinongians (such as Priest and Berto) roughly claimed that every set of properties constitutes an object, insofar as those properties are instantiated by that object *in some* (possible or impossible) *world*. It is not necessary to recall here the advantages and the problems of each solution. However, it is important to remark that there are some points in which Neo-Meinongianism differs from Meinong's original philosophy.

Firstly, as we have already noticed, Neo-Meinongians restricted Meinong's principle of the freedom of assumption – even though Meinong himself was inclined to think that it was necessary to introduce some restriction (with regard to the existent round square, he claimed that the property of being existent – that is instantiated by that object – is different from the property of existing – that is not instantiated by it). Secondly, Neo-Meinongians did not accept that there are different kinds of being. In particular, they did not accept subsistence as the kind of being of abstract objects and of some objectives. For Neo-Meinongians, objects either exist, or do not exist. Thirdly, they did not deepen every aspect of Meinong's philosophy: for example, they did not investigate objectives (or, at least, they did not suggest original theories about them) and they did not focus on aesthetic values and on ethics. Neo-Meinongianism only covered some areas of philosophy: ontology of fiction, at first – even though they did not developed full theories of art and aesthetic judgment –, logic, the problem of the reference of seemingly empty names – and some other issues in philosophy of language. On the other hand, with regard to the ontology of time and to the theory of knowledge, for example, there are only some remarks by Routley that still need to be studied in depth.

However, even though Neo-Meinongianism still represents a non-fully developed minority view, many recent philosophical intuitions seem to corroborate some of Meinong's ideas *or* they seem to be nearer to the Meinongian spirit than traditional theories. Here are some examples.

In 1973, in his lessons on *Reference and Existence* (Kripke, 2013), Saul Kripke argued for a heretical thesis: fictional objects – such as Sherlock Holmes and Pegasus – exist. In 1977, in full Quinean spirit, Peter van Inwagen agreed with this idea, by claiming that, provided that it is legitimate to quantify over such items and provided that our quantifiers are ontologically committing, fictional objects have existence (van Inwagen, 1977). Nathan Salmon (1987) and (1998) and Amie Thomasson (1999) came to the same conclusion and Thomasson developed a full artifactualist theory of fictional items. Artifactualism differs from Meinongianism in two important respects: while the former claims that *ficta* exist and that they are created by their authors, Meinongians typically assert that *ficta* do not exist and that they are somehow found out by their authors (provided that the objects of the author's thoughts do not depend, for their being what they are, on the author's mental activity). However, *ficta* somehow conquered (at least for artifactualism) the right of being accepted *qua* objects by the theory of fiction – a right that they already had in Meinong's theory of objects.

Furthermore, what about the idea that there are items that do not exist? Even though many ontologists still maintain that everything whatsoever exist – so that existence can be considered, at best, a non-discriminating property of objects (for a recent example, Rami, 2013) –, it is worth asking whether there are existing objects that are not real or not concrete. Timothy Williamson notoriously argued that every possible object exists, so that *possibilia* have necessary existence, even though not every object is concrete (Williamson, 2002). Applying this idea to the ontology of time (in particular, with regard to presentist theories), some philosophers argued that there are (= exist) now objects that are not now concrete (for example, Hinchliff, 1988, and Orilia, 2012): Julius Caesar, for example, still exists, even though he is not concrete anymore (he is an *ex-concretum*). Other philosophers distinguished being from existence (for example, Yourgrau, 1987), by asserting that there still are merely past objects, even though they do not exist anymore. Finally, in metaontological debates, Fine (2009) distinguished reality from existence – or, better, reality from what is expressed by the existential quantifier. In sum, from the perspective of some philosophers who still believe that everything exists, what is captured by the predicate "exist" seems nevertheless not to be sufficient to define the ontological status of some problematic items – such as merely past or merely possible ones. With regard to the Meinongian possibility of there being kinds of being different from existence, ontological pluralists (for example, McDaniel 2009, 2010) and (Turner, 2010)) recently argued that there are many ways of being (or of existing) – still accepting that everything exists in some way or another – and that such ways of existing are more natural or fundamental than existence in general.

Ryle's prediction came out to be incorrect but, as we have seen, Neo-Meinongianism even if inspired by Meinong's theory of objects has not lead to a deep and accurate analysis of Meinong's philosophy. This is not *per se* a problem; on the contrary it has the merit of having brought Meinong back to the scene of contemporary philosophical discussion. But is it really Meinong that has resurrected? Or sometimes his name is simply attached to some topics in order to convey the idea that it is something strange, unconventional, or out of the mainstream? Currently there are two ways of treating Meinong: a methodological historical side, that deepens Meinong's topics analyzing his works in order to undertake a historical and conceptual reconstruction of his philosophy (clarifying the different steps, the Brentanian background and so on), and Neo-Meinongianism that takes some of his most famous ideas and builds on them new different theories, without closely adhering to Meinong's works. But is it possible to find a matching point between the historical Meinong and Neo-Meinongism?

In order to answer to this question, it is worth moving from the Meinong-Russell dispute, because the way Meinong was depicted there has been the last word on Meinong's philosophy so well described by Ryle. In fact, as it is well known, Russell's strong critique of Meinong had a great weight in disregarding Meinong within the analytical tradition. However, it is important to remind that Russell gave great importance to Meinong's works, offering a careful analysis of them in several Reviews of his papers, published between 1899 and1907. For example, Russell ends the Review of *Über die Stellung der Gegenstandstheorie* published in 1907 – hence after On Denoting – as follows:

> In what precedes, I have dwelt chiefly on points in which Meinong seems open to criticism. But such points are few and slight compared to the points in which his views seem to me true and important. Moreover his contentions are in all

cases clear, and whether right or not, they imperatively demand consideration (Russell, 1907, p. 93).

This quotation shows that Russell's criticism of Meinong was not a simple dismiss of the theory of object, but a deep analysis of the problems he was trying to find a solution for, solution that he presented in *On Denoting* (Russell, 1905). In *On Denoting*, in fact, Russell offers a different answer to the problems he was dwelling with in the preceding years, as he exposed in *The Principles of Mathematics* (Russell, 1903). If we carefully look at Russell's reviews, it is possible to note that the controversy with Meinong does not deal primarily with impossible objects. Rather it is a wide and comprehensive confront that moves from themes of descriptive psychology (as the distinction between representation, assumption and judgment or the one between mental act, content and object), to the notion of being, the existential import of propositions, as well as the notion of object, which brings to light a different ontological framework of the two authors. Within this confront, the increasing attention reserved by Russell to impossible objects can be considered as what makes manifest the change of the theory Russell undertook from *The Principles* to *On Denoting*.

Before 1905 Russell shared with Meinong the idea that objects have to "stand" already in order to be available for reference and predication. In *The Principles of Mathematics* Russell distinguished *existence* from *being*, which belong to any object whether it exists or not. Being thus is the general category which any term – in so far as it is conceivable and then expressible in language – must belong to; while existence pertains only to a subclass of terms: concrete individuals. Russell then distinguishes between existence and being, because he finds this distinction essential for the treatment of negative existential statements, but considers being as the necessary precondition for any object to be a genuine object. Meinong offered exactly the opposite strategy: he arrives to hold that an object does not need an ontic status (neither existence or being) in order to be what it is and to have properties truly predicated of it. Objecthood is thus the precondition for investigating the ontic status of any object. With the *Theory of Objects* Meinong wants to build a science «whose legitimate function is to deal with objects as such or objects in their totality» (Meinong, 1904, p. 79) and in order to achieve this aim he believes that it is necessary to overcome "the prejudice in favor of the actual" that brings to consider what does not exist as mere nothing. Thus Meinong's aim is that to find out a way of investigating objects without any limitation, first of all that of existence, so that the Theory of Objects is – in Meinong's words – a «*daseinsfreie Wissenschaft*», that is, a science that does not undergo to the limitations of existence nor – widening the principle – of being. To investigate objects independently of their ontic status then means to analyse their formal characters and the criteria of objecthood. The character of *Daseinsfreiheit* is expressed by two principles at the core of Meinong's philosophy: the principle of *Aussersein* (extra-being) and the principle of the independence of *Sosein* (So-being) from *Sein* (being), which are complementary. According to the principle of independence objects are constituted by their *Sosein*, i.e. their properties, which is unaffected by their non existence. This means that an object is prior to the determination of its ontic status, that is, it is beyond being and non-being. Objects are in the first instance *ausserseiende* (in this way they can be apprehended), and then they can be determined as regard as their existence or subsistence. The category of *Aussersein* introduced by Meinong hence is what guarantees a semantic presence – as the lowest grade of Giveness – that makes objects available for reference and predication, without which they could not be objects.

The irreparable point of divergence between Russell and Meinong lies then in the ontological framework they offer: for Russell being constitutes the most general and comprehensive ontological category and it is classificatory, since it is a necessary presupposition, while for Meinong the fundamental category is the level of *Aussersein*, which is not classificatory in contrast with being, which includes the existent, the non-actual and the subsistent, i.e. the real and the ideal. Meinong by introducing the principle of the independence of *Sosein* from *Sein* detaches the notion of object from that of being, which in the Theory of Objects' framework does not define the domain of objecthood. This principle – at the core of many Neo-Meinongians elaborations – brings forth a strong alternative way to the standard view, i.e. the Frege-Russell canon, according to which being is a necessary presupposition for reference and predication, because the notion of object – no more equivalent with entity – goes far beyond the limit of being. The principle of independence determines that any set of properties suffices to determine an object and to single it out. This is a kind of combinatory level, at which any conjunction of properties individuates an object that has to be recognized as such, in order then to investigate its ontic status. It is the *Sosein* which identifies an object, while its ontic status is in any way external to it. It is indeed the nature of the object that allows for a distinction with regard to the mode of being: «the nature of objects is such that either allows them to exist and to be perceived or prohibits it; so that, if they have being, this cannot be existence but only subsistence» (Meinong, 1921, pp. 17–18). It is then the nature of the object which determines whether the object can exist (or subsist) or not, but if it allows for existence (subsistence *resp.*) then the object is completely determined. Real and ideal objects follow the law of excluded middle, so that they are determined in all their respects and it is for this reason that they are entities. Nevertheless, subsistence and existence exhaust the domain of completeness (Meinong, 1915, pp. 185, 191, 202), so that to be – both in the sense of existence and subsistence – means to be an individual. But within Meinong's framework are there also incomplete objects, i.e. objects that have only a finite number of properties which do not exist nor subsist and along with them are there those objects that violate the law of contradiction (as the famous round square), whose non-being is thus determined by their having contradictory properties. But these objects are not individuals, since they are not determined in all their respect; nevertheless they can be understood and apprehended in virtue of their having a «remnant of positional character» (Meinong, 1921, p. 21), i.e. *Aussersein*.

This means that while the notion of object is ontic neutral, that of individual is instead determined and is a synonym of entity.

One of the greatest merits of Meinong's Theory of Object lies in having disentangled the problem of having properties from that of ontological determination, that is, in having proposed a theory without extensionalist presuppositions, offering thus an alternative way of treating the notion of object, which is basic to any ontological theory. Moreover, the desire to escape the desert landscapes of Quinean ontology that gave rise to neo-Meinongianism comes out to be very close to the original need explored by Meinong to find a place for *heimatlos* objects and that brought his so far.

In sum, forty-one years after Ryle's prophecy, it seems that Meinongianism is still vital and that many philosophers – even without considering themselves Meinongians – are coming to conclusions that seem to be quite near to (or at least compatible with) Meinongianism. After the first works in Neo-Meinongianism, this fact maybe represents the third stage of the Meinong-Renaissance – provided that the second one is represented by the rise of modal Neo-Meinongianism. We only wish to remark that, just after Ryle's clear-cut judgment on Meinong's theory of objects, Neo-Meinongianism somehow "lived" its best decade (from the publication in 1974 of Grossman's and

Castañeda works to the publication of Zalta's *Abstract Objects* in 1983, passing through Rapaport's, Parsons', Routley's works). Perhaps, Meinong's theory of objects was not that dead. Or, if it was dead, it was nevertheless going to be resurrected.

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Representing Intentional Objects in Conceptual Realism

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ABSTRACT

In this paper we explain how the intentional objects of our mental states can be represented by the intensional objects of conceptual realism. We first briefly examine and show how Brentano's actualist theory of judgment and his notion of an immanent object have a clear and natural representation in our conceptualist logic of names. We then briefly critically examine Meinong's theory of objects before turning finally to our own representation of intentional objects in terms of the intensional objects of conceptual realism. We conclude by explaining why existence-entailing concepts are so basic to our commonsense framework and how these concepts and their intensions can be used to model Meinong's ontology.

According to Franz Brentano the content [*Inhalt*] of a mental state "contains an immanent objectivity," which Brentano described as the "intentional inexistence" of an object.[1] Intentional inexistence is a scholastic notion, which means existence in the mental act itself. Brentano did not intend to take an immanent objectivity to be the independent existence (or being) of an intentional object, in other words, but just the opposite: an immanent object has no being outside of the mental act in which it occurs, which means that it is a psychological and not a semantic content that "contains" such an object. Brentano was a strict actualist, moreover: nothing exists or has any other mode of being other than the actual concrete objects that exist at the time that the mental act occurs.[2]

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[1] Brentano 1874a, p. 50.

[2] We assume that Brentano allowed for reference to past objects that no longer exist, however, because unlike future objects their individuation is now settled. This is a minor qualification of his actualism.

That is not how his student, Alexius Meinong, understood the situation in his "Theory of Objects". For Meinong, an intentional object is not an immanent object of a judgment but rather it is a constituent of the "Objective" (which is something like a state of affairs) toward which the content of that judgment is directed. As a constituent of an Objective an intentional object is said to be a "pure object" that is independent of that mental act, or even of the possibility of there being such a mental act. The objects in Meinong's ontology include far more than the concrete objects that exist at the time of a mental act; in particular, they include impossible as well as merely possible objects, and also Objectives and the properties and relations that might be constituents or components of those Objectives. Brentano's strict actualism is too restrictive an ontology, but Meinong went much too far in his ontology of Objectives with objects that are "outside of being" (*ausserseiend*).

In what follows we will explain how the intentional (with a *t*) objects of our mental acts can be represented by the intensional (with an *s*) objects that are projected in conceptual realism as the semantic contents of the concepts exercised in those acts. These intensional objects do not exist as part of our mental acts, i.e., they do not have "intentional inexistence," but they also do not exist independently of language, culture and consciousness in general. Conceptual realism is a rich but consistent framework that goes well beyond Brentano's actualism, but also well short of Meinong's theory of objects. We have described this framework in detail elsewhere and will give only enough of a brief sketch of it here to serve our present purpose.[3] In doing so we will briefly examine and formally represent Brentano's theory of judgments and then see how Meinong's intentional objects, when appropriately relativized, can be represented in this framework without adopting his ontology of objects that are "outside of being" .

1.Conceptualism and the Logic of Names.

Conceptualism is based on a theory of our speech and mental acts, where a speech act is a mental act that is expressed verbally. These acts are the result of our exercising concepts as cognitive capacities, including especially referential

[3] The logical core of the framework is a second-order logic with nominalized predicates as abstract singular terms called $HST^{*}_{\lambda\Omega}$. For a more detailed account of conceptual realism than we will give here, see Cocchiarella 1996, and Cocchiarella 2007.

and predicable concepts. Concepts are what underlie thought and our capacity for language in general, and, in particular, concepts as cognitive capacities are what underlie our rule-following abilities in the use of language, including especially our use of referential and predicable expressions. Referential concepts are the capacities by which we purport to refer to objects, and predicable concepts are the capacities by which we characterize those objects. In other words, referential concepts are what underlie the intentionality and directedness of our speech and mental acts, which they do by informing those acts with a referential nature. Predicable concepts inform those acts with a predicable nature.

A judgment, in particular, is the result of jointly exercising a referential and a predicable concept. This is not the traditional medieval or Port Royal view of judgment as a combining or separating of concepts (as mental images), however. As cognitive capacities concepts are not images or any other sort of mental phenomena in the sense of particular mental occurrences, and they cannot be combined or separated in the medieval or Port Royal sense. In fact, concepts cannot be separated in any sense, and their "combination" or joint exercise is really a form of mutual saturation. In other words, as cognitive capacities, concepts have an unsaturated nature, a nature which, when exercised as capacities, results in particular mental acts (events). As unsaturated capacities, moreover, referential and predicable concepts have complementary structures that when exercised together result in a speech or mental act in just the way that quantifiers (or noun) phrases and predicate (or verb) expressions have complementary structures that complement each other in the construction of declarative sentences or propositional formulas.

The logical framework for conceptualism, which is independent of its development into the fuller framework of conceptual realism, consists of a logic of names, relative to which, as it turns out, Leśniewski's system of ontology (which he also called a logic of names) can be reduced (and reinterpreted in a more natural way).[4] Here by names we mean common as well as proper names, i.e., proper and common nouns, including mass nouns as well as count nouns, and also gerunds in their role as verbal nouns.

We use the letters A, B, and C to represent names in formulas (though informally we will also use proper and common names spelled out in italics). Our conceptualist logic of names can be described in terms of a free first-order

[4]See Cocchiarella 2001, and Cocchiarella 2007, chapter 10.

logic with identity, but extended to include indexed quantifiers affixed to names, as, e.g., with the expressions $(\forall x Horse)$ and $(\exists y Man)$, which are read as 'every horse' and 'some man', or also simply as 'a man'.[5] Complex names, such as 'man who is over six-feet tall' or 'car that has four wheel-drive', i.e., names with a qualifying relative clause, are represented as $Man/Over\text{-}six\text{-}feet(x)$ and $Car/Has\text{-}4\text{-}Wheel\text{-}Drive(y)$, where the forward slash marks the beginning of the relative clause.[6] We rephrase attributive adjectives, as in 'round square', as predicative adjectives in a relative clause, as e.g., 'square that is round'. Attributive adjectives such as 'alleged' in 'alleged thief' are really operators, as in 'person who is alleged to be a thief', where 'alleged' would be symbolized as the operator 'it is alleged that'.[7]

The indexed quantifier $\exists$ is affixed to a proper name, as e.g. $(\exists x Socrates)$, when we want to represent a use of that name that is with existential presupposition, i.e., with the presupposition that the name denotes.[8] The quantifier $\forall$ is affixed to a proper name, as e.g. $(\forall y Pegasus)$, when we want to represent a use of the name 'Pegasus' that is without existential presupposition. Definite descriptions, which function in both natural language and in our logic the same way that quantifier phrases do, can also be used with and without existential presupposition. Our treatment of definite descriptions is especially appropriate, moreover, because of the way

[5] We do not read $\exists$ as 'there exists' in this logic, but as 'there is'. For 'there exists' we would use $\exists^e$, which can either be defined in terms of the predicate $E!$ for existence or taken as an additional primitive quantifier. We allow for things that do not exist, e.g., past objects, and, when the logic is later extended, future and possible objects, and abstract objects as well. All of these objects will be values of the bound object variables in conceptual realism. For Brentano's ontology, we assume that there *are* past objects that do not now exist. That is why $(\exists x)\neg E!(x)$ is both meaningful and true in Brentano's ontology. This is only a minor extension of his strict actualism.

[6] The following theorem schemas indicate how relative clauses are understood in this logic:

$$(\forall x A/F(x))\varphi x \leftrightarrow (\forall x A)[F(x) \rightarrow \varphi x],$$
$$(\exists x A/F(x))\varphi x \leftrightarrow (\exists x A)[F(x) \wedge \varphi x].$$

[7] Other attributive adjectives such as 'big' and 'small', as in 'big mouse' and 'small elephant' have an analysis more involved than as a simple predicate adjectives; but we will not go into that analysis here.

[8] Proper names differ from common names in that a proper name denotes at most one object (if any) and the same object in any possible world in which that object exists. In other words, the following meaning postulate is assumed to hold for each proper name A that is introduced into the system:

$$\Omega(\forall x A)(\Omega(\forall y A)(y = x) \wedge \Omega[E!(x) \rightarrow (\exists y A)(x = y)]).$$

we interpret our speech and mental acts as the joint exercise of a referential and a predicable concept, which means that all referential expressions, including definite descriptions, are to be represented in this logic by quantifier phrases. We use the quantifier $\exists_1$ to represent the use of a definite description that is with existential presupposition, as in

$$(\exists_1 x Man/(Tall(x) \wedge Blue-Eyed(x))Italian(x)$$

for an assertion of 'The tall blue-eyed man is Italian' in a context where there is such a unique individual. The axiom schema for the quantifier $\exists_1$ is:

$$(\exists_1 xA)F(x) \leftrightarrow (\exists xA)[(\forall yA)(y = x) \wedge F(x)].$$

We use the dual quantifier expression $\forall_1$ for the use of a definite description that is without existential presupposition, as in 'The student who writes the best essay will receive a grade of A' in a context in which two or more students might write the best essays equally well. The axiom scema for $\forall_1$ is:

$$(\forall_1 xA)F(x) \leftrightarrow (\forall xA)[(\forall yA)(y = x) \rightarrow F(x)].$$

2. Brentano's Theory of Judgment

There are three types of intentionality (or "ways of being conscious of an object") according to Brentano. The primary way is by presentation (*Vorstellung*), by which was meant an act in which "something", an immanent objectivity, is presented. Presentations are the primary form of intentionality, according to Brentano, because they are the basis for all other mental phenomena, including judgments and desires, as well as every kind of emotional mental act.[9] In an act of loving or hating, for example, one takes an emotional stand pro- or con toward the content of a presentation. An emotional state of mind is the second of the three types of intentionality.

Judgments (*Urteile*) are the third type of intentionality, where, by a judgment, Brentano meant an act of affirming or denying the content of a presentation.[10] The content of a judgment, in other words, is of the same type of immanent objectivity as the content of a presentation, or of an emotional

[9]Brentano 1874a, p. 42.
[10]Brentano 1874b, p. 63.

state. The only difference is that with a judgment one takes a stand of affirming or denying the content of a presentation. That is why Brentano also rejected the traditional medieval view of judgment as a combining or separating of concepts.[11]

Thus, presented with the content or immanent objectivity of "a learned man", which can be represented by the complex name "man who is learned", symbolized as $Man/Learned(x)$, one can either affirm or deny the existence of such a man.[12] Of course, one might object: how can what is not a proposition, specifically an immanent objectivity, be affirmed or denied? Brentano's answer is that we can use the predicate 'exists' ($E!$) to express a judgment that is an affirmation, and 'does not exist' ($\neg E!$) to express a denial; thus,

$$(\exists x Man/Learned(x))E!(x)$$

will represent what it is to affirm the existence of a learned man, and

$$(\exists x Man/Learned(x))\neg E!(x)$$

to deny the existence of a learned man. Note that the quantifier phrase $(\exists x Man/Learned(x))$ is read as 'a man who is learned' (or equivalently as 'a learned man') in this context, even though it might be read in a different context as 'some man who is learned'. But in no context is it read as 'There *exists* a man who is learned', otherwise it would be contradictory to speak of there existing a learned man who does not exist.

Of course, the above representation of the proposition that a learned man does not exist is not logically correct. Rather, the correct way to represent the proposition is by having the negation sign up front instead of before the existence predicate $E!$. But that is not how Brentano described his theory of denial, which is what we are proposing to represent here. (In any case, we will return to the correct way to represent denials, namely with the negation sign up front, later in section 4 below.) Meinong, incidentally, would say in this case (and in other similar cases noted below) that if the proposition were true, then some man who is learned would be a "pure" object that does not exist; but that is an interpretation Brentano emphatically rejected.

[11] Ibid. Strictly speaking, Brentano speaks of a combining and separating of properties, not of concepts.
[12] Ibid., p. 64.

In regard to the predicate 'exists', Brentano insists that it does not represent a property, though it is meaningful to predicate it as just indicated. Thus, according to Brentano, when we say 'A exists', it " is not the conjunction of an attribute 'existence' with 'A', but 'A' itself which we affirm," and similarly with the denial that A exists (ibid.). Nor does 'exist' represent a property in conceptualism, incidentally; but it does stand for a concept as a cognitive capacity underlying and accounting for our use of this predicate in natural language. It is noteworthy, moreover, that what Brentano called an immanent objectivity, which is what he claimed accounted for the intentionality or directedness and referentiality of a mental act, coincides in conceptualism with the exercise of a referential concept, which in conceptualism is what accounts for the intentionality of a mental act as well.

Now according to Brentano every proposition (*Satz*) is of one of the four traditional forms of categorical proposition. Here, by a proposition Brentano does not mean the abstract content or meaning of a sentence, the ontology of which he emphatically denied altogether along with Meinong's Objectives. Instead, by a proposition he meant only a judgment (a mental act) of one of the four categorical forms. Brentano claimed that of the four categorical forms the existential form is basic. Indeed, he goes so far in this view as to claim that "every categorical proposition can be translated into an existential one without any change in meaning".[13] Thus "the categorical proposition 'Some man is sick' has the same meaning as 'a sick man exists'" (ibid.), which can be symbolized in our conceptualist system as

$$(\exists x Man/Sick(x))E!(x),$$

where $(\exists x Man/Sick(x))$ represents the content or immanent object of the judgment. "The categorical proposition 'No stone is living' has the same meaning as the existential proposition, 'A living stone does not exist'" (ibid.), which can be symbolized as

$$(\exists x Stone/Alive(x))\neg E!(x),$$

where $(\exists x Stone/Alive(x))$ represents the content or immanent object of the judgment.[14] One might also add here the judgment that no square is round,

[13] Ibid., p. 66. This is a problematic thesis, as we note below, which in the end must be modified.
[14] Of course, the correct way to symbolize this proposition is by moving the negation up front; but, as already noted, we will take up that issue later in our conceptualist account of denial.

which can be symbolized as

$$(\exists x Square/Round(x))\neg E!(x),$$

where $(\exists x Square/Round(x))$ represents the immanent object of the judgment.

In regard to the universal affirmative, "the categorical proposition 'All men are mortal' has the same meaning as the existential proposition 'An immortal man does not exist'" (ibid.), which can be symbolized as

$$(\exists x Man/\neg Mortal(x))\neg E!(x),$$

where $(\exists x Man/\neg Mortal(x))$ represents the content or immanent object of a man who is not mortal. Finally, "the categorical proposition 'Some man is not learned' has the same meaning as ... 'A non-learned man exists'" (ibid.), which can be symbolized as

$$(\exists x Man/\neg Learned(x))E!(x),$$

where $(\exists x Man/\neg Learned(x))$ represents the content or immanent object of the judgment.

The content or immanent object of any one of these judgments is not itself an independently existing (or subsisting) object, according to Brentano, and in fact in his view nothing "exists for which the word content is a name".[15] Nor can such a content subsist or have any other mode of being independently of the mental act in which it occurs. There are no independently existing intentional objects according to Brentano, but just actual concrete things, including the events that make up our mental life. This kind of actualism according to which "there cannot be anything at all other than real objects" also applies to the properties and relations that "we express in our language by means of such abstractions as redness, shape, human nature and the like" (Ibid.), where, by human nature, we mean humanity, and by shape we mean rectangularity, triangularity, etc. In other words, according to Brentano, there are no such abstract objects as properties and relations.

[15]Brentano 1874c, p. 74.

3. Meinongian Objectives

Meinong agreed that ideal objects such as humanity and triangularity do not exist (*existieren*) and "consequently cannot in any sense be real (*wirklich*)."[16] But that is because they are ideal (abstract) objects, not real (concrete) objects, and ideal objects, according to Meinong, have a mode of being different from that of real objects, a mode Meinong called subsistence (*Bestand*). In other words, there are two modes of being in Meinong's ontology, concrete being (existence), and ideal being (subsistence). Numbers, along with properties and relations, are also ideal objects. "The form of being (*Sein*) with which mathematics as such is occupied," according to Meinong, "is never existence (*Existenz*). In this respect, mathematics never transcends subsistence (*Bestand*)".[17]

The presumption that ideal objects subsist, i.e., have being, is part of our commonsense understanding of the world as expressed in natural language. We have no difficulty or qualms in speaking of wisdom, humanity or triangularity, for example. It is a presumption that goes well beyond Brentano's actualism, and it requires a logic and a theory of logical and propositional forms that goes well beyond syllogistic and Brentano's categorical propositions. Meinong did not develop such a logic himself, unfortunately, nor did he describe a theory of logical forms in which to express his various claims or views. As a result, his arguments and major theses can be understood only in the informal terms of ordinary language, or in terms of the partial reconstructions of his views that have been made by others.[18]

Meinong's ontology also goes beyond Brentano's in his theory of Objectives (*Objektiven*), a theory that Brentano strongly rejected.[19] A judgment, according to Meinong, is an ideal ternary relational complex consisting of (1) a mental act with (2) a content directed toward (3) an Objective, which is something like a state of affairs, but which Meinong described as an ideal object. Thus, in regard to Brentano's account of the judgment that a learned man exists, Meinong would say that this judgment is true (assuming that it is true) because the Objective toward which it is directed has being (*Sein*), which is to say that it is a fact. And furthermore, one of the

[16] Meinong, 1904, p.79.
[17] Ibid., p.80.
[18] See, e.g., Parsons 1980 for such a partial reconstruction.
[19] Brentano, 1874c, p. 72f.

constituents of this fact is a learned man.

Similarly, the judgment that a round square does not exist is true, according to Meinong, because the Objective toward which it is directed has being, and hence is a fact with a round square as a constituent. But of course a round square does not exist, and in fact it cannot exist, nor even subsist, a point on which Meinong agreed. Nevertheless, according to Meinong, "if the Objective has being (*ist*), so in some sense or other, must the object which belongs to it, even when the Objective is an Objective of non-being (*Nichtseinsobjektiv*)."[20] The being of the Objective, in other words, " is not by any means ... dependent upon the being of its Object." [21] Thus, even though a round square can neither exist nor subsist, nevertheless it is a constituent of the Objective that a round square does not exist; it is, according to Meinong, a "pure Object" that is outside of being (*ausserseiend*).

Now just as the judgment that a round square does not exist is true because a round square does not exist, i.e., because the Objective of a round square not existing has being, and therefore is a fact, so too the judgment that *the* round square is round and square is true because, according to Meinong, the Objective of the round square being both round and square (a *Soseinobjektiv*) has being, and therefore is a fact. Yet, that the round square is both round and square, Meinong agrees, is impossible. Something impossible, in other words, is a fact.

Similarly, the judgment that the gold mountain is a mountain made of gold is true, because the (*Soseinobjektiv*) Objective toward which it is directed is a fact according to Meinong. But such a so-called fact is clearly in conflict with our commonsense understanding that a mountain made of gold must exist as a concrete object in the physical world, and hence must occupy some part of real space-time; and yet in fact there is no such object in the physical world occupying any part of space-time (or so we assume). In other words, the gold mountain does not exist. Again, Meinong agrees: the gold mountain does not exist, but, nevertheless, he insists, it is a mountain made of gold.

Meinong's fundamental assumption in these matters is his principle of the independence of *Sosein* (an object's characteristics) from *Sein* (the being of that object). Thus, being a mountain made of gold, according to Meinong, is a property (an ideal object) that is independent of the fact that there does not exist a gold mountain, which explains why (does it really?) the (nonexistent)

[20]Meinong, 1904, p. 84.
[21] Ibid., p. 85.

gold mountain is nevertheless made of gold. Meinong also claims that the principle of the independence of *Sosein* from *Sein* "applies not only to Objects which do not in fact exist, but also to Objects which could not exist because they are impossible,"[22] and hence it explains why (does it really?) the round square, which cannot exist, is nevertheless round and square.

Now, we agree, there are cases in which an object might fall under a concept even though the object does not exist. Consider, e.g., the proposition that Eve is an ancestor of everyone now existing. If this judgment were true, then Eve *now* falls under the concept of being an ancestor of everyone now existing, even though Eve does not now exist. For if not now, then when *is* she an ancestor of everyone now existing? Or consider any one of your ancestors whose life-span does not overlap with your own. That ancestor *now* has the characteristic of being your ancestor, even though he or she does not now exist. In other words some past objects clearly have characteristics now, or rather now fall under concepts, even though they do not now exist. But those concepts or characteristics, it should be noted, do not entail existence (now). That is, unlike (now) being a mountain or (now) being made of gold, being your ancestor (now) is not an existence-entailing concept or characteristic, a concept or characteristic that we generally call an e-concept or an e-property.[23] In other words, the *Sosein* of (now) being your ancestor does not depend on the *Sein*, or existence (now), of most of your ancestors. But the truth of this kind of fact does not in any way explain the independence of the *Sosein* of being a mountain made of gold from the *Sein*, or existence, of such a mountain.

Meinong's additional application of his principle, namely his claim that even impossible objects can have properties, is even more contrary to our commonsense understanding than when applied to just factually nonexistent objects such as the gold mountain. Being round and being square apply separately either to a figure in physical space or to a figure in a mathematically ideal space, and hence entail having being either in the form of physical existence or in the form of subsistence. But in neither case can it be both round and square.

Meinong in fact agrees that neither mode of being applies, but only because the round square is "a pure object beyond being and non-being," i.e., the round square is "outside of being" (*ausserseiend*), and yet nevertheless "at

[22] Ibid.

[23] For a development of the logic of e-concepts or e-properties and e-relations, see Cocchiarella 1969a, or Cocchiarella 1969b for a more informal account.

least one of its two Objectives of being, the Object's being or non-being, subsists."[24]

Clearly, the idea of an Objective in Meinong's ontology is something very much like that of a state of affairs, which is an extensional entity, so that if either it or its complement is the case (subsists), i.e., is a fact, then its constituent object(s) must have being. An Objective, accordingly, goes well beyond the ontological commitments of states of affairs.

A clearer and more intuitively acceptable idea would have been that an Objective is a proposition in the sense of an abstract intensional entity as opposed to an extensional entity such as a state of affairs; and instead of having the round square as "a pure Object" standing outside of being as a constituent, we would then have only the intension of the phrase 'the round square' as a functional part of the proposition. But then the intension of 'the round square' is neither round nor square, nor would the intension of 'the gold mountain' be a mountain made of gold—unless, of course, we are talking only about the round square or the gold mountain in some particular intensional context, such as the propositions that make up a myth or a story, or those in someone's mind in the sense of what they think, desire, imagine, believe, etc. We will describe just such an alternative below.

4. Conceptual Realism and Intensional Objects

The conceptualist logic of names that we briefly described earlier (in section 1) and that we used in the representation of Brentano's actualist theory of judgment is extended in a significant way in the logic of conceptual realism (as opposed to that of conceptualism *simpliciter*). In particular the logic is extended so as to allow predicates to be nominalized and to occur as abstract singular terms, which is the formal counterpart of the realist ontological view that Brentano rejected and Meinong accepted about such ideal objects as humanity and triangularity (and which is why the framework is called conceptual *realism*). Of course, these abstract singular terms do not, and indeed cannot, denote the concepts that predicates stand for in their role as predicates, because the latter are unsaturated cognitive capacities, and hence cannot be taken as objects. Nevertheless, most, but not all, of these nominalized predicates can be consistently assumed to have a denotation in the logic of conceptual realism; and, moreover, what they can be assumed to

[24] Op. cit., p. 86.

denote are the "object"-fied intensional contents of the concepts that the predicates stand for in their role as predicates, contents that we take to be the truth conditions determined by those concepts through all possible contexts of use.[25] These intensional objects are not mental objects, it should be emphasized; rather, they are the semantic contents of our predicable concepts projected into the domain of objects. The projection occurs as a result of the inveterate human practice of trying to speak of (or make into) an object what is not an object, specifically the cultural and linguistically institutionalized practice of nominalization.

Thus in addition to the concept that the predicate phrase 'is human' stands for we have *humanity*, an abstract object, as the intensional content of that concept, and similarly, instead of the concepts that 'is wise' and 'is triangular' stand for we have *wisdom* and *triangularity* as the "object"-fied intensional content of those concepts. Traditionally, these intensional objects have been called properties and relations (in intension), a practice we have adopted ourselves, but with the cautionary note that these properties and relations are objects and as such do not have a predicative nature in the sense that concepts do.[26] In any case, it is in terms of these properties and relations that the intentional objects of ordinary discourse are represented in conceptual realism. These intensional objects (properties and relations) do not exist as concrete objects, of course, but they do have *being* (as values of the bound object variables), or as Meinong would say, they *subsist* as ideal objects. The resulting logic, as has been noted and proved elsewhere, is consistent and equivalent to the theory of simple types.

The complex predicate expressions of natural language are represented in this logic by λ-abstracts, which can be read as infinitival phrases when they occur as abstract singular terms. A relational property, such as *to be an* x *such that* x *stands in a relation* R *to an* A, can then be symbolized as $[\lambda x(\exists yA)R(x,y)]$. In particular, *to slay a dragon* can be symbolized

$$[\lambda x(\exists y Dragon)Slays(x,y)].$$

Such a phrase can occur in our extended logic as an object term, as in the

[25] Because of Russell's paradox, some nominalized predicates must fail to denote in this logic. See Cocchiarella 1987 for details.

[26] Nor do they have a predicative nature in physical reality the way that *natural* (causal) properties and relations do. For more on this see Cocchiarella 2012.

statement that young Giorgio wants to slay a dragon, which we can represent as follows:[27]

$$(\exists z Giorgio) Wants(z, [\lambda x (\exists y Dragon) Slays(x, y)]).$$

Of course there are no dragons, but that does not mean that we cannot represent Giorgio's mental state of desire. Note that although the predicate $Wants$ entails existence in its first-argument position, it does not entail existence in its second-argument position, which of course is generally true of intensional verbs. The second-argument position of $Wants$ is like a form of indirect discourse, and as such is referentially opaque. In particular, one cannot infer from the above statement that there is a dragon that Giorgio wants to slay. But that, of course, is exactly what Meinong would allow in his theory of objects. In this regard our logic is more in agreement with Brentano than with Meinong.

But, as noted earlier, we are also not in agreement with Brentano in his representation of the denial of a judgment, as, e.g., in the denial that a round square exists. In Brentano's version the denial is represented by a negation of the predicate 'exists', as in:

$$(\exists x Square/Round(x)) \neg E!(x).$$

But this is misleading in that it suggests that we are referring to a round square and saying of it that it does not exist, which is exactly how Meinong would interpret the judgment. In conceptualism, however, the denial is represented by placing the negation in front, as in

$$\neg(\exists x Square/Round(x)) E!(x).$$

The idea is that the negation in front is really like a predicate, say Neg, read as '(it) is not the case', with what follows it as its argument, which in this case is the nominalized sentence '*that* a round square exists'. The denial is then more properly read as 'That a round square exists is not the case'. The nominalized sentence denotes neither a state of affairs nor an Objective. Rather, what is denoted is the proposition that is being denied, and the constituents of that

[27] When a sentence or a predicate expression is nominalized in a given context we say that its assertive or predicative role is "deactivated" in that context, and that all of the referential expressions that occur in that sentence or predicate are then understood to be deactivated as well. For more on this notion deactivation see Cocchiarella 2007, chapters 7 and 9.

proposition are intensional objects, not "pure objects" outside of being (*ausserseiend*). The upshot is that in denying that a round square exists we are not referring to a round square. The same is true of denying in general, e.g., in denying that there is a living stone we are not referring to a living stone. In a denial, reference is deactivated.

The question now is how are intentional (with a *t*) objects to be represented in the logic of conceptual realism? How, in particular, are the objects that do not exist outside of the mind or a fiction, e.g., things such as unicorns, dragons, and even round squares to be represented? Let us be clear here: being a dragon and being a unicorn are e-concepts (or e-properties) so that if anything were a dragon or a unicorn, then it would exist.[28] It is only as an intentional object in someone's mind or as a fictional object in a story that one can speak of a dragon or of a unicorn as having the properties ascribed to them.

In regard to the representation of intentional (with a *t*) objects, our fundamental thesis is that such objects are to be represented in conceptual realism by intensional (with an *s*) objects, i.e., by the abstract objects denoted by nominalized predicates. Note in this regard that even a quantifier phrase such as 'a dragon' can be nominalized in conceptual realism. We do so by first transforming a quantifier phrase (QxA) into a complex predicate (but retain the indexing variable), a transformation that can be schematically defined as follows:[29]

$$[QxA] =_{df} [\lambda F(QxA)F(x)],$$

whichs stands for a concept under which properties fall, or, when nominalized, a property of properties. Then, we simply nominalize the resulting complex predicate.[30] Thus, e.g., the quantifier phrase 'a dragon', can be transformed into the complex predicate

[28] In their role as predicates in our speech and mental acts, the predicates 'is a unicorn' and 'is a dragon' stand for e-concepts, whereas their nominalized intensional contents, *being (*or *to be) a unicorn* and *being (*or *to be) a dragon*, are e-properties.

[29] Strictly speaking, the λ-abstract in this definition schema is short for $[\lambda z\,(\exists F)(z = F \wedge (QxA)F(x)]$. Note also that we use brackets instead of parentheses for the transformed expression.

[30] When a predicate expression is nominalized we drop the parentheses that accompany it in its role as a predicate. We also do this when talking about the predicate as a predicate *simpliciter*.

$$[\lambda F(\exists yDragon)F(y)],$$

which can then be nominalized and taken as denoting the intension of the phrase. This particular intension is a property under which a property falls if, and only if, it is a property of a dragon.

Similarly, the intension of the quantifier phrase 'the dragon that Giorgio wants to slay' is defined as

$$[\lambda F(\exists_1 yDragon/(\exists xGiorgio)Wants(x,[\lambda zSlays(z,y)]))F(y)],$$

which, by the above schema, is a concept (or property when nominalized) under which a property falls if, and only if, it is a property of the dragon Giorgio wants to slay. Of course, there are no dragons, which means that as it stands this is a vacuous concept. The same observation applies to the quantifier phrase 'the round square', the intension of which is $[\lambda F(\exists_1 xSquare/round)F(x)]$, which is also a vacuous concept (or property) of properties. But still these are meaningful expressions and can be used both in fiction and in an intensional context such as in a description of Giorgio's desire to slay a dragon. Such an intension will then not be vacuous once it is relativized to a fictional or intensional context.

Consider, e.g., the story *Romeo and Juliet in Flatland* that we described in an earlier paper. In this story, which occurs in a two-dimensional space called Flatland, Juliet, who is a Capulet, is a circle, and Romeo, who is a Montague, is a square. Romeo and Juliet fall in love, despite a feud between their families, and they secretly have an affair (Cocchiarella 1996) Juliet gets pregnant and in time gives birth to a round square. The families discover the affair and think of the infant as a monster. They then have the infant murdered and keep its birth, death and the whole affair between Romeo and Juliet a secret. In despair, Romeo and Juliet commit suicide. (The end!) The point to note about this story is that in it the round square has not only the property of being round and square, but also the property of having Juliet as a mother and Romeo as a father; and it also has the property, among others, of being murdered by its grandparents.

Using the two-place predicate In to represent the relation between a story such as *Romeo and Juliet in Flatland*, which we will abbreviate by $R\&J$, and the propositions expressed in the story, we can express the proposition that the round square (of the story) is round as follows[31]:

$$In(R\,\&\,J,[(\exists_1 xSquare/Round(x))Round(x)]).$$

The round square of the story is of course just a character in the story, and as such it is really just an intensional object (along with the other characters of the story). This intensional object can now be defined as follows:

$$[\exists_1 xSquare/Round(x)]_{R\&J} =_{df}$$
$$[\lambda F In(R\,\&\,J,[(\exists_1 xSquare/Round(x))F(x)])].$$

In other words, as an intensional object, the round square of the story $R\,\&\,J$ is the property of those properties that the round square has in the story. In particular, the round square of the story has the property of being round, which we can express as:

$$[\exists_1 xSquare/Round(x)]_{R\&J}(Round).$$

We can also represent this another way in the logic of conceptual realism by transforming an object expression, say x, into a predicate expression x^*, defined as the property of being a property of x as follows:

$$x^* =_{df} [\lambda F F(x)].$$

Then we have not only $F(x) \leftrightarrow x^*(F)$ as provable in our logic, but also $F(x) \leftrightarrow F^*(x^*)$, and so on with the *-operation iterated indefinitely. In any case, the above statement that the property of being round is a property of the round square of the story $R\,\&\,J$, can now also be expressed as:

$$Round^*([\exists_1 xSquare/Round(x)]_{R\&J}).$$

It is not just the intensional objects of fiction that we can represent in this way, of course, but also the intentional objects of our mental states. Thus, consider the sentence ‘Alexius thinks that the round square is round’, which we can symbolize as:

$$(\exists yAlexius)Thinks(y,[(\exists_1 xSquare/round)Round(x)]).$$

[31] We place brackets around a sentence to transform it (by nominalization) into an object term naming the proposition expressed by the sentence.

where the bracketed object term $[(\exists_1 xSquare/Round)Round(x)]$ represents the nominalized sentence 'that the round square is round'. In this context, the intensional object $[\exists_1 xSquare/Round(x)]$ is not vacuous in Alexius's mind if Alexius in fact thinks that the round square is round.[32] Let us assume, accordingly, that we can represent what is in Alexius's mind in the same way that we represent the content of a story. Then, using $Alexius^m$ (or using x^m for a variable x) to represent Alexius's (or x's) mind, we can symbolize the fact that in his mind the round square is round as follows:

$$In(Alexius^m, [(\exists_1 xSquare/Round)Round(x)]),$$

or equally

$$(\exists xAlexius)In(x^m, [(\exists_1 xSquare/Round)Round(x)]).$$

We can then go on to characterize the round square that is in Alexius's mind as an intensional object in the same way that we characterized the round square of the story $R\&J$:

$$[\exists_1 xSquare/Round(x)]_{Alexius^m} =_{df}$$
$$[\lambda F(\exists xAlexius)In(x^m, [(\exists_1 xSquare/Round)F(x)])].$$

In other words, the intensional (with an *s*) object,

$$[\exists_1 xSquare/Round(x)]_{Alexius^m},$$

now represents the intentional (with a *t*) object that is in Alexius's mind. This intensional object, of course, is not vacuous, because it has the property of being (a property of the property) round:

$$[\exists_1 xSquare/Round(x)]_{Alexius^m}(Round),$$

which, as already noted, we can also express as saying that it has the property of being $Round^*$ *simpliciter*.

[32] We are not engaged in a phenomenological description of Alexius's mind here. Nothing more esoteric is meant by speaking of a proposition as being " in" a person's mind other than that the person either thinks, believes, imagines, etc., the proposition in question.

$$Round^*([\exists_1 xSquare/Round(x)]_{Alexius^m}).$$

The same kind of analysis applies to young Giorgio's mental state of wanting to slay a dragon. Here, the quantifier phrase 'the dragon Giorgio wants to slay' must be relativized to what is in Giorgio's mind:

$$[\exists_1 yDragon/(\exists xGiorgio)Wants(x,[\lambda zSlays(z,y)])]_{Giorgio^m} =_{df}$$

$$[\lambda F(\exists xGiorgio)In(x^m,[(\exists_1 yDragon/Wants(x,[\lambda zSlays(z,y))]F(x)]].$$

It follows accordingly that if Giorgio thinks of the dragon as a fire-breathing creature with scales and very large teeth, then these are properties of the dragon in Giorgio's mind that he wants to slay, which is to say that this intensional object is not vacuous, unlike the intensional object described above, i.e., the intension of 'the dragon Giorgio wants to slay' when it is not relativized to Giorgio's mind.

5. Intensional Objects Between Minds

A more difficult, but perhaps, more interesting example to explain is the double intentionality of Jack and Jill in the sentence:

The house Jack plans to build is the house Jill plans to buy.

The most obvious, but wrong, analysis of this sentence is to read it as a simple identity between two definite descriptions:[33]

$$(\exists_1 xHouse/(\exists yJack)Plans(y,[\lambda zBuilds(z,x)]))$$
$$(\exists_1 wHouse/(\exists yJill)Plans(y,[\lambda zBuys(z,w)]))(x=w),$$

where $[\lambda z\, Builds(z,x)]$ is read as '*to be a* z *such that* z *builds* x', *and* $[\lambda z\, Buys(z,w)]$ *is read as 'to be a* z *such that* z *buys* w'. The problem with this analysis is that the house in question does not exist at the time when Jack plans to build it, and therefore the house does not yet exist at the time that

[33] The two following lines should be read as a single formula. It might help in reading this formula if we illustrate its structure in terms of the less complex and more schematic statement, 'The A is (identical with) the B'. We symbolize this more schematic statement as:

$$(\exists_1 xA)(\exists_1 yB)(x=y).$$

Jill plans to buy it. In other words, in order for these definite descriptions not to be vacuous–i.e., in order for them to in fact denote a real house–then the house must exist before it is built and sold, which of course is impossible. Something cannot be a house unless it exists, because *being a house* is an e-concept or e-property. A house does not exist if it does not occupy a region of space and time and as such is part of the physical world. Of course Meinong would simply posit the "pure being" of such a house regardless of its nonexistence; but that is where we will not follow him.

Now a different answer can be found in terms of intensional objects. The most natural way to proceed is first to intensionally identify the house that is in Jack's mind, and then to intensionally identify the house that is in Jill's mind. We do so in accordance with our earlier procedure. Accordingly, the house that is in Jack's mind can be defined as follows:

$$[\exists_1 xHouse/(\exists yJack)Plans(y,[\lambda zBuilds(z,x)])]_{Jack^m} =_{df}$$
$$[\lambda F(\exists yJack)In(y^m,[(\exists_1 xHouse/Plans(y,[\lambda zBuilds(z,x)])F(x)])],$$

and the house that is in Jill's mind can be similarly defined as:

$$[\exists_1 xHouse/(\exists yJill)Plans(y,[\lambda zBuy(z,x)])]_{Jill^m} =_{df}$$
$$[\lambda F(\exists yJill)In(y^m,[(\exists_1 xHouse/Plans(y,[\lambda zBuy(z,x)])F(x)])].$$

The final move is to identify the house that is in Jack's mind with the house that is in Jill's mind. This is true because the properties of the house that Jack plans to build are the properties of the house that Jill plans to buy if in fact it is true that the house that Jack plans to build *is* the house that Jill plans to buy. Here it is important to keep in mind that we are identifying objectively real intensional (with an *s*) objects, not intentionally (with a *t*) inexistent immanent objects that are parts of Jack's and Jill's minds.

6. Existence

We have noted that some of the (monadic) predicates of natural language entail existence whereas others do not. Also, some of the relational predicates of natural language entail existence in one or more of their argument positions but not in others. Intensional verbs in particular entail (as most verbs do) existence in their first (or subject) argument position but not in their second (direct object) position. Consider, e.g., 'worship', as in 'Janet worships a god who lives on Oylmpus', or 'seek' as in 'Giorgio seeks a fire-breathing dragon'. Here 'worship' and 'seek' entail existence in their first (subject) argument positions but not in their second (direct object) positions.

This distinction is a feature that is fundamental to all natural languages, and it clearly has much to do with how we experience the world. Color predicates, e.g., 'red', 'green', 'blue', etc., as well as the predicates that describe our various sensory experiences are e-predicates, and of course so are the predicates for all of the different animals and plants and our various artifacts.

The distinction between e-concepts, or e-properties, and concepts or properties in general can be used, as we have noted elsewhere, as a basis for explaining Meinong's distinction between *konstitutorisch* (also called 'nuclear') and *ausserkonstitutorisch* (also called 'extranuclear')properties.[34] With existence as a primitive concept (as we assumed in the logic of names), we can contextually define quantification over e-concepts as follows:

$$(\forall^e F)\varphi =_{df} (\forall F)(\Omega(\forall x)[F(x) \to E!(x)] \to \varphi),$$
$$(\exists^e F)\varphi =_{df} (\exists F)(\Omega(\forall x)[F(x) \to E!(x)] \wedge \varphi).$$

In conceptual realism, however, because the distinction between existence-entailing predicates and non-existence-entailing predicates is such a fundamental feature of natural language and our conceptual development both collectively and as individuals, we prefer to take quantification over e-concepts (or e-properties) as primitive. Existence would then be defined as falling under an e-concept, which means that existence, which of course is itself an e-concept, is an impredicative concept, i.e., a concept definable in terms of a totality to which it belongs. To exist, i.e., to fall under an existence-entailing concept, is defined as follows:

$$E!(x) =_{df} (\exists^e F)F(x).$$

This approach explains why existence is so different from most of the e-concepts that are expressed by the predicates of natural language. It perhaps also helps explain why Meinong viewed existence as an *ausserkonstitutorisch* property, but it does not explain why he distinguished being existent from existence.

[34] For details on this see Cocchiarella 1982. The terminology of 'nuclear' and 'extranuclear' is from Parsons 1980.

Needless to say, we reject Meinong's attempt to distinguish existence from being existent. On our account of attributive adjectives, to be an existent object is to be an object that exists (which in any case is how the dictionary describes the attributive adjective 'existent'). In regard to Meinong's distinction between *konstitutorisch* and *ausserkonstitutorisch* properties, we would associate e-concepts (or e-properties) with properties that are *konstitutorisch*, and concepts (or properties) in general, whether existence entailing or not, with properties that are *ausserkonstitutorisch.* The so-called "watered-down" version of an *ausserkonstitutorisch* property F , which upon being "watered down" becomes a *konstitutorisch* property according to Meinong, would then be represented by the restriction of F to existent objects, or formally: $[\lambda x(F(x) \wedge E!(x))]$, which of course is an e-concept or e-property even if F is not.

We can go on to construct a rather simple model of Meinongian objects in terms of classes of e-properties.[35] We might note in this regard that existent objects that fall under the same e-concepts are identical:

$$(\forall^e x)(\forall^e y)((\forall^e F)[F(x) \leftrightarrow F(y)] \rightarrow x = y),$$

which means that we can correlate one-to-one each existing object x with the class of e-properties of x. In this way we can distinguish the Meinongian objects that exist from the Meinongian objects that do not exist. That is, other classes of e-properties would represent nonexisting Meinongian objects. The impossible Meinongian object of being round and square can be represented, for example, in terms of the class of e-properties having just roundness and squareness as members. There will of course be other classes of e-properties that contain roundness and squareness, e.g., classes with various color properties, and they might also be called Meinongian blue, or red. etc., round squares, but they will not be *the* Meinongian round square. The Meinongian gold mountain can be represented by the class of e-properties having just mountainhood and being made of gold as its members. A variety of other Meinongian distinctions can also be represented in this kind of model, of

[35] Actually these would be the classes as many or pluralities that are part of the logic of conceptual realism once the names, proper or common and complex or simple, that occur as parts of quantifier phrases are also nominalized, i.e., transformed into object terms. For a description of the logic of classes as many and its application to mass noun reference and predication as well as plural reference and predication, see Cocchiarella 2007 and 2009.

course, but we will forego those details here, except perhaps to note that (by definition) the Meinongian objects in this model that have the same e-properties (as members) are identical, a result that corresponds to Meinong's principle that objects that have the same *konstitutorisch* properties are identical.

This kind of model allows us to understand (or rather represent) certain aspects of Meinong's ontology without accepting the inconsistencies and conceptual difficulties that arise in a direct presentation of that ontology. We do not believe, however, that such a model means that Meinong's ontology can be accepted as a coherent ontology. In any case, as we have indicated, we do not need to resort to a Meinongian ontology in order to account for the intentional objects of our mental states any more than we do to account for the intensional objects of myth and fiction.

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Meinongian Semantics and Artificial Intelligence

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ABSTRACT

This essay describes computational semantic networks for a philosophical audience and surveys several approaches to semantic-network semantics. In particular, propositional semantic networks (exemplified by SNePS) are discussed; it is argued that only a fully intensional, Meinongian semantics is appropriate for them; and several Meinongian systems are presented.

1. Meinong, Philosophy, and Artificial Intelligence

Philosophy was not kind to Meinong, the late-19th/early-20th-century cognitive scientist, until the 1970s renaissance in Meinong studies (Findlay, 1963; Grossmann, 1974; Rapaport, 1978; 1991b; Routley, 1979; Lambert, 1983; Schubert-Kalsi, 1987). Even so, his writings are often treated as curiosities (or worse) by mainstream philosophers. Meinong's contribution to philosophy can be characterized in terms of his thoroughgoing intensionalism. While some philosophers ridiculed or rejected this approach, some AI researchers – for largely independent, though closely related, reasons – argued for it. Here, I explore some of their arguments and show the relevance of Meinongian theories to research in AI.

2. Semantic Networks

Knowledge representation and reasoning (KRR) is an area of AI concerned with systems for representing, storing, retrieving, and inferring information in cognitively adequate and computationally efficient ways. The represented

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information need not necessarily be true, so a better terminology is '*belief* representation' (Rapaport & Shapiro, 1984; Rapaport, 1986b; 1992; Rapaport et al. 1997).

A *semantic network* is a representational system consisting of a labeled, directed graph whose "nodes" (vertices) represent *objects* and whose "arcs" (edges, or "links", or "pointers") represent *binary relations* among them (Findler, 1979; Brachman & Levesque, 1985; Sowa, 1991; 1992; 2002; Lehmann, 1992). Woods (1975, p. 44) says, "The major characteristic of the semantic networks that distinguishes them from other candidates [for KR systems] is the characteristic notion of a link or pointer which connects individual facts into a total structure."

Quillian's (1967; 1968; 1969) early "semantic memory" introduced semantic networks as a model of *associative memory*: Nodes represented words and meanings; arcs represented "associative links" among these. The "full concept" of a word *w* was the entire network of nodes and arcs reachable by following directed arcs originating at the node representing *w*. *Inheritance* (or *hierarchical*) *networks* use such arc labels as "inst[ance]", "isa", and "property" to represent taxonomic structures (Bobrow &Winograd, 1977; Charniak & McDermott, 1985, pp. 22–27; Thomason, 1992; Brachman & Levesque, 2004, ch. 10; see Fig. 1). Schank's Conceptual Dependency representational scheme uses nodes to represent conceptual primitives, and arcs to represent dependencies and semantic case relations among them (Schank & Rieger, 1974; Brand, 1984, ch. 8; Rich & Knight, 1991, pp. 277–288; Hardt, 1992; Lytinen 1992). The idea is an old one: Networks like those of Quillian, and Bobrow & Winograd's KRL (1977), or Brachman's KL-ONE (Brachman, 1979; Brachman & Schmolze, 1985; Woods & Schmolze, 1992; and subsequent "description logics" – Brachman & Levesque, 2004, ch. 9) bear strong family resemblances to "Porphyry's Tree" (Fig. 2) – the mediaeval device used to illustrate the Aristotelian theory of definition by species and differentia.

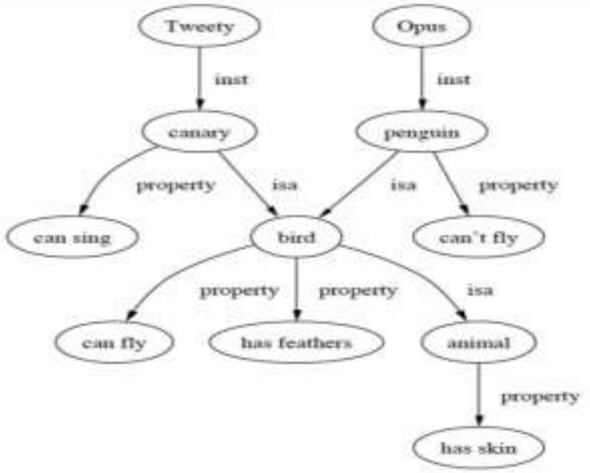

Figure 1: An inheritance network representing the propositions: Tweety is (an instance of) a canary; Opus is (an instance of) a penguin; A canary is a bird; A penguin is a bird; A canary can (i.e., has the property of being able to) sing; A penguin can't (i.e., has the property of not being able to) fly; A bird is an animal; A bird can fly; A bird has feathers; An animal has skin. However, the precise representations cannot be determined unambiguously from the network without a clearly specified syntax and semantics.

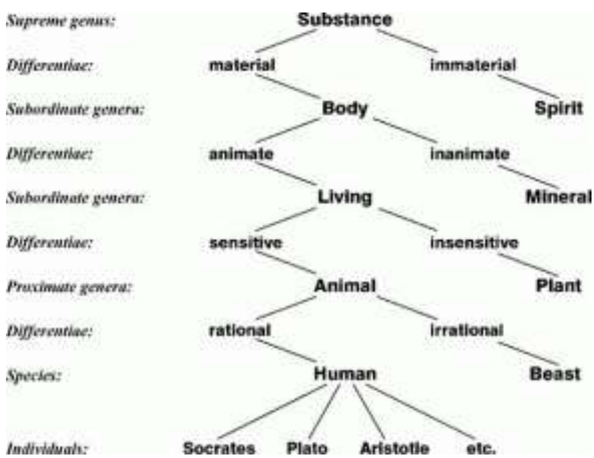

Figure 2: Porphyry's Tree: A mediaeval inheritance network (From Sowa 2002).

3. Semantics of Semantic Networks

Semantic networks are not essentially "semantic" (Hendrix, 1979; but cf. Woods, 1975; Brachman, 1979). Viewed as a data structure, a semantic network is a *language* (possibly with an associated logic or inference mechanism) for representing information about some domain. As such, it is a purely *syntactic* entity. They are called "semantic" primarily because of their *uses* as ways of representing the *meanings* of linguistic items. (However, this sort of syntax can be viewed as a kind of semantics, as in the so-called "Semantic Web"; cf. Rapaport 1988; 2000; 2003; 2012.)

As a notational device, a semantic network can itself be given a semantics. I.e., the arcs and nodes of a semantic-network representational system can be given interpretations in terms of the entities they are used to represent. Without such a semantics, a semantic network is an arbitrary notational device liable to misinterpretation (Woods, 1975; Brachman, 1977; 1983; and, especially, McDermott, 1981). E.g., in an inheritance network like that of Figure 1, how is the inheritance of properties to be represented or – more importantly – blocked? (If flying is a property inherited by the canary Tweety in virtue of its being a bird, what is to *prevent* the property of flying from being inherited by the flightless penguin Opus?) Do nodes represent *classes* of objects, *types* of objects, *individual* objects, or something else? Can *arcs* be treated as objects (perhaps with ("meta-")arcs linking *them* in some fashion)?

Providing a semantics for semantic networks is more akin to providing one for a *language* than for a *logic*. In the latter case, but not the former, notions like *argument validity* must be established, and connections must be made with axioms and rules of inference, culminating ideally in soundness and completeness theorems. But underlying the *logic's* semantics there must be a semantics for the logic's underlying *language*; this would be given in terms of such a notion as *meaning*. Typically, an interpretation function is established between syntactical items from the language L and ontological items from the "world" W that the language is to describe. This is usually accomplished by describing the world in *another* language, L_W, and showing that L and L_W are notational variants by showing (ideally) that they are isomorphic.

Linguists and philosophers have argued for the importance of *intensional* semantics for natural languages (Montague, 1974; Parsons, 1980, Rapaport, 1981). At the same time, computational linguists and other AI researchers have recognized the importance of representing intensional *entities* (Woods, 1975; Brachman, 1979; McCarthy, 1979; Maida & Shapiro, 1982; Hirst, 1991). It seems reasonable that a semantics for such a representational system should itself be an intensional semantics.

In this essay, I discuss the arguments of Woods and others and outline several fully intensional semantics for intensional semantic networks by discussing the relations between a semantic-network "language" L and several candidates for L_W. For L, I focus on the fully intensional, propositional Semantic Network Processing System (SNePS, [http://www.cse.buffalo.edu/sneps/]; Shapiro, 1979; 2000a; Shapiro & Rapaport, 1987; 1992; 1995), for which Israel (1983) offered a possible-worlds semantics. But possible-worlds semantics, while countenancing intensional entities, are not *fully* intensional: They treat intensional entities extensionally. Each L_W I discuss has fully intensional components.

4. Arguments for Intensions

The first major proponent of the need to represent intensional objects in semantic networks was Woods (1975). Brachman (1977) showed a way to do this. And Maida & Shapiro (1982) argued that *only* intensional entities should be represented.

Woods (1975, pp. 38–40) characterizes *linguistic* semantics as the study of the relations between (a) such linguistic items as sentences and (b) meanings expressed in an unambiguous notation – an internal representation – and he characterizes *philosophical* semantics as the study of the relations between such a notation and truth conditions or meanings. Thus, he takes semantic networks as examples of the "range" of linguistic semantics and the "domain" of philosophical semantics. Semantic networks, then, are models of the realm of objects of thought (or, perhaps, of the "contents" of psychological acts) – i.e., of Meinong's *Aussersein*.

Woods (1975, p. 45) proposes three "requirements of a good semantic representation": *logical adequacy* – it must "precisely, formally, and unambiguously represent any particular interpretation that a human listener may place on a sentence"; *translatability* – "there must be an algorithm or procedure for translating the original sentence into this representation"; and *intelligent processing* – "there must be algorithms which can make use of this representation for the subsequent inferences and deductions that the human or machine must perform on them".

Logical adequacy constitutes one reason why semantic networks "must include mechanisms for representing propositions without commitment to asserting their truth or belief ... [and why] they must be able to represent various types of intensional objects without commitment to their existence in the external world, their external distinctness, or their completeness in covering all of the objects which are presumed to exist" (Woods, 1975, p. 36f). Some sentences *can* be interpreted as referring to nonexistents; so, a semantic network ought to be able to represent this, hence must be able to represent intensional entities. (The other criteria are discussed in §5.)

A second reason is that "semantic networks should not ... provide a 'canonical form' in which all paraphrases of a given proposition are reduced to a single standard (or canonical) form" (Woods, 1975, p. 45). Therefore, they should not represent *extensional* entities, which would be such canonical forms. There are three reasons why canonical forms are to be avoided. First, there aren't any (see the argument in Woods, 1975, p. 46). Second, no computational efficiency would be gained by having them (Woods, 1975; p. 47). Third, it should not be done if one is interested in adequately representing *human* processing (Rapaport, 1981). Sometimes, redundant information *must* be stored: Even though an uncle is extensionally equivalent to a father's-brother-or-mother's-brother, it can be useful to be able to represent uncles directly; thus, it is not an extension, but, rather, an intension, that must be represented (cf. Woods, 1975, p. 48).

A third argument for the need to represent intensional objects comes from consideration of question-answering programs (Woods, 1975: 60ff). Suppose that a "knowledge base" has been told that

The dog that bit the man had rabies

How would the question "Was the man bitten by a dog that had rabies?" be represented? Should a *new* node be created for "the dog that bit the man"? The solution is to create such a new node and then decide if it is co-referential with an already existing one. (Discourse Representation Theory uses a similar technique; Kamp & Reyle, 1993.)

Finally, intensional nodes are clearly needed for the representation of verbs of propositional attitude (Woods, 1975, p. 67; Rapaport & Shapiro, 1984; Rapaport, 1986b; 1992; Wiebe & Rapaport, 1986; Rapaport et al., 1997), and they can be used in quantificational contexts to represent "variable entities" (Woods, 1975, p. 68ff; Fine,1983; Shapiro, 1986; 2000b; 2004; Ali & Shapiro, 1993). Maida & Shapiro (1982) claims that, although semantic networks *can* represent real-world (extensional) entities or linguistic items, they *should*, for certain purposes, *only* represent intensional ones, especially when representing referentially opaque contexts (e.g., belief, knowledge), the concept of a truth value (as in 'John wondered whether *P*'), and questions.

In general, intensional entities are needed if one is representing a mind. Why would one need *extensional* entities if one is representing a mind? To represent co-referentiality? No; as we shall see, this can (and perhaps *only* can) be done using only intensional items. To talk about extensional entities? But why would one want to? Everything that a mind thinks or talks about is an (inten*T*ional) object of thought, hence inten*S*ional. (Rapaport, 2012, §3.1, surveys arguments for this "narrow" or "internal" perspective.) In order to link the mind to the actual world (to avoid solipsistic representationalism)? But consider the case of perception: There are internal representations of external objects, yet these "need not extensionally represent" those objects (Maida & Shapiro, 1982, p. 300). The "link" would be forged by connections to other intensional nodes or by consistent input-output behavior that improves over time (Rapaport, 1985/1986, pp. 84–85; Rapaport, 1988; Srihari & Rapaport, 1989; Shapiro & Rapaport, 1991 surveys the wide variety of items that can be represented by intensional entities).

5. SNePS

A SNePS semantic network consists of labeled nodes and labeled, directed arcs satisfying the Uniqueness Condition (Maida & Shapiro, 1982):

(U) There is a 1-1 correspondence between nodes and represented concepts.

A *concept* is "anything about which information can be stored and/or transmitted" (Shapiro, 1979, p. 179; Shapiro & Rapaport, 1991). When SNePS is used to model "the belief structure of a thinking, reasoning, language using being" (Maida & Shapiro, 1982, p. 296; cf. Shapiro, 1971b, p. 513), the concepts are the objects of mental (i.e., inten*T*ional) acts such as thinking, believing, wishing, etc. Such objects are inten*S*ional (cf. Rapaport, 1978).

It follows from (U) that the arcs do not represent concepts. Rather, they represent binary, structural relations between concepts. If it is desired to talk *about* relations between concepts, then those relations must be represented by nodes, since they have then become objects of thought, i.e., concepts. If "to be is to be the value of a [bound] variable" (Quine, 1980, p. 15; cf. Shapiro 1971a, pp. 79–80), then nodes represent such values; arcs do not. I.e., given a domain of discourse – including items, *n*-ary relations among them, and propositions – SNePS nodes would be used to represent all members of the domain. The arcs are used to structure the items, relations, and propositions of the domain into (other) propositions. As an analogy, SNePS arcs are to SNePS nodes as the symbols '$\rightarrow$' and '+' are to the symbols '*S*', '*NP*', and '*VP*' in the rewrite rule:

$S \rightarrow NP + VP.$

It is because propositions are represented by nodes and never by arcs that SNePS is a "propositional" semantic network (cf. Maida & Shapiro, 1982, p. 292). It can also be used to represent the inheritability of properties, either by explicit rules or by *path-based inference* (Shapiro, 1978; Srihari, 1981).

Figure 3 shows a sample SNePS network. Node m1 represents the *proposition* that [[b1]] (i.e., the thing represented by node b1) has the name represented by the node labeled 'John', which is expressed in English by the lexical item 'John'. Node m3 represents the proposition that [[b1]] is a member of the class represented by m2, which is expressed in English by 'person'. Node m5 represents the proposition that [[b1]] (i.e., the person John) is rich (and m4 represents the *property* expressed by the adjective 'rich'). Finally, node m7 represents the proposition that being rich is a member of the class of things called 'property'. (Nodes whose labels are followed by an exclamation mark, e.g., m1! , are "asserted" nodes, i.e., nodes that are believed by the system; see Shapiro, 2000a for details.)

When a semantic network such as SNePS is used to model a *mind* (rather than the world), the nodes represent only intensional items (Maida & Shapiro, 1982; cf. Rapaport, 1978). Similarly, if such a network were to be used as a notation for a fully intensional, natural-language semantics (such as the semantics presented in Rapaport, 1981; cf. Rapaport, 1988), the nodes would represent only intensional items. Thus, a semantics for such a network ought itself to be fully intensional.

There are two pairs of types of nodes in SNePS: constant and variable nodes, and atomic (or individual) and molecular (typically, propositional) nodes. (For the semantics of variable nodes, see Shapiro, 1986.) Except for a few pre-defined arcs for use by an inference package, all arc labels are chosenby the user; such labels are completely arbitrary (albeit often mnemonic) and depend on the domain being represented. The "meanings" of the labels are provided (by the user) only by means of explicit rule nodes, which allow the retrieval or construction (by inferencing) of propositional nodes.

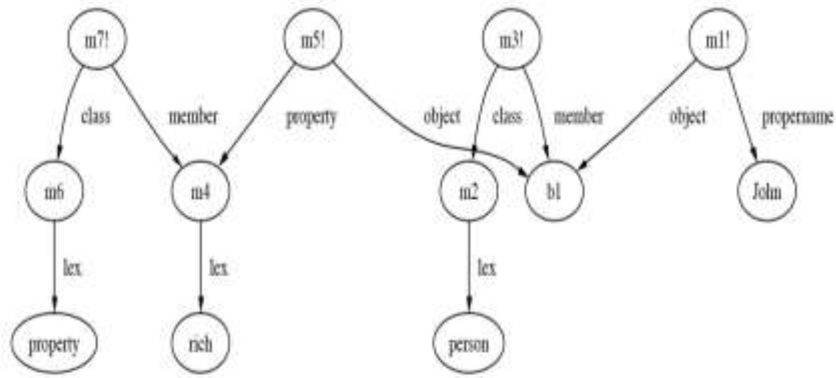

Figure 3: A SNePS representation for "A person named 'John' has the property of being rich". Where [[n]] represents the meaning of node n, [[m1]] = [[b1]] is named 'John'; [[m3]] = [[b1]] is a person; [[m5]] = [[b1]] is rich; [[m7]] = Being rich is a property.

SNePS satisfies Woods's three criteria (§4). Clearly, it is "logically" (better: representationally) adequate. Shapiro (1982) developed a generalized augmented-transition-network grammar for automatically translating sentences into SNePS networks and for automatically expressing SNePS networks in sentences of a natural language, thus making SNePS "translatable". And the SNePS inference package (supplemented with the SNeBR Belief Revision system) together with user-supplied rules, render it capable of "intelligent" (better: inferential) processing (Shapiro, 1979; 1989; 1991; 2000a; Rapaport & Shapiro, 1984; Rapaport, 1986; 1991a; Shapiro & Rapaport, 1987; 1992; 1995; Martins & Shapiro, 1988; Martins & Cravo, 1991; Johnson & Shapiro, 2005a; Johnson & Shapiro, 2005b, Johnson, 2006, Fogel & Shapiro, 2011).

6. Israel's Possible-Worlds Semantics for SNePS

Israel's semantics for SNePS assumed "the general framework of Kripke-Montague style model-theoretic accounts" (Israel, 1983, p. 3), presumably because he took it as "quite clear that [Maida and Shapiro]...view their formalism as a Montague-type type-theoretic, intensional system" (Israel, 1983, p. 2). He introduced "a domain D of possible entities, a non-empty set I(... of possible worlds), and ... a distinguished element w of I to represent the real world" (Israel 1983, p. 3). An *individual concept* is a function $ic: I \mapsto D$. Each constant individual SNePS node is modeled by an *ic*; variable individual nodes are handled by "assignments relative to such a model". However, predicates – which are also represented in SNePS by constant individual nodes (§5) – were modeled as functions "from I into the power set of the set of individual concepts." Propositional nodes were modeled by "functions from I into $\{T,F\}$," although Israel felt that a "hyperintensional" logic would be needed in order to handle propositional attitudes.

Israel had difficulty interpreting `member`, `class`, and `isa` arcs in this framework. This is to be expected: First, it is arguably a mistake to *interpret* them (rather than giving rules for them), since they are arcs, hence arbitrary and non-conceptual. Second, a possible-worlds semantics is *not* the best approach (nor is it "clear" that this is what Maida and Shapiro had in mind – indeed, they explicitly rejected it; cf. Maida & Shapiro, 1982, p. 297). Woods argues that a possible-worlds semantics is not psychologically valid, that the semantic representation must be finite (Woods, 1975, p. 50). Israel (1983, p. 5) himself hinted at the inappropriateness of this approach: "[I]f one is focussing on propositional attitude[s]...it can seem like a waste of time to introduce model-theoretic accounts of intensionality at all. Thus the air of desperation about the foregoing attempt". Moreover – and significantly – a *possible*-worlds approach is misguided if one wants to be able to represent *impossible* objects, as one *should* want to if one is doing natural-language semantics (Rapaport, 1978; 1981; 1991a; Routley, 1979). A fully intensional semantic network demands a fully intensional semantics. The main rival to Montague-style, possible-worlds semantics (as well as to its close kin, situation semantics (Barwise & Perry, 1983)) is *Meinongian semantics*.

7. Meinong's Theory of Objects

Meinong's (1904) theory of the objects of psychological acts is a more appropriate foundation for a semantics of propositional semantic networks as well as for a natural-language semantics. In brief, Meinong's theory consists of the following theses (cf. Rapaport, 1976; 1978; 1991b):

(M1) Thesis of Intentionality:

Every mental act (e.g., thinking, believing, judging, etc.) is "directed" towards an "object".

There are two kinds of Meinongian objects: (1) *objecta*, the individual-like objects of such a mental act as thinking-of, and (2) *objectives*, the proposition-like objects of such mental acts as believing(-that) or knowing(-that). E.g., the object of my act of thinking of a unicorn is the objectum: *a unicorn*; the object of my act of believing that the Earth is flat is the objective: *the Earth is flat*.

(M2) Not every object of thought exists (technically, "has being").

(M3) It is not self-contradictory to deny, nor tautologous to affirm, existence of an object of thought.

(M4) Thesis of *Aussersein*:

All objects of thought are *ausserseiend* ("beyond being and non-being").

Aussersein is most easily explicated as a domain of quantification for non-existentially-loaded quantifiers, required by (M2) and (M3).

(M5) Every object of thought has properties (technically, "*Sosein*").

(M6) Principle of Independence:

(M2) and (M5) are not inconsistent (Rapaport, 1986a).

Corollary: Even objects of thought that do not exist have properties.

(M7) Principle of Freedom of Assumption:

(a) Every set of properties (Sosein) corresponds to an object of thought.

(b) Every object of thought can be thought of(relative to certain “performance” limitations).

(M8)Some objects of thought are incomplete (i.e., undetermined with respect to some properties).

(M9) The meaning of every sentence and noun phrase is an object of thought.

Meinong’s theory and a fully intensional KRR system like SNePS are closely related. SNePS itself is much like *Aussersein*: All nodes are implicitly in the network all the time (Shapiro, personal communication). A SNePS base node (i.e., an atomic constant) represents an objectum; a SNePS propositional node represents an objective. Thus, when SNePS is used as a model of a mind, propositional nodes represent the objectives of beliefs (Maida & Shapiro, 1982; Rapaport & Shapiro, 1984, Rapaport, 1986b; Shapiro & Rapaport, 1991; Rapaport et al., 1997). When SNePS is used in a natural-language processing system (Shapiro, 1982; Rapaport & Shapiro, 1984; Rapaport, 1986; 1988; 1991a; Shapiro & Rapaport, 1995), individual nodes represent the meanings of noun phrases and verb phrases, and propositional nodes represent the meanings of sentences.

Meinong’s theory was attacked by Russell on grounds of inconsistency: First, according to Meinong, the round square is both round and square (indeed, this is a tautology); yet, according to Russell, if it is round, then it is *not* square. Second, similarly, the existing golden mountain must have all three of its defining properties: being a mountain, being golden, and existing; but, as Russell noted, it *doesn’t* exist. (Cf. Rapaport 1976; 1978 for references.)

Several formalizationsof Meinongiantheoriesovercome these problems.In §§8–10, I briefly describe three of these and show their relationships to SNePS. (Others, not described here, include Routley 1979 – cf. Rapaport, 1984 – and Zalta, 1983.)

8. Rapaport's Theory

On my own reconstruction of Meinong's theory (Rapaport 1976; 1978; 1981; 1983; 1985/1986 – which bears a coincidental resemblance to McCarthy's, 1979 AI theory), there are two types of objects: *M-objects* (i.e., the objects of thought, which are intensional) and *actual objects* (which are extensional). There are two modes of predication of properties to these: M-objects are *constituted* by properties, and both M-objects and actual objects can *exemplify* properties. E.g., the pen with which I wrote the manuscript of this paper is an actual object that *exemplifies* the property of *being white.* Right now, when I think about that pen, the object of my thought is an M-object that is *constituted* (in part) by that property. The M-object *Bill's pen* can be represented as: <belonging to Bill, being a pen> (or, for short, as: $<B,P>$). *Being a pen* is also a *constituent* of this M-object: $P \text{ c} <B,P>$; and 'Bill's pen is a pen' is true in virtue of this objective. In addition, $<B,P>$ *exemplifies* (ex) the property of *being constituted by two properties.* There might be an actual object, say, α, corresponding to $<B,P>$, that *exemplifies* the property of *being a pen* ($\alpha \text{ ex } P$) as well as (say) the property of *being 6 inches long.* But ¬(*being 6 inches long* c $<B,P>$).

The M-object *the round square*, $<R,S>$, is constituted by precisely two properties: being round (R) and being square (S); 'The round square is round' is true in virtue of this, and 'The round square is not square' is false in virtue of it. But $<R,S>$ exemplifies neither of those properties, and 'The round square is not square' is *true* in virtue of *that.* I.e., 'is' is ambiguous.

An M-object o exists iff there is an actual object α that is "Sein-correlated" with it: o exists iff $\exists\alpha[\alpha SC o]$ iff $\exists\alpha\forall F[F \text{ c } o \rightarrow \alpha \text{ ex } F]$. Note that incomplete objects, such as $<B,P>$, can exist. However, the M-object *the existing golden mountain*, $<E,G,M>$, has the property of existing (because $E \text{ c} <E,G,M>$) but does not exist (because $\neg\exists\alpha[\alpha SC <E,G,M>]$, as an empirical fact).

The intensional fragment of this theory can be used to provide a semantics for SNePS in much the same way that it can been used to provide a semantics for natural language (Rapaport, 1981; 1988). (Strict adherence to Fodorian methodological solipsism (Fodor, 1980) would seem to require that the Fodorian language of thought (LOT; Fodor, 1975) have syntax but no semantics. More recently, Fodor (2008, p. 16) suggests that LOT needs a purely *referential* semantics. Instead, I am proposing a *Meinongian* semantics for LOT, on the grounds that "non-existent" objects are best construed as internal mental entities.) SNePS base nodes can be taken to represent M-objectaand properties; SNePSpropositional nodes can be taken to represent M-objectives. Two alternatives for networks representing the three M-objectives: *R* c <*R*,*S*>, *S* c <*R*,*S*>, and <*R*,*S*> ex *being impossible* are shown in Figures 4 and 5.

In Figure 4, m4 represents the M-objective that *round*, is a "c"onstituent of the "M-object" *the round square*. Node m6 represents the M-objective that *square* is a "c"onstituent of the "M-object"*the round square*. And node m9 represents the M-objective that the "M-object" *the round square* "ex"emplifies being impossible.

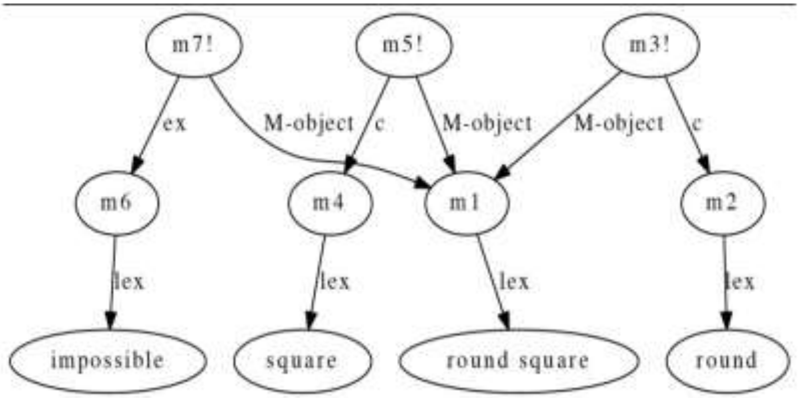

Figure 4: A SNePS representation of"The round square is round" (m3!), "The round square is square" (m5!),and "The round square is impossible" (m7!), on Rapaport's theory.

In Figure 5, m4 represents the M-objective that *round*, is a "property" that the "M-object" *the round square* has under the "c" (constituency) "mode" of predication. Node m6 represents the M-objective that *square* is a "property" that the "M-object" *the round square* has under the "c" (constituency) "mode" of predication. And node m9 represents the M-objective that the "M-object" *the round square* has the "property" *being impossible* under the "ex" (exemplification) "mode" of predication.

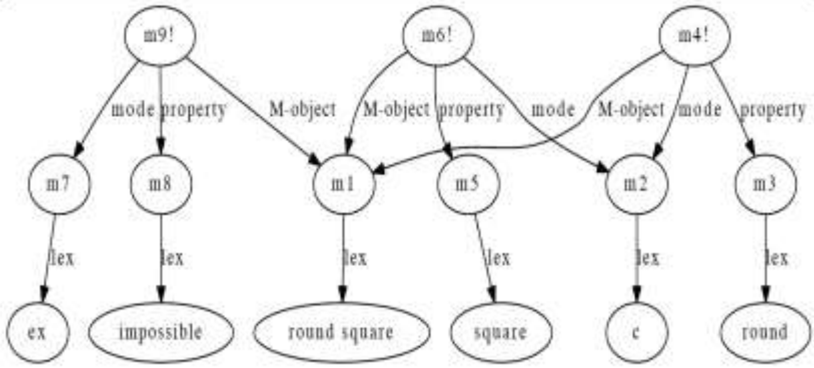

Figure 5: An alternative SNePS representation of "The round square is round" (m4!), "The round square is square" (m6!), and "The round square is impossible" (m9!), on Rapaport's theory.

The difference between the representations in the two figures is that in Figure 5, but not in Figure 4, it is possible to talk about constituency and exemplification. (Also, the second can be used to avoid "Clark's paradox": Rapaport, 1978; 1983; Clark, 1983; Landini, 1985; Poli, 1998.)

Actual (i.e., extensional) objects, however, should *not* be represented (Maida & Shapiro, 1982, pp. 296–298). To the extent to which such objects are essential to this Meinongian theory, the present theory is perhaps an inappropriate one. (And similarly for McCarthy, 1979.)

The distinction between two modes of predication, shared by my theory and Castañeda's (§10), has its advantages. Consider the problem of relative clauses (Woods 1975, p. 60ff): How should sentence (1) (in §4) be represented? A Meinongian solution along the lines of Rapaport (1981) is:

<being a dog, having bit a man> ex having rabies.

The fact that,

for every Meinongian object *o*, if *o* = <...*F*...>, then *F* c *o*,

can then be used to infer the sentence:

The dog bit the man. (Or: A dog bit the man.)

I.e., the difference between information in the relative clause and the information in the main clause is (or can be represented by) the difference between internal and external predication; it is the difference between defining and asserted properties (see §9, below). This analysis is related to the semantic Principles of Minimization of Ambiguity and of Maximization of Truth advocated in Rapaport (1981, p. 13f). In the absence of prior context, this analysis is correct for (1). But a full computational account would include something like the following:

If there is a unique dog that bit a (specified) man,

then use the representation of that dog as subject

else build:

<being a dog, having bit a man> ex having rabies.

9. Parsons's Theory

Parsons's theory of nonexistent objects (1980; cf. Rapaport, 1976, 1978, 1985a) recognizes only one type of *object* – intensional ones – and only one mode of predication. But it has two types of *properties*: *nuclear* and *extranuclear*. The former includes all "ordinary" properties such as: being red, being round, etc.; the latter includes such properties as: existing, being impossible, etc. But the distinction is blurry: For each extranuclear property, there is a corresponding nuclear one. For every set of nuclear properties, there is a unique object that has only those properties. Existing objects must be complete (and, of course, consistent), though not all such objects exist. E.g., *the Morning Star* and *the Evening Star* don't exist (if these are taken to consist, roughly, of only two properties each). *The round square*, of course, is (and only is) both round and square and, so, isn't non-square; though it is, for that reason, impossible, hence not real. As for *the existing golden mountain*, *existence* is extranuclear, so the set of these three properties doesn't have a corresponding object. There is, however, a "watered-down", nuclear version of existence, and there *is* an existing golden mountain that has *that* property; but it doesn't have the extranuclear property of existence, so it doesn't *exist*.

Parsons's theory could provide a semantics for SNePS, though the use of two types of properties places restrictions on the possible uses of SNePS. On the other hand, SNePS could be used to represent Parsons's theory (though a device would be needed for marking the distinction between nuclear and extranuclear properties) and, hence, together with Parsons's natural-language semantics, to provide a tool for computational linguistics. Figure 6 suggests one way that this might be done. Node m5 represents the proposition that the Meinongian "object" *the round square* has *round* and has *square* as "N"uclear"-properties" and has *being impossible* as an "E"xtra"N"uclear"-property".

However, as Woods points out, it is important to distinguish between defining and asserted properties of a node (Woods, 1975, p. 53). Suppose there is a node representing John's height, and suppose that John's height is greater than Sally's height. We need to represent that the former *defines* the node and that the latter *asserts* something non-defining of it. This is best done by means of a distinction between internal and external predication, as on my theory or Castañeda's (§10, below). It could perhaps be done with the nuclear/extranuclear distinction, but less suitably, since *being John's height* and *being greater than Sally's height* are both *nuclear* properties. (This is *not* the same as the structural/assertional distinction among types of links; cf. Woods, 1975, p. 58f.)

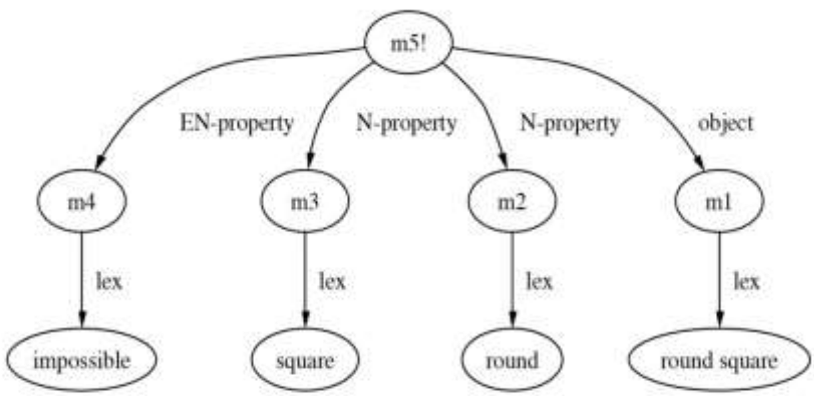

Figure 6: A SNePS representation of "The round square is round, square, and impossible" on Parsons's theory.

10. Castañeda's Theory

Castañeda's theory of "guises" (1972; 1975a; 1975b; 1975c; 1977; 1979; 1980; 1989; cf. Rapaport, 1976; 1978; 2005) is a better candidate. It is a fully intensional theory with one type of object: *guises* (intensional items corresponding to sets of properties), and one type of property. More precisely, there are properties (e.g., *being round*, *being square*, *being blue*), sets of these (called *guise cores*; e.g., {*being round*, *being square*}), and an ontic counterpart, *c*, of the definite-description operator, which is used to form *guises* from guise cores; e.g., *c*{*being round*, *being square*} is the round square. Guises can be understood, roughly, as things-under-a-description, as "facets" of (physical and non-physical) objects, as "roles" that objects play, or, in general, as objects of thought.

Guise theory has two modes of predication: *internal* and *external*. In general, the guise $c\{\ldots F\ldots\}$ is-internally F. E.g., the guise (named by) *the round square* is-internally only round and square. The two guises *the tallest mountain* and *Mt. Everest* are related by an external mode of predication called *consubstantiation* (C^*). Consubstantiation is anequivalence relation that is used in the analyses of (1) externalpredication, (2) co-reference, and (3) existence:Let $a = c\{\ldots F\ldots\}$ be a guise, and let $a[G] =_{\mathrm{df}} c(\{\ldots F\ldots\} \cup \{G\})$. Then (1) a is-externally G (in one sense) if $C^*(a, a[G])$. E.g., 'the Morning Star is a planet' is true because $C^*(c\{M,S\}, c\{M,S,P\})$; i.e., *the Morning Star* and *the*

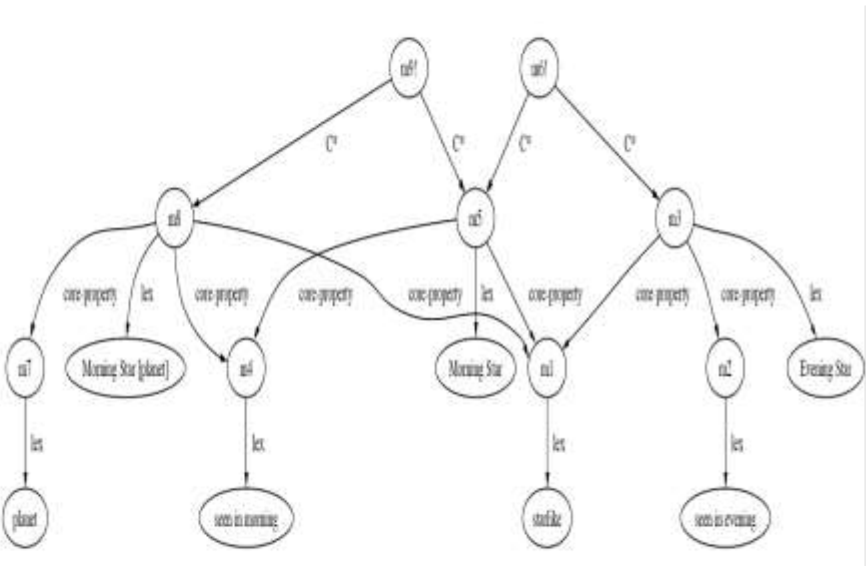

Figure 7: A SNePS representation of: "The Morning Star is the Evening Star" (m6) and "The Morning Star is a planet" (m9), on Castañeda's theory.

Morning Star that is a planet are consubstantiated. (2) Guise *a* "is the same as" guise *b* iff C^*ab. E.g., 'the Morning Star is the same as the Evening Star' is true because $C^*(c\{M,S\},c\{E,S\})$. And (3) *a* exists iff there is a guise *b* such that C^*ab.

Another external mode of predication is *consociation* (C^{**}). This is also an equivalence relation, but one that holds between guises that a mind has "put together", i.e., between guises in a "belief space". E.g., C^{**}(Hamlet, the Prince of Denmark).

C^* and C^{**} correspond almost exactly to the use of the EQUIV arc in SNePS. Maida & Shapiro (1982, p. 303f) use the EQUIV-EQUIV case-frame to represent co-reference (which is what C^* is), but EQUIV-EQUIV more properly represents *believed* co-reference – which is what C^{**} is (Rapaport, 1986b). It should be clear how guise theory can provide a semantics for SNePS. In Figure 7, m3 represents the guise *the evening star*, whose "core-properties" are *being seen in the evening* and *being starlike*. Node m5 represents the guise *the morning star*, whose "core-properties" are *being seen in the morning* and *being starlike*. Node m6 represents the proposition that [[m3]] and [[m5]] are consubstantiated. Similarly, node m8 represents the guise whose "core-properties" are *being starlike*, *being seen in the morning*, and *being a planet* (the "planet-protraction of the morning star", in Castañeda's terminology), and node m9 represents the proposition that [[m5]] and [[m8]] are consubstantiated.

A remaining problem is the need to provide a SNePS correlate for internal predication and the requirement of explicating external predication in terms of relations like C^*. Note, too, that nodes m3, m5, and m8 in Figure 7 are "structured individuals" – a sort of molecular base node.

11. Conclusion

How should we decide among these theories? Woods said:

> Whereas previously we construed our nodes to correspond to real existing objects, now we have introduced a new type of node which does not have this assumption. Either we now have two very different types of nodes (in which case we must have some explicit...mechanism in the notation to indicate the type of every node) or else we must impose a unifying interpretation .... One possible unifying interpretation is to interpret every node as an intensional description and assert an explicit predicate of existence for those nodes which

are intended to correspond to real objects. (Woods, 1975, p. 66f)

The two-types-of-nodes solution is represented by my theory (and by McCarthy's); the unified theory is Castañeda's (with self-consubstantiation as the existence predicate). Thus, Woods's ideal as well as SNePS are closer to Castañeda's theory. Or, one could take the intensional fragment of my theory and state that $\exists\alpha[\alpha \text{ SC } o]$ iff o ex Existence.

Or consider Maida and Shapiro again: "[W]e should be able to describe within a semantic network any conceivable concept, independently of whether it is realized in the actual world, and we should also be able to describe whether in fact it is realized" (Maida & Shapiro, 1982, p. 297). The latter is harder. We would need either (a) to represent extensional entities (as could be done on my theory, using SC), or (b) to represent a special existence predicate (as on Parsons's theory, using extranuclear existence), or (c) to use some co-referentiality mechanism (as in SNePS *and* in Castañeda's theory), or (d) to conflate two such nodes into one (which brings us back to the first solution but doesn't eliminate the need for intensional entities; cf. Maida & Shapiro, 1982, p. 299).

I hope to have provided evidence that it is possible to provide a fully intensional, non-possible-worlds semantics for SNePS and similar semantic-network formalisms. The most straightforward way is to use Meinong's theory of objects, though his original theory has the disadvantage of not being formalized. As we have seen, there are several extant formal Meinongian theories that can be used, though each has certain disadvantages or problems.

Two lines of research are possible: (1) Take SNePS as is, and provide a new, formal Meinongian theory for its semantic foundation. This has not been discussed here, but the way to do this should be clear from the possibilities examined above. My own theory (stripped of its extensional fragment) or a modification of Castañeda's theory seem the most promising approaches. (2) Modify SNePS so that one of the extant formal Meinongian theories can be so used. (For more recent investigations into an intensional semantics for SNePS, see Wiebe & Rapaport, 1986; Shapiro & Rapaport, 1987; 1991; 1995; Rapaport & Shapiro, 1995; Shapiro et al., 1996; Rapaport et al., 1997; Rapaport, 2003; and Shapiro, 2003.) And a new version of SNePS (SNePS-3) is being designed that has several advantages, such as being able to represent "donkey" sentences and branching quantifiers (Ali 1993, 1994, 1995; Ali & Shapiro, 1993; Shapiro, 2000b).

Philosophy may not have been kind to Meinong; perhaps AI will be.

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Guise Theory Revisited

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ABSTRACT

Castañeda's guise theory is a peculiarly interesting Neo-Meinongian approach, in virtue of its bundle-theoretic and anti-representationalist features. But it also has some problematic aspects. It crucially relies on a series of sameness relations, such as consubstantiation or consociation, but this list is incomplete. Moreover, guise theory is hindered by its view of the sameness relations as forms of predication alternative to what may be called, following Plantinga, standard predication. This paper thus proposes a revised version of guise theory that acknowledges two additional sameness relations and standard predication.

1. Introduction

The famous debate between Meinong and Russell on non-existent objects saw the former succumb to the latter, or at least this is how it was typically perceived in analytic quarters, where Russell's point of view became orthodoxy.[1] However, In the second half of the last century, some analytic "Neo-Meinongians," as we may call them, tried to vindicate Meinong (Routley, 1966, 1979; Castañeda, 1974, 1989;Parsons, 1975, 1980; Rapaport 1976, 1978; Zalta, 1983; etc.). They argued that there are many good reasons to follow Meinong in acknowledging non-existent or even impossible objects, in order to account, e.g., for intentionality, dreams, fiction and the like.

Neo-Meinongian theories come in two sorts: *double predication* approaches and *double property* approaches, as we may call them. The former

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[1] On the Meinong-Russell debate and for references to the relevant works by Meinong and Russell, see, e.g., Smith, 1985 and Reicher, 2012.

distinguish two kinds of predication, *internal* and *external*,[2] and the latter two kinds of properties and relations,[3] *nuclear* and *extra-nuclear* (in the terminology of Parsons, 1980).

For reasons that I shall briefly explain below, I think that the double predication approach is more appealing. Among the double predication views Zalta's theory of abstract objects is probably the most popular one. In contrast, Castañeda's guise theory (GT, in short) has never had many followers and nowadays is almost completely neglected.[4] Nevertheless, in virtue of its bundle-theoretic and anti-representationalist aspects, it is the most intriguing among the double predication approaches, or so I shall argue. However, GT has also some significant drawbacks, which I shall try to bring to the surface. I shall thus put forward a revised version of guise theory, let us call it *GT**, which tries to improve over its predecessor, while preserving its bundle-theoretic and anti-representationalist nature. Although I am not presently inclined to endorse a standpoint of this sort, I propose it for consideration to those who find appealing a bundle-theoretic and anti-representationalist approach to the ordinary objects we deal with in experience.[5]

2. The Meinong-Russell Debate

It will be useful for the following discussion to briefly review how Russell argued thatMeinong's *Gegenstandstheorie* is contradictory.

It appears that Meinong is committed to the truth of sentences such as these:

(1) the round square is round;

(2) the round square is square;

(3) the existent round square is existent.

[2]As we shall see in footnote 17, it is arguable that these approaches do not really endorse two kinds of predication, in spite of what their supporters claim and what the label "double predication" suggests.
[3]In the following, for brevity's sake I shall often simply talk of properties even though what I say has also to do with relations. The context will make it clear when this is the case.
[4] It has been however widely discussed in the 1980's; see Tomberlin 1983, 1986 and Jacobi and Pape, 1990.
[5] GT was first presented in Castañeda, 1974, although the name "guise theory" appears in later works. Although in these works Castañeda adds details and considers variants, the original formulation of Castañeda, 1974, has remained stable and I shall base my discussion here on it.

This is so, because he thinks that there are true propositions that commit us to non-existent objects. For example, it is true that the winged horse does not exist and it is true not only that the round square does not exist, but even that it is impossible. Moreover, let us suppose, it is true that Alex is thinking of the winged horse (e.g., while wondering whether such a beast could be found somewhere). Since there are these true propositions, argues Meinong, there must be the objects that they are about, namely the winged horse and the round square.

We can generalize, for it seems there are no limits to the objects we can think of and in many cases we do not know whether we are thinking of something existent or not. Wecan think for example of *the* tallest man on earth and wonder whether he exists or not. Probably he does, but perhaps he does not, since there are *two* men of equal height who are taller than any other man on earth. Thus, Meinong came to conceive of the principle of the *freedom of assumption*, which asserts that, given any set of properties, there is a corresponding object with exactly those properties (other formulations that do not invoke sets are possible, but we need not be fussy for present purposes). This principle allows for an incredibly rich "jungle" of objects, to use Routley's well-known metaphor. Some of its inhabitants exist, such as the morning star, and some do not, such as the winged horse.

Which properties do these non-existent objects have? Well, we think of them as having certain properties; for example, Alex thinks of the *winged* horse, and thus, it seems, of an object with the property of being winged. For otherwise he would have thought of something else, say the *horned* horse. Therefore, in Meinong's opinion, it is appropriate to say that they at least have the properties with which we think of them, i.e., the properties expressed by the predicates that we use in concocting the definite descriptions by means of which we think and talk about them. For example, the predicates "winged" and "horse" that contribute to the definite description "the winged horse." In the light of this, (1)-(3) above must be true. Yet, argues Russell, we also know that, necessarily, if something is square, then it is not round and thus, *a fortiori*, the negation of (2) must be true:

(2') the round square is not round.

Moreover, as Meinong himself admits, an object that is round and square is impossible and thus fails to exist. But the existent round square is, in view of what we said above, both round and square and is therefore impossible (we sidestep here the issue of whether it is or it is not identical to the round square). Thus, it must be the case that

(3') the existent round square does not exist.

In response to Russell, the Neo-Meinongians acknowledge that, in one sense, Russell is right in pointing out that (1)-(3) are false, but they also insist that, in another sense, they are true (and, correspondingly, (1')-(3') are false). In other words, they argue that there are intuitions that pull in two opposite directions and that we should follow both paths. Let us see how they do the trick.

3. The Neo-Meinongians to the Rescue

According to the double predication approach, (1)-(3) and (1')-(3') are ambiguous, since they can be interpreted from the point of view of either *internal* or *external* predication. The "Meinongian" intuitions that lead us to think that (1)-(3) are true can be captured by appealing to internal predication. On the other hand, we can resort to external predication in order to account for the "Russellian" intuitions that incline us to reject them and accept (1')-(3'). In sum, the pairs of sentences (1)-(1'), (2)-(2') and (3)-(3'), to the extent that they are true, do not contradict each other because the first member of each pair expresses a proposition involving internal predication, and the second member a proposition involving external predication. Thus, for example, the proposition expressed by (3) tells us that the existent round square is *internally* existent, whereas the proposition expressed by (3') tells us that the existent round square does not have *externally* the property of existing.

Let us write "*Fx*" to indicate that the property F is externally predicated of *x* and "*xF*" to indicate that *F* is internally predicated of *x*. Then, if "E" stands for existence and "e" for the existent round square, the propositions in question are:

(3a) eE;
(3'a) Ee.

The former is true, because it tells us that a certain object that we conceive of as existent, as the *existent* round square, indeed has this property, existence, by means of which, in part, we grasp it. But it has it in the sense that it is characterized and thought of as *constituted* (inter alia) by that property.

Similarly, it is constituted by roundness and squareness, so that these properties as well are possessed by it internally. Its having existence, roundness and squareness in this sense does not mean that it is an object in the spatio-temporal realm, which I can touch or see and which enters directly into the causal order, such as myself or the computer with which I am interacting now in writing these words. Meinong's principle of the freedom of assumption is held to be valid in this approach only from the point of view of internal predication and thus it grants, *inter alia*, that there is the existent round square inasmuch as this object internally possesses existence, roundness and squareness.

In contrast with the existent round square, both I and the computer exist from the point of view of external predication. In other words, existence can be truly predicated externally of both me and the computer and of countless other objects. And of course such objects can have externally other properties that the non-existent ones - those that at best have existence only internally - cannot have externally. For example, the yellow square that I have just drawn is externally yellow and square and the green circle that I have just drawn next to it is externally green and round.

It is important to note that non-existent objects can have some properties externally. For example, the winged horse has externally the property of being thought of by Alex and the round square the property of being impossible. But these are properties that do not entail existence, in contrast with properties that entail it, such as colors (yellow), shapes (roundness), natural kinds (being a horse), spatial locations (occupying a certain region of space), etc. (*e-entailing* properties, in Cocchiarella's (1982) terminology).

The double property approach draws instead a distinction between nuclear and extra-nuclear properties and limits the Meinongian principle of the freedom of assumption by claiming that it works only to the extent that nuclear properties are involved. While no precise definition of "nuclear" and "extra-nuclear" is offered by the supporters of this approach, Cocchiarella, 1982, has put forward the plausible claim that the distinction corresponds to the one between e-entailing and non-e-entailing properties. Existence is the primal example of an extra-nuclear property and thus, according to this approach, there is no object corresponding to the definite description "the existent round square," inasmuch as "existent" stands for a nuclear property. However, the principle of the freedom of assumption suggests that we can think of the existent round square and similarly that we can think of the round square thought of by Alex, despite the fact that "existent" and "thought by Alex" express extra-nuclear properties. In response to this problem, the double property approach claims (at least in Parsons' version) that, for any extra-nuclear property, there is a corresponding "watered-down" nuclear property, a property somewhat remindful of its extra-nuclear cousin, but in fact in essence quite different. Thus, for instance, there is watered-down existence, call it existence$_w$. it follows that there is and we can think of the existent$_w$ round square and that such an object is existent$_w$ (thereby allowing us to capture a sense in which (3) is true), although it is not (truly, extra-nuclearly) existent (thereby allowing us to capture a sense in which (3') is true).

I think that this approach is quite inferior to the double predication approach. For one thing, the distinctions between nuclear and extra-nuclear properties and (especially) between the latter and their watered-down versions are rather obscure.Moreover, even if this problem is overcome, it is hard to see how these distinctions can cut any ice in dealing with the problem that they are designed to solve. For if we grasp them, it seems to follow that we can conceive of the extra-nuclearly existent round square just as we conceive of the nuclearly existent round square. But the former recreates the problem pointed out to Meinong by Russell in relation to the existent round square. I shall thus leave the double property approach aside here and concentrate on the double predication approach.[6]

4. GT vs. the Other Double Predication Approaches

The distinction between internal and external predication is understood differently by Castañeda on the one hand and the two other main supporters of the double predication approach, namely Rapaportand Zalta, on the other hand. Their disagreement originates from deep underlying divergences regarding the nature of ordinary objects and our commerce with them.

Traditionally, following the Aristotelian-Lockean tradition, ordinary objects are viewed as substrates, exemplifying an infinite number of properties (for any property *P*, either *P* or its negation), but fully distinct from their properties. Such entities are in a sense not really accessible to the mind or, to put it otherwise, they cannot be directly before our minds: we think of and perceive objects *with* properties, but they are distinct from their properties;

[6] I thus neglect here the issue of how the double property approach deals with the pairs (1)-(1') and (2)-(2'). See Orilia, 2002, for more details.

moreover, their properties are too many for us to grasp all of them. Following Rapaport (1978, p. 152), let us call them *actual* objects. Once we acknowledge actual objects, we are naturally led to some form or another of representationalism. We need entities that in thought or perception can go proxy for actual objects and somehow work as their representatives. Fregean senses can be understood along these lines.

According to GT, there are no such actual objects. The objects surrounding us and with which we have our daily perceptual interactions, the computer on which Iam writing these words, the chair on which I am sitting, the flowers that I am observing, the cat nearby, the sun shining over me, even myself, are *guises*, concrete individuals with properties, but a limited number of properties, *from the point of view of internal predication.* Guises are the only items that have properties in this sense and the properties possessed by them are those that constitute them. Because the properties that constitute guises are few, guises are, as Castañeda often puts it, "tiny," so tiny that we can directly have them before our mind.[7] In line with the Meinongian tradition, some of them exist and some do not (from the point of view of external predication). We shall see in a moment how this is to be understood, according to GT.

In Frege's opinion, a definite description expresses a sense, which, in turn, if denoting, denotes (in typical cases) an actual object, an item with which we cannot be acquainted and that therefore cannot be a constituent of a thought or proposition. In contrast, GT endorses this semantic thesis:a definite description denotes a guise,[8] an item with which we can be acquainted and thus a constituent of the thought expressed by a sentence containing the description.

In sum, Castañeda avoids representationalism, and embraces a form of direct realism regarding both perception and thought.Concrete individuals are guises and guises can be directly grasped by us, since they are constituted by a limited number of properties (which can themselves be directly grasped).

Thus, for instance, the morning star of Frege's famous example is a guise that has internally just or little more than these properties: being a celestial body, appearing in the morning sky before any other celestial body (we take

[7]This is so in typical cases; GT also acknowledges infinite "Leibnizian" guises, but we can ignore them for present purposes.

[8]The description may be, so to speak, "non-denoting" in the sense that the guise referred to by the description fails to exist from the point of view of external predication.

"star" and "morning" to mean them, respectively, and in the following I shall often indicate these properties in brief by means of "S" and "M," respectively).[9]

In order to account for our well-justified and deep-seated belief that the objects we deal with cannot be exhausted by the limited number of properties with which we apprehend them, GT appeals to *consubstantiation*(symbolized by "C*"). This is a *sameness* relation that contingently links different guises in such a way that they are like, as it were, different aspects, modes of presentation or ways of appearing, of actual objects exemplifying an infinite number of properties. Consider for example the property, P, of having precisely a certain mass. One might insist that the morning star either has P or its negation; we may not know which one, but it must have one of them. GT answers that it has one of them, say P, in the sense that it is consubstantiated with the guise that, besides having internally the properties M and S, also has, internally, property P. By virtue of this, we say that the morning star has externally property P, in addition to all the properties that it has internally. And there are a great deal of other properties that the morning star has externally, by virtue of its being consubstantiated with other guises. For example, the morning star is consubstantiated with the evening star, i.e. the guise that possesses internally the properties of being a celestial body (S) and of disappearing as last in the evening sky (E, as we may say in brief). Hence, the morning star has externally the property E, and similarly the evening star has externally the property M.

Strictly speaking, then, there are no actual objects, there are just the guises and their consubstantiational links. However, we may also say that, corresponding to the actual objects of the traditional view, there are sets of mutually constubstantiated guises, *consubstantiational clusters*, in Castañeda's terminology. GT is thus similar to a bundle theory, but it is, as Castañeda puts it, a *bundle-bundle* theory. In the first place, guises could be viewed as

[9]There is point that Castañeda never made explicit and that is worth emphasizing, namely the fact that the realm of guises has a hierarchical order, since some guises are ontologically dependent on other guises; guise are, so to speak "generated" in stages (Orilia, 1986, p. 162). For there are, according to GT, relational properties that involve other guises as constituents. Moreover, in line with Meinong's principle of the freedom of assumption, to any set of properties there corresponds a guise. Thus, for example, the property of weighing more than the winged horse can be one of the constituting properties of a certain guise, *g*. But, ifthis is the case, *g* "presupposes" the guise c{W, H}), i.e. *g* is ontologically dependent on c{W, H}). We shall discuss below in more detail how these relational properties should be understood.

"bundles of properties" as they are ontologically dependent on the properties that constitute them and are identified by them just like sets are identified by their members. Indeed, Castañeda characterizes guises as sets of properties (called guise *cores*) made somehow concrete by an operator, "c," corresponding to the definite article. Hence, he takes them to have this form: c{$F_1, ..., F_n$}, where $F_1, ..., F_n$ are properties.[10] Secondly, guises can give rise to bundles of bundles to the extent that, if consubstantiated, are members of consubstantiational clusters.

More details on consubstantiation will be offered below and we shall also see that it is viewed by Castañeda as just one of several other forms of external predication. But, for clarity's sake, it is important at this juncture to underline that consubstantiation is what allows in GT the distinction between the internal and the external attribution of existence. Existence in the external sense is, according to GT, being consubstantiated with other guises or, equivalently, being self-consubstantiated, since Castañeda assumes that a guise consubstantiated with other guises is also consubstantiated with itself. Thus, for example, the morning star exists. In contrast, the winged horse and the round square do not exist, because neither of them is consubstantiated with other guises or self-consubstantiated. A guise however can possess existence internally in that the property of existence (understood, given what we said above, as self-consubstantiation) is among the properties that constitute a guise. Thus, e.g., I can conceive of the *existent* (self-consubstantiated) round square: c{E, R, S}, where E, R and S are, respectively, self-consubstantiation, being round and being square. This is a guise that possesses internally the property of existence. But it is not externally existent since it is not in fact consubstantiated with itself or any other guise.

Let us now see briefly how the theories proposed by Rapaport and Zalta differ from GT. According to Rapaport and Zalta, there are entities, *Meinongian* objects (*Abstract* objects in Zalta's terminology), comparable to guises, in that they have properties in the internal sense. In addition, however, these theories also admit actual objects (*concrete* objects, in Zalta's terminology), which are assumed to have properties only in the external sense. Such objects can be *correlates* of Meinongian objects. In particular, an actual object x is a correlate of a Meinongian object m when x has externally all the

[10] Thus, for example, the guise denoted by "the morning star" is c{M, S} and, if W and H are the properties of being winged and being horse, respectively, the guise denoted by "the winged horse" is c{W, H}.

properties that *m* has internally; moreover, if no other actual object has all the properties that *m* has internally, *x* is also said to be the *unique* correlate of *m*. As we noted above, once we acknowledge actual objects, we are naturally led to representationalism. And in factMeinongian objects are in these views intermediaries between our minds and corresponding actual objects: I can think of an actual object,*x*, in the sense that I have before my mind a Meinongian object *m* such that *x* is a unique correlate of *m*. Thus,Meinongian objects can be viewed pretty much like Fregean senses (Zalta, 1983, Ch. 6).

5. Enter Denoting Concepts

Interesting as these theories may be, if we abandon the bundle-theoretic and realist features of GT and embrace representationalism and substantialism, there seems to be no reason to acknowledge Meinongian objects. We can do with Russellian denoting concepts (Cocchiarella1982, 1989; Landini1986, 1990; Orilia, 1998, 1999). Very roughly this is the idea.

As is well-known, Russell puts forward his theory of descriptions as an alternative to both Meinong's theory of objects and Frege's theory of sense and reference. However, it turns out that the theory of description is too "slim" to account for all the data. For example, there seems no way, from its point of view, to account for the intuition that in some sense (1)-(3) are true. For instance, (1) cannot but express, in this perspective, the following false proposition:

(1R) there is exactly an (actual) object, *x*, with the property of being round and square and *x* has the property of being round.

But we can go back to Russell's earlier theory of denoting concepts in *The Principles of Mathematics* and view them as properties of properties. In particular, we can view a definite description, "the *F*", as expressing a denoting concept of the following sort. It is a property that another property, say *P*, possesses when there is exactly an object with the property *F* and this object has also property *P*. We can designate a denoting concept of this kind, a *determinate* denoting concept, as follows: "[the *F*]." Here *F* is typically a conjunctive property. For example, the denoting concept expressed by "the morning star" is [the (M & S)].A proposition that attributes the denoting concept [the *F*] to a property, say the property *G*, is true if and only if there is exactly an object with the property F and this object has also property G. Consider, e.g., the sentence:

(4) the morning star is a planet.

From this perspective, (4) expresses a proposition that predicates the following denoting concept of the property of being a planet: being a property, X, such that there is exactly an object with the property(M & S) and this object has also property X. This proposition is true, as it is equivalent to the proposition that asserts that there is exactly an object with the property (M & S) (i.e., being a morning star) and this object has also the property of being a planet.[11]

Once we have acknowledged denoting concepts, we can appeal to them in order to account for the data that cannot be captured with the simple means of Russell's theory of descriptions. For example, we can understand the sense in which (1) is true by viewing it as expressing a proposition that says of a certain denoting concept, the one expressed by "the round square," that it *contains* the property of being round. By "containing" here I mean the relation that links a denoting concept [the (F_1& ... &F_n)] to a property P when P is one of the F_i, for i= 1, 2, ..., n.

Sentences (2) and (3) can be dealt with analogously. In particular the sense in which (3) is true can be dealt with, by taking existence to be a trivial property that everything has, say self-identity, and see "the existent round square" as expressing this denoting concept: [the(E & R & S)] (where "E," "R," and "S" stand for the properties existence, roundness and squareness, respectively). We can thus take (3) to be true by reading it as expressing the proposition that asserts that this denoting concept contains the property E. On the other hand, we can take (3) to be false by reading it as expressing the false proposition that predicates this denoting concept of E, i.e., a proposition asserting, falsely, that there is exactly an object that exists (is self-identical), is round and is square.

In sum (roughly), whenever the Rapaport-Zalta approach appeals to Meinongian objects and internal predication, the approach based on denoting conceptsappeals to determinate denoting concepts and the containing relation and whenever the Rapaport-Zalta approach appeals to Meinongian objects and external predication, the approach based on denoting concepts appeals to determinate denoting concepts predicated of properties. But denoting

[11] A symbolic device that allows us to express more rigorously denoting concepts is the lambda operator briefly discussed below at the end of § 8.

concepts are properties, predicable entities, i.e. entities that the Meinongians must acknowledge just like the Russellians. Thus, it seems that the approach based on denoting concepts can deal with the data just like the Rapaport-Zalta approach, in the same representationalist way and similarly acknowledging actual objects. But it does not have the additional ontological cost paid by the latter in acknowledging Meinongian objects.

In contrast, GT proposes a quite different ontology. True, it buys guises just as the Rapaport-Zalta approach buys Meinongian objects, but on the other hand it dispenses with actual objects and accordingly proposes a realist account of cognition.In sum, a guise-theoretical approach has its own specific interest, that is left unscathed by the fact that determinate denoting concepts can do the tricks that Meinongian objects are designed to do.

Before turning to GT's difficulties, let us look at it more closely.

6. Additional Details on GT

As noted above, consubstantiation is one among several different forms of external predication. All forms of external predication are also considered by Castañeda "sameness relations," since each of them, depending on the context, isexpressible in English by the locution "is the same as" or, in brief, "is." In particular, consubstantiation is expressed by "is" when we make assertions such as "the morning star is the evening star," or "the author of *The Name of the Rose* is the most famous Italian semiotician", which can be justified only *a posteriori*, on the basis of what the physical world in which we find ourselves happens to tell us.Here are the other sameness relationsacknowledged by GT.

Strict identity, commonly expressed by the infix symbol "=," is a relation that links any entity to itself and only to itself and obeys the standard Leibniz's law of substitutivity. It could be at play when we assert that the winged horse, whether it exists or not, is the winged horse.[12]

[12]Typically, however, the English "is," according to GT, does not express strict identity, but rather consubstantiation or perhaps other sameness relations. This allows for an interesting solution to Frege's paradox of reference. The basic idea can be illustrated by saying that we cannot use Leibniz's law of substitutivity of identicals to infer (i) Tom believes that the morning star is a planet from (ii) Tom believes that the evening star is a planet and (iii) the morning star is the evening star, because the "is" of (iii) expresses consubstantiation, rather than strict identity.

Conflation (*C) holds of two guises when their cores are logically or conceptually equivalent. Thus, one may express it with the "is" of "the animal with wings that is a horse is the winged horse."

Consociation (C**) holds of two guises when they are thought of by some mind as consubstantiated, whether they are such or not, e.g. in belief or in literary fiction. For example, in the sentence "the detective who lives in Baker Street is the best friend of a physician called *Watson*," the "is" is best taken to mean consociation. Moreover, consociation is involved when a mind is somehow related to a guise, as when, e.g., Meinong thinks of the round square (see example (7), below).

Transubstantiation has to do with time. Castañeda is very sketchy in discussing it, but it seems clear that he sees it as a relation that contingently links two consubstantiational clusters across time just as consubstantiation links two guises at a specific moment of time. I think that transubstantiation is meant to account for our use of "is" in so-called statements of identity through time, e.g., "the caterpillar that was in the garden a month ago is the butterfly now flying in the kitchen." However, Castañeda has never provided an explicit treatment of these sentences.[13]

Transconsociation has to do simply with literary fiction, or at least so it seems, since Castañeda discusses it only with regard to fiction. It is put forward in order to account for the evolution in time of a character within a story or for the fact that the character of a story can be "imported" into another story, possibly invented by a different author. Thus, presumably, according to Castañeda, we express transconsociation with "is" when we say that the Ulysses of the *Odissey* is the Ulysses of the *Divine Comedy*. However, although Castañeda has dealt extensively with fiction, he was not quite explicit with regard to the issue of how to associate natural language sentences to propositions involving transubstantiation.

Castañeda thinks that the sameness relations are forms of predication, because in his opinion they should be called in even when we use the "is" of predication, as when we assert that the morning star is a planet and thus we utter sentence (4) above. In this case, the proposition expressed, according to GT, is a proposition that asserts of two guises, c{M, S} and c{M, S, P}, where P is the property of being a planet, that they are consubstantiated:

(4a) C*(c{M, S}, c{M, S, P}).

[13] For a guise-theoretical treatment of them, see Orilia, 1989.

The latter guise is, in Castañeda's terminology, a "P-protraction" of the former. In general, an *X*-protraction,[*g*]*X*, of a guise *g*, is a guise whose core is exactly like the core of *g*, except that it contains in addition the property *X*.

Consider now

(5)the detective who lives in Baker street is a misogynist.

In this case,the "is" of predication expresses consociation and thus the expressed proposition is:

(5a) $C^{**}(c\{D, L\}, c\{D, L, M\})$,

where D, L and M are the properties of being detective, living in Baker Street, being misogynist.

In other cases, the "is" of predication may express conflation or the other sameness relations, but for present purposes we need not dwell on this here.

When it comes to relational sentences, this approach to predication leads to the view that the expressed proposition is a conjunctive proposition, where, at least in typical cases, the conjuncts involve either consubstantiation or consociation. To illustrate we shall consider two examples provided by Castañeda:[14]

(6)the principal kisses the art teacher;

(7) Meinong thinks of the round square.

Kissing is e-entailing in both of its argument places, for one cannot kiss or being kissed without existing. Assume that g and g' are two existing guises denotedby "the principal" and "the art teacher," respectively. Assume further that K1 and K2 are the relational properties of kissing g' and being kissed by g, respectively.Then, the conjunctive proposition expressed by (6) is:

(6a)$C^*(g, g[K1])$ & $C^*(g', g'[K2])$.

Let us now turn to (7). assuming that m is the guise denoted by "Meinong,"[15]that r is the guise denoted by "the round square" and that T1 and T2 are respectively the relational properties of thinking of r and being thought by m, (7) expresses this proposition:

[14] See Castañeda, 1974, p. 14 and p. 18, respectively. I have slightly modified the sentences discussed by Castañeda and also slightly modified the analysis, but with no significant divergence.

[15]According to GT, proper names stand for guises. See Castañeda, 1974, p. 27.

(7a) C*(m, m[T1]) & C**(r, r[T2]).

All sameness relations are taken to obey their own special laws. Those governing identity and conflation are basically exhausted by what we said above. As regards the others, Castañeda provides a detailed account only as regards consubstantiation. But it is not important for present purposes to dwell much on it. I shall only mention that among such laws we find: the law of *uniqueness*, which ensures that an existing (i.e., self-consubstantiated) guise cannot belong in two different consubstantiational clusters; (ii) the law of *consistency*, which ensures that no consubstantiational cluster can have a guise with a property *P* and its complement ~*P* in its core, or two guises, one with *P* in its core and the other with ~*P* in its core; the law of *completeness*, which ensures that in any consubstantiational cluster we find, for every property *P*, either a guise with *P* in its core, or a guise with ~*P* in its core.

GT leaves open a number of complex issues regarding transconsociation and transubstantiation. In order to tackle them, we should delve deep into metaphysical matters having to do with fiction, time and even their interrelations. This is something that goes beyond the scope of this paper and thus I shall leave transconsociation and transubstantiation aside in the following.[16] Similarly, consociation will be left aside, at least as regards its role in accounting for fiction.

Here I shall more modestly focus on other aspects of GT that in my opinion call for a revision. In particular I shall argue that Castañeda's list of sameness relations is incomplete and that to view them as forms of predication is a needless and ultimately unsustainable complication. Indeed, even the distinction between internal and external predication can in a sense be avoided. I shall thus promote a version of GT, GT*, with additional sameness relations and with just one kind of predication, *standard* predication, as we may call it (following Plantinga,1983).

7. Additional Sameness Relations

Let us see now why I think that the list of sameness relations is incomplete. Consider sentences such as these:

[16]Castañeda was never quite explicit on temporal matters. In particular, he never explicitly endorsed an A- or a B-theory of time. Since I am a supporter of an A-theory and in particular of a moderate presentist view (see Orilia, forthcoming), I would give GT* a twist in that direction.

(8) being 6 feet tall is the height property possessed by the tallest spy;

(9)weighing 50 pounds is the weight property possessed by the tallest spy.

Suppose that it so happens that the tallest spy is 6 feet tall and weighs 50 pounds. Then, these sentences are contingently true. To account for these truths, it seems we should say, in the spirit of GT, that there is a sameness relation expressed by the "is" of these sentences. And yet in the list of the previous section, we cannot find a sameness relation of which we can say that it is expressed by such an "is," thereby allowing them to be taken as true.

In the list we find relations that link two guises, but here we need a relation for which at least one *relatum* is a property, being 6 feet tall or weighing 50 pounds.For the expressions "being six feet tall" and "weighing 50 pounds" must be certainly taken at face value as standing for properties and not for, so to speak, guises of properties. For properties are, according to GT, the primary ingredients of the world and at the same time, given GT's anti-representationalism, they can be before the mind, just like the guises that are built out of them,and, like guises, can thus be constituents of the propositions that are expressed by sentences and are accusatives of propositional attitudes. Moreover,if we want to preserve the guise-theoretical idea that definite descriptions always stand for guises, the other *relatum* should be a guise. Thus,we need a relation that holds of a guise,c$\{P_1, ..., P_n\}$, and of a certain entity,x, just in case x is the only entity that has the properties $P_1, ..., P_n$. The entity x may be a property, as we saw in our example, but it can in principle also be another kind of entity, possibly a guise. Let us call this new sameness relation *primary association*.

Even with primary association in stock, the list of sameness relations is incomplete. For consider the "is" of

(10) the height property of the tallest spy is the height property of the tallest jockey.

Suppose it is true that both the tallest spy and the tallest jockey are 6 feet tall. Then,(10) is true, but again it does not seem that in the above list we can find a sameness relation of which we can say that it is expressed by the "is" of this sentence, thereby allowing it to be taken as true. Intuitively, if definite descriptions stand for guises, we need to resort to a relation that holds of guises contingently, just like consubstantiation and consociation. But it cannot be the former, since that is a relation that links guises that, as we saw, are like aspects or ways of appearing of concrete individuals such as tables, computers or even persons. Here the guises seem to be ways of appearing of properties. Moreover, it surely cannot be consociation, since this holds of guises that are thought of as somehow, e.g., as consubstantiated. But in this case the relation seems capable of holding of guises independently of our thoughts, let alone thoughts involving consubtantiation. In sum, we want a sameness relation, call it *secondary association*, that holds of two guises,c$\{P_1, ..., P_n\}$ and c$\{Q_1, ..., Q_n\}$, just in case one entity is such that it is the only one that possesses the properties $P_1, ..., P_n$ and it is the only one that possesses the properties $Q_1, ..., Q_n$. This one entity is typically a property, e.g., being six feet tall, as in our example. But it can in principle be any kind of entity, possibly a guise.

In sum, GT* should enhance GT by incorporating primary and secondary association. In the next section we shall see why GT* should also acknowledge standard predication.

8. Standard Predication

What kind of predication is at play in the above explication of what primary and secondary associationare? For instance when it was said that one entity *possesses* the properties $Q_1, ..., Q_n$, which kind of predication has been appealed to? Is it internal or external, and, if the latter, in terms of which sameness relation is it to be understood? Clearly, it is not internal predication. Yet, it seems we cannot appeal to a sameness relation to understand it, unless perhaps we accept to be involved in an infinite regress by introducing a new sameness relation, which in turn requires a notion of property possession and thus a new sameness relation, and so on. It seems better to admit that the property possession involved is something very basic and primary: standard predication.

If we focus on relational sentences such as (6) and (7), we seem to have a similar response. We have seen that, in dealing with them, GT acknowledges relational properties such as kissing g', being kissed by g, thinking of r, being thought of by m, where g', g, rand m are guises. But such properties seem to presuppose a predication, somehow linking a relation to a guise, e.g., the relation kissing to the guise g, or the relation thinking-of,to the guise r. And it is hard to see how a sameness relation could be involved in providing this link. It seems much more plausible, again, to see something very basic and primitive at play: standard predication. Once standard predication is admitted, we can view the above relational sentences,(6) and (7),as expressing not conjunctive propositions, but simply relational propositions involving standard predication.

Let us use the common notation of first-order logic, involving parentheses and commas, in order to express standard predication. Then, on the assumption that K and T are the kissing and the thinking of relations, these propositions are:

(6b) K(g, g');

(7b) T(m, r).

Once standard predication is acknowledged, the sameness relations need not be viewed as forms of predication. They become just relations among others, presupposing standard predication in order to be attributed. Thus, for example, the proposition C*(c{M, S}, c{E, S}) involves consubstantiation as a relation attributed to two guises, just as (6b) involves kissing as a relation attributed to two guises. In both cases there is standard predication (signaled by the parentheses and the comma) to grant the attribution.[17]

We noticed above that we can make a rather intuitive distinction between e-entailing and non-e-entailing properties. More generally, we can apply the distinctionto relations with respect to their argument places (for example, kissing has two argument places and giving has three argument places).[18] Consider kissing. Intuitively, something must exist for it to be able to kiss and similarly something must exist in order for it to be kissed. Thus, we should say that kissing is e-entailing in both of its argument places. In contrast, thinking of is e-entailing only in its first argument place, for something must exist in

[17]Internal predication itself should, I think, be viewed as a relation among others, namely the relation that holds of a guise *g* and a property *P* just in case *P* is among the properties in the core of *g*. If we use "$^*\in$" to indicate this relation we can represent the proposition expressed by (1), when this sentence is interpreted *à la Meinong*, as follows: $^*\in$(R, c{R, S}). The use of the parentheses brings to the surface that standard predication is presupposed in a proposition involving $^*\in$. Something similar could of course be said for Zalta's and Rapaport's theories. In other words, as we may paradoxically put it, internal predication is not predication. Of course, we can, despite this, call it "predication" and this may after all at least in part be justified by the fact that we take this relation to be expressed by a word, the English "is," that normally conveys predication. This has the merit of preserving the appropriateness of the label "double predication approach" in referring to the theories of Castañeda, Rapaport and Zalta.

[18]Castañeda himself borrows this distinction from Cocchiarella and introduces it in GT (1974, p. 17).

order to think, whereas something can be thought of without existing, or at least this is so from a Meinongian, guise-theoretical, perspective.

Now, according to GT, existence involves consubstantiation and this should be preserved in GT*, as the latter aims only at taming its main problematic aspects. We should thus assume this. If a guise *g* happens to occupy, so to speak, an e-entailing place of a relation in a true relational proposition, this should result in an appropriate extension of the consubstantiational cluster to which *g* belongs. Thus, for instance, since (6b) is true, the guise *g* should be constubstantiated with *g*[K1] and the guise *g*' with *g*[K2], where, let us recall, K1 and K2 are the properties of kissing *g*' and of being kissed by *g*, respectively.

We can capture this idea in a general fashion as follows. Given a relational proposition $R(g_1, ..., g_n)$, let us say that *R1* is the relational property of being an entity *x* such that $R(x, g_1, ..., g_n)$, *R2* the relational property of being an entity *x* such that $R(g_1, x, g_3, ..., g_n)$, and so on. With this convention in place, we can say that GT* should acknowledge, in addition to all the laws about consubstantiation already recognized by GT, the following additional principle:

(P1) $R(g_1, ..., g_n) \leftrightarrow C^*(g_i, g_i[Ri])$, provided that the *i*th argument place of *R* is e-entailing.

To illustrate (P1), consider (6b) and the relevant relational properties K1 (i.e., kissing g', the art teacher), relative to the first argument place of the relation K, and K2 (being kissed by g, i.e., the principal),relative to the second one. Since the relation K is e-entailing in both of its argument places, (P1) tells us that K(g, g') is equivalent to both of these propositions: C*(g, g[K1]) and C*(g', g[K2]). To further illustrate, look at (7b). In this case, we need only take care of T1, i.e., thinking of r (the round square), since only the first argument position of T, the thinking of relation, is e-entailing. In this case, (P1) tells us that T(m, r) is equivalent to C*(m, m[T1]).[19]

We may want to bring consociation to the fore and add that, given T(m, r), it is also the case that C**(r, r[T2]), where T2 is the property of being thought of by m. I am not sure however that this is really needed. Even with standard predication available, we need to appeal to consubstantiation, because in a

[19]It seems appropriate to say that the left-hand side of (P1) expresses a proposition more fundamental than the one expressed by the right hand side. For example,it is by virtue of the fact that R(g, g') that C*(g, g[R1]) and not the other way around.

guise-theoretical perspective we need consubstantiational clusters, since we do not have actual objects. But perhaps, once we have standard predication, we can always appeal to it to attribute properties to non-existent guises from an external point of view and thus consociation is not really needed. However, I shall not further explore this here.

Another principle that it seems appropriate to add is the following:

(P2) $(R(g_1, ..., g_n) \ \& \ C^*(g_i, x)) \rightarrow R(g_1, ..., x, ..., g_n)$, for $i = 1, 2, ..., n$.

Here I am assuming that $R(g_1, ..., x, ..., g_n)$ is a proposition exactly like $R(g_1, ..., g_n)$ except that it involves x where $R(g_1, ..., g_n)$ involves g_i. To illustrate (P2), consider again (7b). Since m (Meinong) is consubstantiated with the Austrian philosopher who wrote *Gegenstandstheorie* (in short, m'), (P1) tells us that, given the truth of T(m, r), it is also the case that T(m', r).

Before closing there is an important issue that should at least briefly be discussed. I have freely assumed all sorts of complex properties and relations[20] and I have also taken for granted that they can be freely predicated, without type-theoretical restrictions, of other properties and relations or even of themselves. This is, I think, as it should be. As is well-known, however, this immediately leads to paradoxes such as Russell's and possibly even to additional paradoxes having to do with acknowledging in one's ontology all sorts of guises (Landini, 1985). I do not really know how one should deal with the paradoxes. I used to think that they should be avoided while preserving classical logic (Orilia, 1999), but now I am not so sure and I tend to favor other strategies (Orilia, 2006, Field, 2008). In any case, this problem is not peculiar to the guise-theoretical approach discussed here. All the Neo-Meinongian approaches and any approach based on denoting concepts must also face it (see, e.g., Rapaport, 1978; Zalta, 1983, Ch. 5 and appendix A; Cocchiarella, 1989, Orilia, 1996).

[20]To neatly represent complex properties and relations, it is very convenient to take advantage of the lambda operator, λ, which binds the free variable(s) in an open sentence containing such variables, in order to generate a term that expresses a property or relation. Thus, for example, given the open sentence $(R(x) \ \& \ S(x))$, this operator generates the term $\lambda x(R(x) \ \& \ S(x))$, which expresses the property of being round and not square. I have avoided the use of the lambda operator to keep things at an informal level and make the paper, hopefully, more readable. For a more formal presentation of the system outlined here, see Orilia, 1986, Ch. 4.

9. Conclusion

I have argued that Castañeda's guise theory is a peculiarly interesting Neo-Meinongian approach, in virtue of its bundle-theoretic and anti-representationalist features. I have then focused on two problematic aspects of it: its insufficient list of sameness relations and its commitment to view them as forms of predication alternative to standard predication. I have thus put forward a revised version of guise theory,which acknowledges two additional sameness relations and standard predication. There are many other issues that one may want to consider. For example, should GT* really be committed to sets or should it just do with properties, on analogy with Russell's so-called *no-class theory of classes*? If so, one should view Castañeda's concretizer as something that operates directly on properties, or on conjunctions of properties, rather than on sets of properties. And one should also not really endorse consubstantiational clusters, i.e., *sets* of consubstantiated guises, if not as a convenient but ultimately eliminable way of speaking. But these issues must be left for another occasion.

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On What Is Not There. Quine, Meinong, and the Indispensability Argument

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ABSTRACT

Using the theory of definite descriptions, Russell and, following him, Quine masterfully challenged Meinong's Theory of Objects (TO). In this paper, firstly I try to show that although the Russell-Quine's interpretation of TO has been taken seriously even by many notable Neo-Meinongians and first-rate scholars, yet it is not the ultimately convincing reading of the Theory, at least not when we boil down the theory to Meinong's primary motives and his essential arguments. Moreover, I show that a form of the indispensability argument is the backbone of Meinong's theory. The argument is surprisingly akin to what Quine proposed for his realism with regard to the existence of mathematical entities. Consequently, I argue that mathematics plays an important role in Meinong's argument and hence his overall theory. I believe that in this way the debate between Meinongian and Quinean can be directed to more compromising and fruitful grounds.

1. Introduction: a Never-Ending Debate

In their review of different approaches to the existence of the fictional entities, Fontaine and Rahman (2011) took Russell and Quine to be irrealists who reacted against what Fontaine and Rahman counted as the Meinongian realism:

> From the point of view of the semantics of non-existence two standard main rivals, namely irrealists and realists, deal with the ontological features of fictions. The irrealists, mostly based on the classical tradition of Frege, Russell

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> and Quine, see fictions as pure signs. More precisely, fictions can be named or predicated away but they refer to no object of the domain. The other rival position, considers that fictions are some precise subset of the domain: fictions are entities. They subdivide in "Neo-Meinongnians" and "artifactualists". (Fontaine & Rahman, 2011, §35)

According to Fontaine and Rahman, for Meinong unreal entities such as the golden mountain and the round square have some footing in reality. Actually what Meinong said was that objects such as the round square dwell in the sphere of extra-being (*Aussersein*), and, as we will see in the following sections, he plainly declared that Theory of Objects is distinguished by its singularity of making room for the *unreal* and nonexistent objects such as the round square or the golden mountain, without any attempt to foist them as real things. Therefore I assume that Fountaine and Rahman, like many others, followed Russell and Quine in twisting Meinong's view to a rather inconsistent realism (saying that unreal objects are real). Actually Russell and Quine's reading of the case is even more radical; Meinong is accused of being guilty of contradicting himself (by saying that nonexistent things exist), and of being afflicted by an unviable sense of reality (claiming that unreal things are real, and introducing them into his logic).

But the important question is, can Meinong's Theory of Objects (hereafter TO) be defended against these charges? Boiling down Meinong's TO to its essential argument, I argue that his theory deserves to be defended in surer footing than, say, by merely claiming that it is consistent with the way of our speaking about the nonexistent things in the natural language and semantic intuitions.

While Linsky and Zalta (1995) – both known to be notable neo-Meinongians – proposed a potentially promising alternative line of defense by showing that the Platonic tenet about the existence of the abstract and mathematical objects is (via indispensability argument) consistent with the naturalistic standards of ontology, knowledge and reference (Linsky & Zalta, 1995, p. 525, 527–528), they did not talk directly about the status of Meinong's theory, and barely mentioned his views in their definition of what they called the naturalized Platonism or in their articulation of the Platonized naturalism (actually they mentioned him only once in the opening pages). I, on the other hand, shall try to show that Meinong's TO is consistent with the aforementioned naturalistic standards. I shall argue that Meinong's view about the existential status of the mathematical entities and a form of the indispensability argument are the backbone of his TO. I shall elaborate, and I begin from some platitudes.

In his 1905 works, "On Denoting" and "Review of Meinong's Theory of Objects", after a few years of hesitation, Russell finally voiced his doubts and objections about Meinong's TO. This is Russell's official account of Meinong's thought and, at the same time, the expression of his dissatisfaction with it:

> [Meinong's] theory regards any grammatically correct denoting phrase as standing for an object. Thus 'the present King of France', 'the round square', etc., are supposed to be genuine objects. It is admitted that such objects do not subsist, but nevertheless they are supposed to be objects. (Russell, 1905, p. 45)

After primarily bewitching Russell for a few years, the view fell from his favour, not only because it was a difficult view in itself, but also because it infringed the Law of (non-)Contradiction in logic. By showing that "[t]he Law of Noncontradiction was meant to apply to actuals and possibles, not to impossible objects" (Meinong GA V, p. 222; Farrell Smith, 1985, p. 312), the Meinongian could shirk this objection. But, from the Russellian point of view, even if the inherent inconsistency of the theory could be somehow amended, there are still other essential difficulties attached to the view. Russell cannot accept the Meinongian distinction between being and existence, for one thing, and he "returns again and again to the idea that anything we can think or talk about must have being (or 'Being') in some sense."(Jacquette, 2009, p. 171).[1] As Russell himself put his view in a letter to Meinong "I have always believed until now that every object must in some sense have *being*, and I find it difficult to admit unreal objects" (Russell, 1904, in Lackey, 1973, p. 16). In this way, the very distinction between existence, subsistence and extra-existence (or extra-being) was questioned by Russell.

Backing up Russell in the debate, Quine tried to make the debate short by claiming that: "The only way I know of coping with this obfuscation of issues is to give Wyman [Meinongian] the word 'exist'. I'll try not to use it again; I still have 'is'." (Quine, 1948, p. 3). But at a deeper level, this disagreement about

[1] The following explanation may be useful at this point: for Meinong, there existed existent objects, objects like chairs and pineapples; there were subsisting objects like abstract entities, numbers and geometrical shapes; and yet the objecthood of objects was deemed to be free from any bond to existence or subsistence, and hence there is the third category of pure objects. Troublesome objects like round square could shun any form of existence or subsistence, and still they could assume their objecthood (Meinong 1904, p. 82).

different uses of the term 'exist' does not need to be a crucial impediment to the Meinongian:

> At least with regard to the distinction between being and existence, then, Meinong's view is only terminologically different from the Quinean view. For the Quinean can distinguish between concrete and abstract objects, just as the Meinongian can distinguish between existing and subsisting objects. Each of them will agree that there are such objects, but the Quinean will say that the abstract objects exist as much as the concrete ones do. The Quinean and the Meinongian can agree about what has being, they just disagree about how to use the word 'exist'. (Crane, 2011, pp. 52–53)

Crane is quite right about Meinong's distinction between existence and subsistence, and Quine's reluctance to make any difference between existence of abstract and concrete objects (see Quine, 1948, p. 3 and later 1960, pp. 131 and 242). I do not think he is right, or even means, to claim that between Meinong and Quine there is an all-inclusive agreement about what has being (as I will discuss in the final section). Yet I cannot be in more agreement with Crane, if we take him to mean that the main debate between Quine and Meinong appears to be about the ontological status of the domain of the problematic objects. Among the problematic objects, I am mainly interested in the abstract (mathematical) objects, and I claim that they possess a decisive place in Meinong's ontological view as well as in Quine's. Moreover, I intend to show that Quine and Meinong more or less share the same strategy for the establishment of the ontological status of the domain of mathematical objects that they introduce to their ontological plan, although, as I will discuss in the final section, I can readily grant that they do not need to be in complete agreement about the instances of the mathematical objects whose being (or extra-being) is to be fixed. But before going to that point, I should offer a more detailed account of Quine's view about the ontological status of the nonexistent objects.

2. Quine on Pegasus

Following Russell's views in "on Denoting" (1905), Quine endeavored to get rid of the ontological commitment to the non-existent objects by analyzing away their names in terms of *definite descriptions*. As Quine taught us, the noun "Pegasus" can be transformed into a derivative predicate, and identified with the description "the thing that Pegasizes", then it can be subjected to

Russell's theory of description and its vague existential presuppositions can be cleared away (Quine, 1948, p. 8). Consequently, Quine declared that assigning existence to Pegasus is the result of being confused about the difference between naming and denoting; if "Pegasus does not exist" is meaningful, 'Pegasus' should refer to something:

> This is the old Platonic riddle of nonbeing. Nonbeing must in some sense be, otherwise what is it that there is not? ...The notion that Pegasus must be, because it would otherwise be nonsense to say even that Pegasus is not, has been seen to lead McX into an elementary confusion. (Quine, 1948, 1-2)

Quine was not the only philosopher who took this kind of Platonic confusion for Meinong's main path to TO. Even some philosophers who share some Meinongian inclinations (like Findaly, 1963; Routely, 1980; Lambert, 1983; Fine, 1984; Crane, 2011) fostered this reading and developed it (of course without avowing that there is any confusion at work here). Lambert, for example, held that:

> [Meinong] took the statements 'The round square is round' and 'The perpetuum mobile is nonexistent' to express attributions. It was quite natural for Meinong to conclude that 'the round square' and 'the perpetuum mobile' stand for objects. For how otherwise could the truth of the statements above be accounted for? (Lambert, 1983, p. 37)

At any rate, in order to avoid an inconclusive terminological debate, let us follow Crane's lead (2011) and be curious about what has being. For Quine, Pegasus does not have any share in being. In this sense, as Fontaine and Rahman remarked, Quine is an antirealist about fictional entities. He was not eager to make ontological commitment to the existence of Pegasus, because Pegasus is not to be found in space-time regions. Therefore Pegasus does not exist. "If Pegasus existed he would indeed be in space and time" (1948, p.3). Meinong would agree that Pegasus does not exist in space and time, ant yet he wants to assign some sort of extra-being (*Aussersein*) to him. For a faithful follower of Russell and Quine, however, every object must in some sense be, and the differentiation between existence, subsistence and extra-being is a mere reflection of the "obfuscation" of the different uses of the simple verb "is". The recurring terminological disagreement.

3. Quine's Indispensability Argument

There are more fruitful grounds, however, for coming to an agreement. For example, Quine can comply with the claim that *there are* things that are the referents of the terms which do not refer to anything in space and time, i.e., terms which allegedly refer to mathematical objects, numbers and sets (in this sentence I used "referring" very loosely). Therefore, for Quine, the absence of spatio-temporally located referents does not *per se* prevent things from existing. The cube root of 27 is not a spatio-temporal entity, and yet Quine shows no reservation in affirming that the cube root of 27 exists. Still there is no such thing as Pegasus because if he existed, he would have existed in space and time. But it is simply because the word "Pegasus" has spatio-temporal connotations that the absence of its spatio-temporally located referents makes such a referent nonexistent (Quine, 1948, p. 3). Therefore unlike the Meinongian twilight half entities, the cube root of 27 can quite easily be placed in Quine's ontological plan. Apparently Quine kept this view about the existence of the mathematical entities and sets during greatest part of his philosophical career. Quine's "indispensability argument", which appeared with regard to the existence of the mathematical entities, was Quine's main path to his limited mathematical realism.

As matter of fact, Quine used the indispensability argument in quite different places in his philosophy, to speak of the indispensability of the propositional attitudes and the relational statements of belief in reports of one's mental states (Quine, 1956), the indispensability of appealing to the theoretical entities in scientific practice (Quine, 1960; 1981a) and the indispensability of the mentalist predications in the explanation of human actions (Quine, 1990). His indispensability argument for realism about the existence of the mathematical entities (Quine 1960; 1976a; 1981a; 1981b) is what we are closely attending to in here.

Some handy formulation, borrowed from Colyvan (2011) may present the argument thus:

P1) we ought to have ontological commitment to all and only the entities that are indispensable to our best scientific theories;
P2) mathematical entities are indispensable to our best scientific theories;
C) we ought to have ontological commitment to mathematical entities.

A more meticulous account of Quine's position is offered by Linsky and Zalta:

> W.V. Quine suggested, however, that some abstract objects (namely, sets and those mathematical entities thought to be reducible to sets) are on a par with the theoretical entities of natural science, for our best scientific theories quantify over both. He formulated a limited and nontraditional kind of Platonism by proposing that set theory and logic are continuous with scientific theories, and that the theoretical framework as a whole is subject to empirical confirmation. (Linsky & Zalta, 1995, p. 526)

In this way Linsky & Zalta (1995, pp. 527–530) endeavored to show that some sort of indispensability argument can be used as the justification for a certain form of Platonism. Quine might be called Platonist in this limited sense, but it does not mean that Quine's mathematical ontology can be reconciled with the standard Meinongianism. The explanation is simple enough: for Quine the source of our ontological commitment to sets and certain mathematical entities is not essentially different from the source of our commitment to electrons and protons, and if there is any difference, it should not be taken to mean that 'exists' has a sense in "numbers exist" which is different from its sense in "electrons exist". Quite on the contrary, he assumed that numbers and sets exist on the equal footing with electrons and protons (Quine, 1960, p. 242).[2] Hence I think that, even when Quine saved room for abstract and mathematical entities in his ontology, he is still in disagreement with Meinong, at least at the terminological level of the use of the term 'exist'. This persistent terminological disagreement notwithstanding, I am going to highlight somewhat overlooked point about Quine and Meinong's partial agreement about the ontology of mathematical entities. Although, as we will see in the final section, more than a shred of dissidence persists even in their view, Quine and Meinong's general methods for making room for the mathematical entities in their ontologies are significantly alike: an indispensability argument with regard to the existence of the mathematical entities, is at work even in Meinong's presentation of his Theory of Objects. If I can make a satisfactory argument for this case in the following sections, then the Quinean, who believes in validity of the indispensability argument with

[2] In the footnote he remarked, though, that "but the familiar vague notion that the assumption of abstract entities is somehow a purely formal expedient, as against the more factual character of the assumption of physical objects, may still not be wholly beyond making sense of" (ibid, footnote 4).

regard to the being of some mathematical entities, would lose the ground for lingering on her dismissive behavior toward Meinong's tenet.

4. The General Organization of Knowledge and TO

Let the validity and soundness of the Quinean indispensability argument be granted, not only for the sake of the argument, but because assuming holism and naturalism, the argument *is* sound and valid. Now, assessing parts of *Theory of Objects,* I shall try to show that something very similar to the indispensability argument is at work in Meinong's presentation of his ontological proposal.

Of course it does not seem that Meinong had had any interest in adopting any naturalistic approach toward TO:

> One should be scandalized to find the objects of philosophy turning out to be a hodgepodge of leftovers from the natural sciences, unless one believed that philosophy should generally be characterized by reference to whatever the natural sciences happened to leave over. On such a view the function remaining for philosophy could hardly be called worthy. (Meinong, 1904/1960, p. 112)

And yet, although Meinong did not favor a philosophy which is taking leftovers from the scientific table, it cannot be denied that his initial motivation for construction of TO was rooted in his familiarity (I go further, in his close engagement) with scientific enterprise:

> For years – indeed for decades- my scientific endeavors have been under the influence of interests pertaining to the theory of objects without any suspicion of the true nature of these interests having occurred to me. The fact that their nature at first burst in upon me with complete autonomy in practice, and later – I could scarcely say exactly when myself- in theory, presents me with a new argument for the validity of the claims which have been made above in the name of the theory of objects. (This is clearly not a formally rigorous argument, but its force is nonetheless not to be underestimated). (Meinong, 1904/1960, p. 114)

Well, how should we read these lines? Meinong's scientific endeavors were not only his invocation for construction of the theory, but his interests in TO were practically directing his scientific endeavors, and he counted this as an argument for the validity of the theory. True, the argument is not clearly articulated. But the scientific enterprise plays more than just a provocative role in the formation of TO, and is more than the source of a vaguely formulated argument for it. The very theory has something to do with the scientific investigation about objects. To be more precise, it "concerns the proper place for the scientific investigation of the Object (*Gegenstand*) taken as such and in general" (Meinong, 1904/1960, pp. 77–78).

Of course this meager piece of evidence does not indicate that Meinong's theory could be reconciled with the mainstream naturalism. A scientific investigation of the Objects, taken as such and in general, sounds vague enough to puzzle the naturalist who used to speak about our best scientific theories (because in our best scientific theories we are seldom concerned with the objects as such and in general). But fortunately not everything that Meinong said about scientific enterprise is smeared with this esoteric and mystical color.

First of all, Meinong presents and criticizes what he took to be the standard conception of the general organization of sciences:

> [T]he organization of all knowledge into the science of nature and the science of mind (*Natur- und Geisteswissenschaft*), appearing to be an exhaustive disjunction, really takes into account only the sort of knowledge which has to do with reality (*Wirklichkeit*). (Meinong, 1904/1960, p. 81)

The question, obviously, is about the existential status of the objects of the science(s) which do(es) not deal (exclusively) with reality. There is no place for these science(s) in the general organization which takes into account only the science of nature and the science of mind. But what could those sciences be which deal with unreal objects?

Meinong's TO, as a scientific theory, a scientific investigation which goes beyond accounting for what is merely real (or factual) and deals with the question of the object as such and in general, is indeed a remarkable candidate for a science of unreal objects. But as I remarked before, this definition, if it can be taken as a definition of Meinong's lost part of the exhaustive classification of sciences at all, is more obscure and mysterious than what we need for a description or instantiation of a scientific discipline. This general definition needs to be refined, or at least, to settle the matter as simply as possible, more recognizable instances of such sciences have to be put forward. Before that the relation of TO to scientific enterprises would remain incomprehensible. Obviously, giving examples of round squares and golden mountains would barely be pertinent to this question, and a more substantive answer needs to be provided.

Now, to give a substantial turn to the course of the argument, I will show that while articulating the TO, Meinong actually proposed an instance of a science which deals with unreal objects, and thus went further than sketching a vague and general outline of a general science which has to do with the unreal. The proposed instance is indeed a clear and precise one, to the extent that it even may pass for the clearest and most precise science ever known. In my reading of TO, Meinong was genuinely concerned with the ontological status of the mathematical objects, and mathematics is his first candidate (and as far as we can see in *The Theory of Objects*, his only mentioned instance) for a theory of objects (as a specialized branch of TO). To present Meinong's view in a nutshell, it seems that taking the mathematical objects as unreal is the only way for making room for mathematics in the general classification of sciences. To see the point, let us proceed to the detailed examination of Meinong's indispensability argument in his *Theory of Objects*.

5. Meinong's Indispensability Argument

It may have occurred to the reader too, that in Meinong's report of the allegedly exhaustive classification of sciences (taking into account the science of nature vs. the science of mind), mathematics was amiss. Delimitation of the exact borders of mathematics and definition of its relation to the world of experience had always been a problem for philosophers, but it never resulted in the complete removal of mathematics from the domain of sciences. So, how is it that mathematics was missing from the above-mentioned general organization of knowledge?

Of course we may legitimately assume that the quoted phrase does not reflect Mienong's own view about the organization of sciences, and he was just reporting an unsuitable received classification that he meant to criticize (the historical accuracy of Meinong's claim is not at issue here). In introducing his own position, on the other hand, Meinong reserved a very peculiar status for mathematics, and at the same time used his views about mathematics as a foothold for boosting TO, to show that TO is inevitable for contriving a suitable place for mathematics in the organization of knowledge. A more detailed account is necessary.

There were only two classes of sciences (the natural sciences and the psychological sciences) taken into account by the members of the prejudiced party. Where does the domain of mathematics lay in this exhaustive classification? Well, the factualist, who says in his heart "there are no unreal objects", finds himself in a blighted situation with regard to the existential status of the mathematical objects: "the prejudice in favor of reality that I have repeatedly called to attention leads here to a dilemma which seems to be quite illuminating and which is, nevertheless, basically very singular…[that is,] either the Object to which cognition is directed exists in reality or it exists solely 'in my idea'" (Meinong, 1904/1960, p. 95). The mathematical objects could of course be counted to be amongst the objects of cognition, and the dilemma works perfectly accurately with regard to them. The factualist could either regard the objects of mathematics as concrete objects (existing somewhere in the actual world), or he could assign a subjective kind of existence to them. Taking it either way, adopting realism or psychologism with regard to mathematical objects, the view would be (at least in Meinong's report of the situation) so untenable that it would make the factualist to remove mathematics from the map of the scientific knowledge altogether. Mathematics, unlike the natural sciences, is an *a priori* science, and unlike what is mental, hosts mind-independent concepts and relations.

Meinong (1904/1960, p. 99), on the other hand, agreeably proclaimed that mathematics is a science in its own right, and in order to avoid the factualist's dilemma, he declared that "[M]athematics, and particularly geometry, deals with the nonreal" (1904/1960, p. 95). In other words, mathematics is a science in its own right and the mathematical objects are cognitively identifiable, but they are neither concrete nor mental objects. Hence the need for TO as a device which legitimize the sciences which deal with the unreal objects. As far as our study of *Theory of Objects* (1904) takes us, the peculiar view about the significant status of mathematical unreal objects within the general system of sciences can only be understood under the light of Meinong's proposed Theory of Objects:

> I have referred before to the fact that a suitable place for mathematics could never be found in the system of sciences. If I am not mistaken, the anomalous position of mathematics had its basis in the fact that the concept of a theory of objects had not yet been formed. Mathematics is, in its essential features, a part of the theory of objects. (Meinong, 1904/1960, p. 98)

And if I am not mistaken, saying that "a suitable place for mathematics could never be found before formation of TO", sounds like a sort of indispensability argument for TO. The argument is very simple and to the point:

P1) giving a suitable place to mathematics is indispensable to an exhaustive and viable organization of sciences;
P2) if TO had not been formed, a suitable place for mathematics could never be found in the organization of sciences;
C) therefore TO is indispensable to an exhaustive and viable organization of sciences and saving mathematics a suitable room therein.

Of course we want to have a viable organization of sciences. Mathematics is indispensable to our scientific endeavors. Meinong took this for granted, but a *first-order*[3] *indispensability argument* would not be unwelcomed in settling the matter. After that it can be claimed mathematics is obviously an autonomous and significant scientific discipline, and it should have a suitable place in this organization. And for that propose TO is indispensable. This makes the argument *a second-order indispensability argument*, because the indispensability of the unreal objects of mathematics in scientific endeavors has been taken for granted in the first place (through what I called the first-order indispensability argument). As I said, Meinong did not give any account of why mathematics should be given a suitable place within the organization of sciences, he simply took it for granted, and constructing upon that foundation he used this higher-order indispensability argument to claim that TO is indispensable to a viable organization of knowledge.

That much being said, I should confess that Meinong was not in any way scrupulous about giving a detailed account of the relation between mathematics and TO. Although he clearly held that TO supposed to take after mathematics in acquiring the highest standards of scientific precision, but the unique role of mathematics in the construction of TO must not obscure the fact that TO is more than mathematics, and as a whole has its own justifications. TO includes mathematics as a special branch (Meinong, 1904/1960, p. 99). Meinong's explanation about this relation emerged as somewhat general hints about the relation of a not yet totally articulated theory to its particular instance.[4]

[3] The first-order indispensability argument, is an argument which is primarily aimed at proving that the mathematical entities are indispensable to our best scientific theories. In my view, Meinong presuppose this argument to show that if mathematics is indispensable to our best scientific theories, TO is indispensable in saving a room for mathematics in the general organization of knowledge.
[4] I shall remark that Metaphysics (along mathematics) had also been mentioned as an ingredient in the modeling of the theory of objects (for example in *Selbstdarstellung*, part II, section B), but TO is also more than metaphysics which strives to encompass the totality of all reality, because TO also includes the unreal in its sphere.

Be that as it may, we can reasonably assume that when it comes to presenting a positive and convincing argument for the plausibility of TO, this second-order indispensability argument seems to be the most suitable candidate for what is really at stake. In other words, we can rest assured that it is a more suitable – and in the book *The Theory of Objects,* a more underpinned – candidate than the vague semantic platonic intuition which has been the cynosure of the attention of both critics and advocates for nearly more than a century. And it is not only in the 1904 book that the point is underpinned. The point about the relation between the origins of TO and the necessity of finding a place for mathematics in the organization of knowledge emphasized by Meinong once more, years after the cultivation of his theory, through praising K. Zindler's *Beiträge zur Theorie der mathematischen Erkenntnis* as the only monograph which underlines the point that the concept of TO emerged in answer to some needs which were essentially of mathematical origins (*Selbstdarstellung*, GA VII, p. 54).[5]

Mathematics, as the articulated scientific branch is not only much clearer than the vaguely sketched general Theory of Objects, but, as I said before, it happens to be the only conspicuous instance singled out by Meinong among the other possible specialized branches which constitute the general theory:

> It is clear that mathematics, insofar as it is a specialized theory of objects, could be accompanied by still other specialized theories of Objects, their number scarcely to be determined. However, these areas are at present so incompletely known to us that in studying them there is not yet any need to specialize. (Meinong, 1904/1960, p. 111)

But being masked and incompletely known does not prevent other specialized branches of TO from endeavoring to reach out toward the antitype of exactness and preciseness, or in other words, to become "*more mathematico*" (Meinong, 1904/1960, p. 101).

[5] Referring to the work of his former pupil K. Zindler, Meinong said that: "K. Zindler ... hat in seinen scharfsinnigen "*Beiträge zur Theorie der mathematischen Erkenntnis*" (Wien 1889) wohl die einzige Monographie über apriorisches Erkennen geliefert, die einen Einblick in die nächsten Bedürfnisse gestattet, aus denen die Konzeption der Gegensttandstheorie hervorgegangen ist." (GA VII, p. 54)

6. Some Afterthoughts[6]

To my scholarly shame, I am to admit that I still do not know what TO is. I do not know whether it could be finally exhausted in terms of specialized theories of objects or not any more than I know whether these specialized theories of objects, swimming fishily between being and not being, are anything like the sciences of physics, chemistry, biology etc., or not. I was interested, however, in showing that Meinong's most significant and constructive argument for the plausibility of TO emerged in terms of an indispensability argument which maintains that without the formation of TO a suitable place for mathematics cannot be found within the organization of sciences, and the most immediate needs for construction of the theory are of mathematical origins. In spite of its vague points, the argument is unmistakably akin to Quine's indispensability argument with regard to the existence of the mathematical entities; and mathematics, as the only known instance of TO (i.e., as the only recognized specialized branch of it and the antitype of other yet incomplete branches) has a very significant role in Meinong's theory and his argument for its plausibility.

As I hinted before, some points of disagreement about the being of some of the mathematical entities persist; Meinong and Quine both agree that there is the cube root of 27, but when it comes to more controversial examples, like the highest prime number (which according to Euler's analytical proof cannot exist, and is not among the mathematical notions in use by the natural scientists), there is a division of the opinions. Quine, who refuses to accept that such a non-existent twilight half-entity "is", would claim that there is simply the non-denoting description "the highest prime number". Meinong, on the other hand, would consent to the extra-existence of the highest prime number residing in the limbo of pure objects, and lets the number find its way to the first and second-order indispensability arguments respectively. However, Quine and Meinong's disagreement about the span of the ontological sphere of mathematical entities, does not contradict the claim that they both are deeply concerned about the ontological status of mathematical entities, nor has it any damaging bearing on my claim about the role of what I formulated as Meinong's second-order indispensability argument in the construction of TO. The necessity of giving to mathematics a suitable place within the organization

[6] In this section, I present some important points, an objection and its answer included, which were too singular to be placed within the context of the discussion in the previous sections, and too significant to be treated lightly in the footnotes or an appendix.

of sciences lies at the core of the argument, and while the first-order indispensability argument is presupposed in the presentation of the second-order version, the argument is free from any commitment to the *specific* kinds and instances of the mathematical entities which are disposed at the ontological plan. "Which mathematical entities?" is still an important question, but I endeavored to show that the quest for finding the answer can be pursued independently of the terminological ado. Here is the final explanation.

To follow Crane's lead still further, and to avoid the futile feud about different uses of the term "exist", I am willing to see the question of "which mathematical objects?" in terms of an expert disagreement about delimitation of the exact borders of the realm of mathematical entities. Here, instead of being involved in the web of controversial existential questions, we can maintain that the primary problem is a framework problem: Why, for Quine, the borders of the realm should be defined in this foundational way? Why should the prestigious role of the foundational system of mathematics be granted to the first-order set theory, instead of alternative theories which assumed to be more general and less restrictive, say, the category theory, topos theory, or second-order logic? Why should the privilege of being lodged in the domain of the legitimate mathematical objects be bestowed to the commonplace set-members which are directly exploited by the natural scientists, and be denied to their other higher-order relatives who, in spite of being the legitimate members of the same family, are too proud to be fondled by the experts of the more down-to-earth branches of sciences. These are all questions that can be used to challenge the Quinean's biased point of view, without confusing her about the different uses of the word 'exist'. The Quinean may insist that any further existential commitments, beyond what we make to existence of first-order sets, is unreasonable, and engagement in the second-order logic or anything of that kind is simply doing set theory with misleading notation, but the Meinongian does not need to leave the ground to the Quinean without any further argument, especially as she (the Meinongian) has the upper hand when it comes to the criteria of parsimony and comprehensiveness of the ontological system.

Even after seeing the affinity between Meinong and Quine's methods of philosophizing under the light that we shed to the field, the naturalist can still stay untouched by this line of argument for the plausibility of TO. Having a suitable place within the general organization of knowledge may not mean much to the naturalist, because she may not take any interest in the general organization of knowledge, or in anything that goes further than the local and particular interests of expert scientists who work in the hedged areas on minute problems of their fields. For such naturalist the scope of philosophy would not go any further than the bulks of the leftovers from the scientists' table. I believe, however, that in spite of his strictness in examining arguments and point of views, and in spite of his urge for staying away from traditional epistemology, Quine, as the naturalist who represents the trend in this paper, was very eager about delimitation of the general structure of knowledge in his philosophy.[7] Moreover, the second-order indispensability argument for TO could very well be a consequence of the first-order indispensability argument: if mathematics and its objects are indispensable to our scientific enterprises, mathematics should occupy a suitable place within the general organization of sciences as well.

This would lead to a rather noteworthy conclusion in the area of the Meinong studies. It may urge the Quinean to go for a straightforward consent to TO, but after establishment of this amount of affinity between Meinong's TO and Quine's ontology of mathematics, the debate between the advocates of these two philosophers could be wrapped up in more fruitful terms. Instead of arguing about the different uses of the term 'exist', or even instead of being involved in discussions about the viability of Meinong's semantical intuition about the being or extra-being of "round square" and "golden mountain" (which to me seem as introductory examples for presenting the theory to the unprepared audience), the debate could be directed toward the Meinongian stance with regard to existence (or rather non-existence) of mathematical entities, and the role of TO in establishment of that stance. Whether this move would lead to the stanching of the feud and the final perpetuation of amity between the Meinongian and the Quinean, is something that remains to be seen.

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[7] Look at his *Word and Object* (1960), *Ontological Relativity and Other Essays*, (1969), *Whither Physical Objects?* (1976b), and some of his other major works

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About Nothing

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ABSTRACT

The possibilities are explored of considering nothing as the intended object of thoughts that are literally about the concept of nothing(ness) first, and thereby of nothing(ness). Nothing(ness), on the proposed analysis, turns out to be nothing other than the property of being an intendable object. There are propositions that look to be both true and to be about nothing in the sense of being about the concept and ultimate intended object of what is here formally defined and designated as N-nothing(ness). We have been thinking about it already in reading and understanding the meaning of this abstract. Nothing nothings, we shall assert in all seriousness and with a definite formally definable literal meaning. The concept of N-nothing(ness) in that sense is a concept with identity conditions like that of any entity, the difference being that the concept of N-nothing(ness) is a nonentity and nonexistent intended object.

> "Here Mrs Mac Stinger paused, and drawing herself up, and inflating her bosom with a long breath, said, in allusion to the victim, 'My usband, Cap'en Cuttle!'
> "The abject Bunsby looked neither to the right nor to the left, nor at his bride, nor at his friend, but straight before him at nothing."
>
> Charles Dickens, *Dealings With the Firm of Dombey and Son, Wholesale, Retail and for Exportation* (1848), Chapter LX, *Chiefly Matrimonial*, p. 923.

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1. Intentionality

If the logical form of established grammatical usage is any key to understanding the intended objects of thought and language, then, nonparadoxically, *nothing* is *something* a thought can be *about*. A thinking subject can think about nothing or nothingness as an intended object, and in so doing make nothing(ness), an intended object of exactly those thoughts.

Thinking about nothing in this sense is very different from not thinking at all. If I am thinking about nothing, then I am thinking rather than not thinking. If I receive the answer 'Nothing' to the obtuse question, 'What will I think about when I am dead?', then the intention should not be understood to say that after I am dead I will contemplate the concept of nothing(ness), but rather that I will then have ceased to exist, and will not be engaged in thinking or any other activity of any kind, even if my body should happen to persist for a certain time thereafter.[1]

Thinking of nothing in the negative sense of simply not thinking is very different from the positive sense of actually thinking in real time about nothing or about the concept of nothing or nothingness. It is also very different from thinking about nothing as the absence of some particular thing or kind of thing. If I reflect on there existing nothing in my bank account, this is not to encounter nothing or the concept of nothing or nothingness as an intended object of thought. Although, again, thinking about the fact that there is nothing in my bank account is manifestly different than not thinking about my bank account, or not thinking about anything in particular, or in the extreme case not thinking at all, as when I am cognitively disabled. Such predications can be handled by means of negative existentials in classical predicate-quantificational semantics, as asserting, $\neg\exists x\forall y[Money(x) \wedge My\text{-}Bank\text{-}Account(y) \wedge In(x,y)]$. This is not to think or speak of *nothing(ness)*. No such predicate appears. Rather, the intended object is my bank account, of which is predicated the lamentable property of not containing any money. Many cases can be similarly handled, but importantly not all facts involving a subject thinking about nothing or the concept of nothing or nothingness can be analyzed away by means of negative existentials.[2]

[1] See Epicurus (1964, § 3). See also Wittgenstein (1922, 6.431–6.4311; 6.4311):«*Der Tod ist kein Ereignis des Lebens. Den Tod erlebt man nicht*».

[2] Quinean paraphrastic analysis techniques are imagined to eliminate ostensible references to *N*-nothing(ness) as something positive, an intendable object in its own right, in favor of negative

2. Intentionality in Thinking About Nothing(ness)

To think *of* nothing, in one of its obvious but philosophically less interesting meanings, is, equally, then, either not to think, or to think, but about nothing in particular or nothing of moment, or perhaps nothing that can even almost immediately afterward be recalled, or that the thinker is willing to share.

What, then, does 'nothing' mean in speaking of 'nothing in particular', as the right answer to certain questions, if there is no available particular predicate 'F' of which reductively truthfully to say, $\neg\exists xFx$? Or is ostensibly speaking of 'nothing' or 'nothing in particular' a mere turn of phrase that should be eliminated from logically more circumspect expression by virtue of a kind of formal reduction of 'nothing' or 'nothing in particular' to the nonexistence of a particular kind of something (F)? What form could such an eliminative reduction of putative reference to nothing in particular to the nonexistence of something in particular be expected to take? Where does property 'F' come from all of a sudden? Are we meant in that case to interpret 'F' as a predicate variable to be instantiated in principle by any otherwise appropriate property, rather than a particular property? Even if we look at things in the most generous way, we appear committed in an extensionalist semantics to the implication that thinking of nothing or nothingness can only be understood as not thinking about something in particular, and not about nothing or nothingness.

The alternative considered in the discussion to follow is to make nothing or nothingness N (hereafter, abbreviating N-nothing(ness)) the specific intended object of certain thoughts, the force and content of which are not paraphrastically eliminated without loss of vital meaning by negative existential predications to properties other than N. Then we can say pleasantly that a thought is about nothing or nothingness, as in the case of thinking literally about nothing in particular, or thinking about what Jean-Paul Sartre in his (1943) existential phenomenological treatise, *Being and Nothingness* (*L'Être et le Néant: Essai d'ontologie phénoménologique*), means by his concept of

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existentials. The idea would be that instead of saying that we are thinking about N-nothing(ness), there is instead nothing of a certain description or answering to a certain distinguishing constitutive property or set of constitutive properties of which we are thinking. Similar applications are piloted for different purposes by W.V.O. Quine, especially in Quine (1951, pp. 20–46). See Pagin (2003, pp. 171–197).

nothingness (*néant*), wondering why there is something rather than nothing, and countless other applications referring to N, from the most seriously intended to Dickens's observation of the nuptially victimized Bunsby, possibly meant only figuratively as literary devices for purposes of exaggeration (Sartre, 1943), (Dickens, 1848).

What about Dickens's bamboozled Bunsby? Can a person literally look at nothing, or is this rhetorical excess? What is there to look at? Or is the point supposed to be that where he once thought he had a future to enter there is now nothing or nothing in particular to expect, the nonexistence of anything good, rewarding or personally satisfying to him, which has disappeared with the shrinking of his personhood in the recent unhappily wedded state into which he has been psychologically but otherwise in his judgment unaccountably bullied? Maybe something like that. Bunsby seeing no future or anything immediately around him could equally be eliminatively reductively expressed as, $\neg\exists x Can(Sbx)$. After all, it is not as though Bunsby can (*Can*) literally see nothing or nothingness, N, $\exists x[Nx \wedge Can(Sbx)]$, as a naïve reading of Dickens's comic description might suggest. There is in that case supposedly nothing there to see. How then is it conceivable to think about nothing or nothingness in the abstract as a concept arrived at through a chain of reasoning rather than by reflecting later on any once occurrent moments of perception?

Bunsby also cannot see anything if he is blind, but this would be a markedly different situation than Dickens describes. Bunsby is not blind, but comically going through some kind of cognitive shock, an externalized denial of unbearable facts, and he is paralyzed by the enormity of his plight and its immediate realization, to the point of experiencing a kind of sensory stupor. While his senses may be functioning properly neurophysiologically in and of themselves, there remains a neurological disconnection between their information intake and Bunsby's state of awareness, as his consciousness at least temporary suffers a kind of disintegration. From this standpoint, poor Bunsby, as Dickens explains his condition, is hopelessly enveloped in, and, metaphorically speaking, can only perceive, the nothing, the miserable nothingness before him in the wedded state he has just unaccountably entered. The future in particular has become an impenetrable void, and there is nothing positive there for him to discern even when he now as before tries to let hope run wild. Everything is instead a terrible alien blank from which all former value such as it was has been suddenly and mystifyingly leached. It has somehow come to pass that he has tied the knot with Mrs. Mac Stinger, and he is numb with bewilderment and disbelief as to how it all occurred and what the dreary path must hold that now lies inescapably before him. Accordingly, in Dickens's image, he sees *nothing*.

This is still not yet to think or speak of nothing or nothingness as an intended object of thought, but instead only to signal that a thought or string of thoughts does not have an intended object capable of being designated or worth mentioning. Compare the teenager's answer 'Nothing.' to a parent's question, 'What did you do in school today?' Or to the potentially more urgent: 'What is wrong, dear?' Or the merely curious: 'What did you bring me from Hokkaido?' 'What are you holding in your hand?' 'What are you going to do with that letter?' We shall need to say something more positive about *N* if we are going to make a plausible argument about *N*-nothing(ness) as a semantically peculiar intendable object of thought.

3. Intentionality and a Strong Intentionality Thesis

To proceed, we consider next the logical implications of a strong Intentionality Thesis (IT):

> (IT) INTENTIONALITY THESIS:
> Every thought intends a first-person (internal to the thoughts of the thinking subject) transparently ostensible object, directly transcribable from the grammatical structure of the thought's linguistic expression as what the thought is about.

If (IT) is true, then the proposition that we can think about nothing in the sense of entertaining a thought that fails to intend any object by implication is false. We can therefore concentrate, for purposes of the present inquiry on the remaining alternative that if Intentionality Thesis (IT) is true, then we can think about nothing in the sense of entertaining a thought that is about an appropriate concept of nothing or nothingness, to be designated by a limiting-case predicate *N*, like zero or the null set, representing more generally in semantics the property *N* of being or having *N*-nothing(ness).[3]

[3] The widely discussed topic of intentionality in an extensive collateral literature is associated in the late nineteenth century with the philosophy of Franz Brentano, (Brentano, 1874, p. 115). See Jacquette (2004). An independent ahistorical revival of intentionality theory is offered by Searle (1983). The priority of the intentionality of thought over language or of language over thought is discussed by Brentano scholar and intentionality champion Roderick M. Chisholm with Wilfrid Sellars (Chisholm & Sellars, 1958). Battlelines dividing mind-body reductive physicalism from proponents of

When the above interpretations and eliminative paraphrases are exhausted, we are encouraged to consider the possibility that we might be able to think about *N* as an unusual but still intendable object in every other respect like any other. If we do consider such thoughts as intending nothing or nothingness, then *N* is an intendable object of thought like any other, and is at the same time pure intendability. To think about *N*, about nothing or nothingness on the proposed interpretation, is univocally to intend a specific intended object, and in that instance and in that technical sense to think about something, in this instance, in particular, namely, nothing or nothingness. It is to do so, even though that 'something' which is thought about is precisely nothing and logically and conceptually, moreover, cannot possibly exist.[4]

If this way of thinking makes sense, or can be made at slight cost to make sense, as we are encouraged intuitively to hope, then we shall need a way of referring to nothing as opposed to referring to something in particular that does not exist. The individual nonexistents might be collected under a universal generalization, as the nonexistent *F*'s, *G*'s, etc., all the individual possible nonexistences of this and that intended object, unicorns and centaurs, finally amounting in extensional union to all and only nothing or to nothingness. It would then further follow the further tolerable consequence that only existent entities *are* something, permissible intended objects of

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the conceptually irreducible intentionality of thought are already drawn by Chisholm's dilemma for reductive explanations of psychological phenomena in Chisholm (1957). Chisholm's dilemma is that in order to avoid conspicuous explanatory inadequacy a purported reduction must ultimately depend in general terms upon an ineliminable concept of intentionality, and on astronomical numbers of distinct individual intentionalities as abstract relations between thoughts and symbols for thoughts and their intended objects, existent and nonexistent, or considered in an ontically neutral or agnostic way. The challenge is for any reductivist to explain or explain away the intentionality of thought in the events of consciousness without appeal to any intentional concepts. For all its argumentive force, it is genteelly left as an open question whether the concept of intentionality can be eliminated or reduced away from future more rigorous scientific explanations of adequately described psychological occurrences. An extraordinarily heavy burden of proof in the process has nevertheless unmistakably been shifted to the reductivist side to explain if the intentionality of thought by which references to intended objects and decisions to act to bring about intended states of affairs are explained away exclusively in terms of purely non- or extra-intentional concepts. We intentionalists continue to wait for what is repeatedly trumpeted as the future direction of reductive scientific psychology to replace so-called 'folk' psychology, apparently as an article of faith based on deeper but unsupported metaphysical commitments, of which no sign has so far been seen in the marketplace of ideas.

[4] For a more extensive bibliography and satellite essays on intensional logics and Meinongian object theory semantics, see Jacquette (1996; 2009a; 2009b).

thought, ultimately anything of which we can think or to which we can truly or falsely predicate properties. None of this so far provides a concept of nothing or nothingness, which would be a matter entirely of its properties, the existence or nonexistence of which in turn should not be prejudged.

If thoughts generally intend objects, and if some thoughts are ostensibly about nothing(ness), what is it then to think about nothing, about nothingness? We do so, one might venture, whenever we consider even low-level but still philosophical questions about certain aspects of the nature and limits of thought. If we so much as ask, 'Can we think about *N*-nothing(ness)?', then we have already made nothing(ness) an intended object of that particular thought. Even if we say that the thought intended nothing, as long as we are wondering anything about it, such as whether or not it bears the converse intentional property of being capable of being thought about, and therefore in considering the solution to the question, or what it means and whether or not it is true, is to be thinking about *N*-nothing(ness).

Quantifiers, universal or existential, affirmed or negated, make no difference in understanding the semantics of thoughts that ostensibly intend nothing or nothingness, just as by grammatical parity they might intend round or roundness as objects of thought. We must accordingly confront nothing and nothingness as intended objects of some logically possible thoughts that are arguably often instantiated even in everyday thought and its expression. Anyone with a normally matured cognitive and linguistic capability is potentially able to think about the concept of nothing or nothingness, and so about nothing or nothingness as intended objects of certain thoughts. See Jacquette (2011; 2013).

4. Advantageous Semantic Resources of Intensional Logic

If we limit ourselves to classical symbolic logic with an extensionally interpreted semantics, then we cannot correctly interpret, 'Jean-Paul Sartre (*s*) proposes an existentialist phenomenological ontology (*P*) of nothingness (*N*)' purely in terms of the existential quantifier, as the formula:

$$\exists x[Ps(Nx)]$$

For this construction extensionally implies $\exists x[Nx]$, which is formally to say that nothing or nothingness exists. It cannot be that easy, or that logically, semantically, and especially ontically hazardous, to explicate the meaning conditions of thoughts and their expressions ostensibly about nothing. Whether or not nothing or nothingness is potentially an intended object of thought, we do not want to be cornered into admitting that nothing, by virtue of supporting certain true or false predications, is an *existent* object in a classical extensional referential semantic domain. Such conflicting expectations might properly lead us from the familiar constraints of classical extensionalist logic to something more intentionalist and semantically intensionalist, and hence an ontically neutral logic in its full range of true predications and 'existential' quantifications.[5]

Nor do the problems of using only standardly understood quantifiers to express thinking about nothing or nothingness as an intended object end here. If we introduce a qualitative predicate 'T' for 'thought' and a relational predicate 'I' for 'intending' ('being about') something, then in classical extensional logic we cannot correctly symbolize thinking about nothing or nothingness as:

$$\exists x \neg \exists y [Tx \wedge Ixy]$$

This is unacceptable, because it states that there exists a thought that is not about anything and intends no existing, intended object. This places the symbolization immediately outside the present investigation, by flatly contradicting (IT). (IT) might finally be false and destined for the scrap heap, but to show this will take more work than merely formalizing the proposition that there exists a thought that is not about any, and as such intends no existing object.

The reasons are: (1) The fact that nothing or nothingness is not an existing intended object is not yet enough to single out the specific intended object of thoughts about nothing or nothingness. (2) Proponents often admit and even celebrate the supposed fact that (IT) implies that some thoughts are about or intend nonexistent objects. (3) Merely to advance the above sentence blatantly begs the question against (IT), and as such cannot be construed as implying anything more than a standoff with the intentionality thesis, a collision of opposing slogans. (IT), which can be formalized as $\forall x \exists y [Tx \rightarrow Ixy]$, is true in that case iff $\exists x \neg \exists y [Tx \wedge Ixy]$ is false, without providing an independent reason for supposing that $\exists x \neg \exists y [Tx \wedge Ixy]$ in particular, rather than (IT), is true. Nor

[5] The backwards ∃ of 'existential' quantifier, contrary to the conventions of extensional logic, has no existential or ontic import in a Meinongian intensional semantics. See Parsons (1980, pp. 69–70), Routley (1981, p. 174). Further discussion in Fine (1982; 1984).

can we express the proposition that the dead think of nothing in the negative existential quantifier rather than intentional sense, if we assume that the dead have no thoughts: $\forall x[Dx \rightarrow \neg\exists y \neg\exists z[Ty \wedge Thinks(x,y) \wedge Iyz]]$. This latter proposition is true on the reasonable intrinsically intuitively plausible assumption that the dead do not think at all. The truth, if such it is, nevertheless does not unlock any secrets or encode any insights concerning the logical structure of living thoughts that are about nothing(ness) as an intended object.

A thinker thinks about N as an intended object in reflecting, for example, on whether there might have been nothing or nothingness, rather than something physical, material, dynamic, or spatiotemporal existing in the world. N-nothing(ness), as such, is never more than an intended object of thought, since it is, after all, literally nothing. It would appear that nothing prevents us from thinking about nothing, just as we may think about other things of abstract philosophical or mathematical interest. Nothing in the general semantic conceptual and ontic economy on such a conception is like zero and the null set in arithmetic and set theory (Kaplan, 2000).[6]

When we think and speak ostensibly about nothing and nothingness, we relate ourselves in thought to a curious assortment of intended objects, of things that we are free to think about. Hence, as we have emphasized, there is a sharp, formally representable logical, semantic, and ontic difference between a thought being about nothing or nothingness, as opposed to not being about anything. The intentionality of thinking about nothing(ness) is reflected in the intensionality of corresponding constructions for which classical quantifier duality is denied on the strength of (IT), proceeding from the above problematic logical formalization:

$$\exists x \neg\exists y[Tx \wedge Ixy] \leftrightarrow \exists x \forall y[Tx \rightarrow \neg Ixy]$$

Even if we are inclined to accept the proposition on the left of the equivalence, that a thought can be about something nonexistent, as compatible with (IT), there is no doubt that the formula on the right, that there exists a thought that is not about anything, logically contradicts (IT). If, indeed, we accept (IT), even if only for the sake of argument, then we have examples of

[6] Among other useful sources on the history and role of the null set in contemporary set theory, see Conway & Guy (1996), Mendelson (1997), and Tiles (2012).

thoughts that are about nothing or nothingness as an intended object ready to hand:

(T1): This thought (T1) is about nothing(ness).
(T2): Some other thought (TN ($\neq$ T2)) is about nothing(ness).

Neither (T1) nor (T2) need be true in order to harvest thoughts about nothing or nothingness as an intended object in applications of (IT). All we need referentially, and hence for inclusion in the logic's semantic domain, is a thinking subject having entertained the thought that a thought could be about *N*, in order to establish that in some sense thought can intend *N*.

What we need, then, in light of the abject failure of classical quantifier logic to express the possibility that a thought might be about nothing or nothingness as an intended object, is a special predicate. The symbolic predicate '*N*' for being or having constitutive property *N*-nothing(ness) further enables us to say:

$\exists x \exists y[Tx \wedge Ny \wedge Ixy]$

This elegant little formula may have much to recommend it, if only we can make sense of the deductively valid implication that:

$\exists x[Nx]$

Classically, this asserts that there *is* something that has the property of being or instantiating property *N*. Extensional semantics for the predicate '*N*' allow it no favoritism, but also require that there *exist* something that has the property of being *N*. So quickly and effortlessly do individually reasonable assumptions reach a logical impasse. What are logic and the commonsense interpretation of meaning supposed to conclude about the apparent reference of thought and language to nothing or nothingness which we have designated as *N*? What could it mean to think about and in other ways derivatively to intend and hence to refer to nothing or nothingness)? If '*N*' is a predicate, then what is its extension? It cannot be intensionally identified by virtue of its null extension alone, for it is not the only null extension predicate, as witness 'unicorn', 'centaur' and 'flying horse', 'the gods', 'phlogiston', 'vortices', 'ideal lever', 'ideal fulcrum', 'ideal gas', 'projectile moving without impressed forces', and uncounted others.[7]

[7] I offer a detailed critique of the prospects of intensional logic in view of the failure of purely extensional systems in Jacquette (2010, especially pp. 22–140).

5. Intentionality and Intensional Logic

If we can think about nothing(ness) as an intended object, as might be argued both on linguistic and phenomenological grounds we are able to do, then, as previously observed, we shall require a predicate '*N*' for the concept. The only way we can restore classical quantifier duality compatibly with (IT), is by adopting an ontically neutral interpretation of the quantifiers, as in a free logic, but also by allowing nonexistent objects into a referential domain that subsumes but exceeds the logic's ontology. For this purpose, we shall require an intensional object theory predicate logic applied by means of a referential domain that far outstrips its ontology.

The idea of there being an intension for predicate '*N*', the property of being nothing(ness), is not yet an occasion to rejoice. Can we reconcile ourselves to speaking of the set of all nothings or nothingnesses? The dilemma is that either predicate '*N*' is instantiated by an intended object in the referential semantic domain of ontology + extraontology, or not. If it is, then there *is*, in at least a referential ontically neutral sense, *something* that is or has the property of being nothing or nothingness. If not, then there is nothing to which thought can refer, so that it becomes impossible on the assumption after all to think about or otherwise intend nothing(ness), contrary to (IT).

To say that nothing belongs to the intension of predicate '*N*', $\neg\exists x[Nx]$, in effect, that nothing Nothings, in the ontically neutral quantifier logic, prevents thought even from taking nothing(ness) as an intended object of such intensional states and propositional attitudes as that of doubt, imagination, consideration, wonder, inference, comparison, and a host of others. If we are to make sense of the proposal that we can think about nothing or nothingness, even so thinly as when we doubt that nothing or nothingness can logically be an intended object of thought, then we must be prepared to accept as true the proposition that:

$$\exists x[Nx \wedge \neg E!x]$$

Evidently, however, we cannot go so far as to assert the following reductive analysis of the *N* predicate by means of the material equivalence:

$$\forall x[Nx \leftrightarrow \neg E!x]$$

If an intended object in the referential semantic domain of existents and nonexistents is *N*, then it does not exist. However, the converse is not intuitively true, if, as it seems correct to say, if something does not exist, then it is nothing. If unicorns do not exist and flying horses do not exist, it does not follow deductively that unicorns having the constitutive property N = flying horses having the property N).

We cannot validly draw generalizations concerning the concept of N, if, like Sartre, we are interested in the phenomenology of nothingness, by considering specifically the unexemplified concepts of being a unicorn and being a flying horse. On the proposed object theory explanation of property N, Sartre can only be making things up to say about the concept of nothingness, for there is no nature, essence, or analysis to be given of N, beyond the thinnest of identity conditions required for N to be an intendable object of thought, as self-identical, identical to N. This is not to prevent Sartre from saying many interesting things especially in his phenomenology of nothingness about the nature and essence of those thinkers who intend N. There is nothing at all to say about N as the intended object of any such thoughts, but much to say about the thoughts and thinkers themselves, which is what Sartre on reflection seems to offer.

6. Analysis of Intendable N-Nothing(ness)

Not everything that fails to exist is nothing or nothingness. A golden mountain ≠ nothing(ness), on plausible intensional identity conditions for nonexistent objects, simply because there exists no golden mountain. Phenomenologically, it is also one thing to think of a golden mountain, and quite another to think of N-nothing(ness). Nevertheless, it seems true that:

$$\forall x[Nx \rightarrow \neg E!x] \wedge \neg\forall x[\neg E!x \rightarrow Nx]$$

We make progress by defining the constitutive property N in meta-predicate or metalogical terms in a second-order logic as the metalogical property of not existing and having only whatever extra-ontic (constitutive) properties are properties of every possibly intended (existent or nonexistent) object of thought in the logic's expanded referential semantic domain.[8]

[8] On the grounds for distinguishing constitutive (nuclear) from extra-constitutive (extranuclear) properties in Jacquette (1996, pp. 114–116), N-nothing(ness) must be constitutive rather than extra-constitutive, because it is freely assumable as defining an intendable object and because the externally negated proposition that an object has N-nothing(ness), $\neg Na$, is intuitively not logically equivalent to the object having the complement of the property of being or having N-nothing(ness) in non-N-nothing(ness) or non-Na. Although thought is free to intend that an object a of which it is true that Na

The definition is given by this material equivalence:

N-Nothing(ness) as a Nonexistent Intended Object (and Nothing More)
$\forall x[Nx \leftrightarrow [\neg E!x \wedge \forall y,\varphi[\varphi x \rightarrow \varphi y]]]$

The concept of *N* can therefore also be defined as the property of being intendable (positive) and having no constitutive properties and consequently nonexistent (negative). However, it is not derivable as such from the immediately preceding biconditional defining *N* as a nonexistent intended object and nothing more. We must therefore assert as a distinct and logically independent theorem of the logic of *N* the unavoidably circular proposition, and consequently unacceptable as a definition of the concept of *N*, that:

N-Nothing(ness) as the Possession of No Other Constitutive Property
$\forall x[Nx \leftrightarrow \neg\exists\varphi[\varphi \neq N \wedge \varphi x]]$

We speak in what follows of nothing and nothingness or *N* without further qualification when we mean to refer to the concept as it appears in general discourse, and as *N* in designating more specifically the concept of *N* more exactly defined above. The concept of *N* is thereby made equivalent to a nonexistent intendable object that has no substantive or extra-ontic constitutive properties that are not also properties of any and every intendable existent or nonexistent object (Mally, 1914; Jacquette, 1996, pp. 70–79).

N is the total absence of whatever properties are beyond those minimally required of objects generally to be intendable objects at all, but that do not include being intendable or an object as themselves constitutive. These are not constitutive but extra-constitutive properties, and it is by virtue of sharing only these and no constitutive properties that the constitutive property *N* is singled out intensionally from all other properties. The point is that as an intendable

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has the complement property of being or having non-*N*-nothing(ness). In that case, it is true of nonexistent object *a* by free assumption that both $Na \wedge$ non-Na, but it does not follow logically that therefore an impossible object *a* does not have the property of being *N*-nothing(ness) or that $\neg Na$, which would result not merely in an impossible intendable object, but in an outright logical syntactical contradiction, $Na \wedge \neg Na$. The logic recoils at such a conclusion, because we do not expect contradictions to be validly deducible from the true proposition that *Na* and that a thinker freely intends that the said intendable impossible object *a* has the complement predication, non-*Na*. There is a line to be drawn in intensional logic between the comprehension of impossible intendable objects and the suggestion that logical contradictions are forthcoming from true and otherwise unproblematic assumptions.

object, N has only what it needs in order to be an intended object, and absolutely *nothing* more. If every intendable object has at least one constitutive property, and if being intendable as an object is not a constitutive property, then there must still be at least one constitutive property that every intendable object has in its possession, by virtue of which it can logically be identified and distinguished from every other intendable object.

We can say that N has along with every other intended object the extra-constitutive property of being intendable, and, what amounts to the same thing, the extra-constitutive property of being an object. What makes the property of being intendable extra-constitutive, is that we cannot freely posit a nonexistent intendable object that is non-intendable, or such that it is not intendable. It is impossible for an object not to have the extra-constitutive property of being non-intendable or of not being intendable. The reasoning has this elementary logical structure:

Argument for Preserving Universal Intendable Objecthood and Possession of at Least One Constitutive Property by Every Intendable Object, Hypothetically Including N = N-Nothing(ness)

$\forall x[Nx \rightarrow O!x]$
$\forall x[O!x \rightarrow \exists\varphi[\varphi x]]$
$\forall x[Nx \rightarrow \exists\varphi[\varphi x]]$

As a consequence, constitutive property N poses no possible counterexample threat to the universal constitutive propertyhood of every intendable object of thought. Nor on the same grounds does constitutive property N logically challenge the universal referential domain comprehension principle instantiated relevantly here for constitutive property N in the first assumption of the inference formalized as $\forall x[Nx \rightarrow O!x]$. The truth of the final step of inference in $\forall x[Nx \rightarrow \exists\varphi[\varphi x]]$ is trivially guaranteed by the tautology, $\forall x[Nx \rightarrow Nx]$, and there is logically no need for constitutive property N-nothing(ness) to possess any other distinctive or distinguishing constitutive properties beyond itself, in addition to constitutive property N.

If we are interested in the general concept of intended object, therefore, we cannot afford to overlook the concept of N as a further unadorned unqualifiedly intended object. N, on such a conception, is accordingly the most basic and fundamental intendable object with no predicational frills or additions by virtue of possessing any other constitutive properties than the constitutive property of being nothing or nothingness. It earns title to this constitutive property in turn by being the subject of no extra-constitutive properties other than the property of being an intendable object, and whatever possessing such an extra-constitutive further entails among other extra-constitutive properties, such as being intendable, being an object, being self-identical, unitary, a possible referent, and the like.

It may be controversial to consider being $= N$ or being $\neq N$ as constitutive properties. However, they cannot reasonably be regarded as extra-constitutive of the intended object of being N itself. The suggestion that being or having property N is constitutive rather than extra-constitutive preserves the intuitive truth of the object theory principle that every intendable object has at least one constitutive property. The constitutive property of being N has the constitutive property of being N and nothing else constitutive, although it has whatever extra-constitutive properties it shares in common with every other intendable object of thought, again and nothing more (Meinong, 1915, pp. 176–177).[9]

We want to be able to say that whatever if anything property N consists of, it consists anyway of the property of being $= N$. However, we cannot intelligibly propose that N consists of any constitutive properties other than the constitutive property of being N, while it enjoys exactly the same extra-constitutive properties as every other intendable object, among others, of being intendable, an object, and a distinct individual referent of certain terms, such as 'a', if, in an ontically neutral quantifier semantics, the sentence $\exists x[Nx \wedge x = a]$ is true. If it is also true that $\exists x[Nx \wedge x = b]$, then we shall have no choice except to conclude that $a = b$.

We suppose that every intendable object has at least one constitutive property. Where every intendable object other than N is concerned, the object's constitutive properties include more than merely the property of being that very object. N is different precisely for this reason, because its intensional identity conditions depend exclusively upon N having only the constitutive property N of being or having constitutive property N. This occurs only in the case of the constitutive property of being N itself, and possessing whatever properties the property of being N immediately logically implies, while by definition and free intention possessing no other constitutive properties. We can nevertheless conclude, where symbol '$O!$' represents the extra-constitutive

[9] See Jacquette (2001), Parsons (1978 ; 1980, p. 24), Routley (1981, pp. 264–265).

property of 'being an intendable object', as '!' generally marks the distinction between extra-constitutive and unshrieked constitutive properties:

$\forall x[O!x \leftrightarrow \exists \varphi[\varphi x]]$

It follows from the above working assumption that thought can intend *N*-nothing(ness), that the intended object *N* has at least one constitutive property, disappointingly being identical to *N*, any and all of which must somehow derive from the constitutive property *N* itself, but possessing no other distinguishing constitutive properties.

The constitutive property *N* additionally has the extra-constitutive properties it shares with all other intendable objects, of being an intendable object, being an object of thought, being an object, being intendable, belonging to an intensional logic's referential domain, and whatever further extra-constitutive semantic or ontic properties are shared by all other intendable objects. Uniquely, among all other intendable objects, the constitutive property *N* of being or having *N* is constituted exclusively by its being the only intendable object whose intensional identity involves nothing beyond its self-identity. As a distinct intendable object, it has analytically exactly this trivial constitutive property, of being or having *N*, of being nothing other than itself, while lacking any further characterizing constitutive property. Hence, *N* has no nature, essence, or deeper meaning of concept to discover or explore. Those, including Sartre, who speak of nothing or nothingness as though it had more savor have drastically failed to understand the concept.[10]

The suggestion that *N* is a constitutive property then allows us freely to entertain, as we could never do with respect to extra-constitutive properties like existence, possibility, completeness, or the like, the assumption that an intendable object is non-*N*, or which is such that it is not the case that it is or has constitutive property *N*. This is logically, semantically and ontically harmless, because it allows an intensional formalism to countenance intendable objects other than *N*, such as any existent object or any object characterized by any constitutive property other than *N*. That is to say, we are free thereby to assume as an intendable object any object other than *N*, which is an expected and reassuring result, rather than any sort of challenge to the logic or semantic

[10] Sartre is apparently willing to countenance the possibility of meaningfully saying something constitutive about nothingness. Sartre writes for example: «Or on the contrary is nothingness as the structure of the real, the origin and foundation of negation?» (Sartre, 1943, p. 7). See Sartre's discussion throughout Part One, 'The Problem of Nothingness', pp. 3–70.

integrity of object theory with a constitutive *N* property. Any intended object other than *N* will nevertheless have other constitutive properties than being itself, whatever it is, or being *N*, by virtue of which under Leibnizian identity conditions it can be distinguished from every other intended object of thought.[11]

N as an intended object of certain thoughts as a result is any nonexistent object that has only those extra-constitutive properties that are indistinguishably had by any and every intended object, which is to say that it has the constitutive property of being *N*. *And*, the point is, *nothing else*. It has no other constitutive properties beyond being or having constitutive property *N*. We need not commit ourselves to what extra-constitutive properties are essential for every minimally intendable object. Likely candidates for the category nevertheless include being an intendable object, being an object, intendable, capable of being thought about, self-identical, unitary, and whatever other extra-constitutive properties might belong to any and every intendable object in a language's referential domain, without supporting further qualification. It is whatever extra-constitutive properties entitle a putative intended object a place in a referential domain that consists of the combined ontology and semantic extra-ontology of existent and nonexistent intendable objects, intensionally comprehended by every logically possible combination of all constitutive properties and their complements.

If the above analysis of *N* is correct, then *N* itself, defined as a nonexistent minimally intendable object, is nothing more than or other than pure intendability. *N*, as we should expect, has no color, shape, weight, flavor, or any other extra-ontic constitutive property φ. It is literally nothing, but nevertheless nonparadoxically something that thinkers can intend, think of or about, refer to in thought and its expression. If we choose to dress the object with further properties, then we are *superadding* something to the intendable object *N* that does not belong intrinsically to its nature, concept, or essence, as when we attribute the property of being boring or exciting to an intended object, perhaps an event, performance or performer at the theatre. We consider for convenience as representative of the things that might be said in superaddition to the bare bones of *N* such things as the property of being a projection of the mind's fear of the unknown personal oblivion that may be

[11] Leibnizian intensional identity conditions are already standard for existent objects. I argue that identity is itself intensional rather than an extensional relation in Jacquette (2010, pp. 137–140).

expected when death occurs, and the cessation of individual consciousness. We refer, again, for convenience, to this psychological and philosophical superadditive attribution to N, marked by this attitude, although perhaps not entirely in fairness to its tradition, as *an* (not *the*) *existentialist* dressing of the intended object of N.

N, besides being itself a nonexistent object, as we have emphasized, has only the extra-constitutive properties that belong to every intended object. Thus, N, like every other intendable object, by possessing the property of being intendable, supports the further crucial implication that certain thoughts can intend N as an intendable object. If we try to say that N is either more or less than pure intendability, then we shall have either strayed, on the one side, into making nothing into something more specific than whatever is implied merely by its being capable of being intended, thereby necessarily confusing it with some other intendable object other than what is strictly N. Or, on the other side, crossing over from N as an intendable object with negative existential quantification. There are obviously such concepts, even if no one has so far thought to give them a name, but they are different than the concept of N are pure intendability and quantificationally nothing more.

When we consider ontic relations for intendable property-object N, we arrive minimally at the following intuitive principles, formalized in the intensional logic toward which we have previously gestured:

Ontic Relations for Intendable N-Nothing(ness)

(1) $\exists x[Nx]$
There is an (existent or nonexistent) intendable object of N-nothing(ness).

(2) $\forall x[Nx \leftrightarrow [O!x \wedge \neg\exists\varphi[\varphi x \wedge \neg[O! \rightarrow \varphi x]]]$
An object is intendable N-nothing(ness) iff it is an intendable object (and nothing more).

(3) $\exists x[Nx \wedge \neg E!x]$
N-nothing(ness) does not exist (a nonexistent intendable object).

(4) $\neg\exists x[Nx \wedge E!x]$
Equivalently, there is no existent N-nothing(ness).

(5) $\forall x[Nx \rightarrow \neg E!x]$
Equivalently, again, all *N*-nothing(ness) is nonexistent.

(6) $\neg\forall x[E!x \rightarrow Nx]$
It is not the case that all existent objects are *N*-nothing(ness).

(7) $\neg\forall x[Nx \rightarrow E!x]$
It is not the case that all *N*-nothing(ness) intendable objects exist.

(8) $\neg\forall x[\neg E!x \rightarrow Nx]$
It is not the case that all nonexistent objects are (or have the property of being) intendable *N*-nothing(ness).

(9) $\forall x\neg[\neg E!x \rightarrow \neg Nx]$
Everything is (all objects are) not such that being nonexistent implies not being (or not having the property of being) *N*-nothing(ness).

(10) $\exists x[Nx \wedge \neg\exists y[E!y \wedge Ny]]$
Some (existent or nonexistent) intendable object is such that it is (or has the property of being) *N*-nothing(ness) and nothing is an existent object that is also(or also has the property of being) *N*-nothing(ness).

The concept of *N* as such is indistinguishable again from the concept of being intendable, and hence of unqualified objecthood. It is the otherwise totally empty concept of being an existent or nonexistent intended object of an existent or nonexistent thought. Relying on some of these ontic propositions and a form of the general (IT) thesis, we can now formally derive the implication that there is at least an intendable, existent or nonexistent thought that intends *N*. We assert, first, that there is an existent or nonexistent (ontically neutral) thought *T*, such that for any intendable object *O!*, *T* intends, *I*, intendable object *O!*. The inference holds immediately once we include *N* among the intendable objects belonging to the intensional logic's referential domain of existent objects in an ontology and nonexistent objects in an extra-ontology.

Argument for the Intendability of *N*-Nothing(ness)
1. $\exists x\forall y[[Tx \wedge O!y] \rightarrow Ixy]$
2. $\exists x[Nx]$

3. $\exists x[Nx \wedge O!x]$
4. $\exists x,y[Tx \wedge Ny \wedge Ixy]$

At the opposite predicational extreme, we consider the metalogical extra-constitutive property of being a maximal intended object, possessing every constitutive property and its complement, red and non-red, round and non-round, N and non-N or non-N-nothing(ness), and so on. Such an intended object, needless to say, is metaphysically impossible. Like the round square, however, it is nevertheless capable of being intended, thought about as distinct from any other intended object intensionally by virtue of having all constitutive properties and their complementsφ truly predicated of it, and is, indeed, for this reason, not only necessarily nonexistent but *maximally impossible*:

(M) M-Maximal Impossibility as Intended Object
$\forall x[Mx \leftrightarrow \forall \varphi[\varphi x]]$

The opposed poles in a full object theory semantic domain are therefore N, the intendable object of N, possessing no constitutive properties other than N itself, the constitutive property of being N, and those extra-constitutive properties implied by its being intendable, that it shares with every other intendable object, and (M), at the opposite extreme, where an intendable object has *all* constitutive properties *and* their complements. Every other intendable object of thought is situated somewhere between these two semantic extremes.

Since such an intendable object is metaphysically impossible, there is no need to add the explicit provision, as in the case of (N), that the maximally impossible object does not exist or has the supervenient property of being nonexistent. We would nevertheless certainly be within our rights semantically to add the explicit nonexistence condition for emphasis in the formula, $\forall x[Mx \leftrightarrow [\neg E!x \wedge \forall \varphi[\varphi x]]$. If we supplement the principle that in order to be something other than nothing an intendable object must have at least one constitutive property other than being itself that does not belong to any and every intendable object, then it would be unnecessary also to add the clause to the definition of (N) that the intendable object N does not exist. The nonexistence of N would then follow from the universal proposition, $\forall x[E!\mathrm{x} \rightarrow \exists \varphi[\varphi x \wedge \neg \forall y \varphi y]]$, where the expanded biconditional obviously does not hold. We could in that case define N more economically as, $\forall x[Nx \leftrightarrow \forall y,\varphi[\varphi x \rightarrow \varphi y]]$. In this form, it is even more apparent that the concept of *N* presented here is equivalent to that of being a purely intendable object, which is alternatively redundantly to say being intendable or being an object, in the most general sense.

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And Now for Something Completely Different: Meinong's Approach to Modality

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ABSTRACT

In the twentieth century three approaches to modality dominated. One denied its legitimacy (Russell, Quine). A second made language the source of modality (Carnap). The third treats possible worlds as the source of truth for modal propositions (Kripke, Lewis et al.) Meinong's account of modality is quite different from all of these. Like the last it has an ontological basis, but it eschews worlds in favour of a rich one-world ontology of objects and states of affairs, many of which notoriously fail to exist and some even more notoriously fail to be possible. We lay out the ontological basis of Meinong's system and show how he accommodates standard modal notions. Two peculiarities of his system are investigated: his preference of possibility over necessity, and his treatment of degrees of possibility, which allows him to subsume probability theory in his account.

1. Approaches to Modality

Consider the proposition expressed by this sentence:

A. Napoleon could have won at Waterloo.

It is, we suppose, true. In even making this initial supposition we are inviting controversy. Some modal sceptics deny that it has a well-defined truth-value. In some texts this appears to be the position of Quine, and in others, that of Russell. I shall not confront this modal scepticism here, but simply pursue the original supposition that the proposition is true. How? There are, as we know, several ways of accounting for its truth.

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A traditional one is to say that the concept of the subject, Napoleon, does not logically exclude the concept of the predicate, that of winning at Waterloo, or similarly, that the property of winning at Waterloo is not logically repugnant to the essence of the subject. Either of these comes back in the end however to the question what logical exclusion or logical repugnance is, and these in turn rest on the logical possibility of the truth of the proposition expressed by

B. Napoleon won at Waterloo.

So we need to address together both the source of the truth-values of modal propositions like A and the modal status of propositions like B.

One theory, sketched by both Frege and Quine, is that a proposition is necessarily true if it is either a logical truth or follows from a logical truth under some specified conditions such as substitution of synonyms. Again we are not closely concerned with this: call it the hereditary eminence theory. Starting with some logically eminent proposition we call propositions necessary that descend suitably from (presumably, follow logically from) eminent propositions. We then use the facts about modal opposition to give truth-conditions for propositions involving other modal functions.

A superficially different approach employs the concept of analyticity, such as we find in different forms in Hume, Kant and Carnap. According to these views modality turns on the relationships among words, or among their meanings. Whether this comes down to the previous approach is a difficult question.

What all these approaches have in common is that they are ontologically light-touch. That is, they do not involve very heavy ontological commitments to special kinds of objects like essences or natures or possibilia or possible worlds. By contrast there are approaches that involve more directly obvious ontological commitments. Of these the most common are variants of realism about alternative possible worlds. Again I do not intend to go into these, well-investigated as they are, because I am talking about something completely different: an ontological approach which makes no use or mention of possible worlds, and which has excited as good as no attention or interest in the copious writings on modality of the last half-century. The approach is due to that bogey-man of twentieth century philosophy, Alexius Meinong. It is contained in one of Meinong's last works, the monumental *Über Möglichkeit und Wahrscheinlichkeit* (*On Possibility and Probability*), which bears the subtitle *Beiträge zur Gegenstandstheorie und Erkenntnistheorie* (*Contributions to the*

Theory of Objects and the Theory of Knowledge). Published in 1915 and reissued in 1972 as part of the *Alexius Meinong Gesamtausgabe*, it is Meinong's largest work, at over 700 pages in length (800 in the reissue).

2. Meinong's General Ontology

To see how Meinong's theory works, we need a rudimentary grasp of his ontology, which follows, without evaluative comment and without stopping except as necessary to dwell on the translation of Meinong's terminology from his native German to English.

Everything is an object (*Gegenstand*). Objects come in four kinds: things, objectives, dignitatives and desideratives. The latter pair are the objects of valuation and desire respectively and can be left aside. The remaining objects figure in purely non-evaluative, cognitive thought. Things (*Objekte*) are whatever is presentable by a simple idea or denotable by a nominal expression. Objectives (*Objektive*) are the objects of judgment, assumption, doubt etc. and are what is meant by declarative sentences and other complete clauses. They are usually called 'states of affairs'. Meinong considered—and rejected—the German equivalent *Sachverhalt*, and although his reasons are not very persuasive we shall stick with his Latinate expression. Objects have one of three ontological statuses. They can exist (*existieren*), by which Meinong means they exist actually (*wirklich*) in space and time and are subject to causality. Or they can subsist (*bestehen*) which is a kind of ideal or non-spatio-temporal being, such as abstract things like numbers and properties enjoy. Meinong says all things which exist or subsist have being. I shall use 'exist' in place of 'have being', in other words I shall use 'exist' more broadly than Meinong. Finally there are objects which neither exist in space and time nor ideally: Meinong says they have the status of objects outside being (*außerseiende Gegenstände*). It is now more common, and I shall follow the usage, to call them 'non-existent objects'. The principal ontological status division, then, is into objects that exist and those that do not.

Objectives are the objects of thought, and have some of the characteristics of propositions, since they can be true or false, but also some of the characteristics of states of affairs, since they can obtain (*bestehen*, subsist) or not. Meinong never distinguishes clearly the roles of being the bearer of a truth-value from being what it is in virtue of which our thoughts are true or false. Objectives that exist Meinong calls facts (*Tatsachen*), or factual objectives (*tatsächliche Objektive*) The opposite of a fact is an unfactual objective (*untatsächliches Objektiv*) or as I shall also say, an *unfact*. A fact can also be a true proposition. Indeed for Meinong a truth or true objective is simply a factual objective that someone apprehends, and a falsehood or false objective is an unfact that someone apprehends. Since there are infinitely many facts and unfacts, most facts are not truths and most unfacts are not falsehoods or untruths. If an objective is a fact, its negation is an unfact, and vice versa.

What an objective is about is its subject. This may be a thing, as when we judge correctly that Napoleon was Corsican or incorrectly that he was Sardinian. It may also be another objective, as when we judge that it is unlikely that any human will live beyond 200 years of age. Relational objectives such as that Plato taught Aristotle have more than one subject. There can be relational objectives about objectives too, as when we judge that it is more likely that it will rain tomorrow than that it will snow tomorrow.

One of Meinong's famous theoretical positions in ontology is the Principle of Independence, according to which what and how an object is, is independent of whether it is (exists) or not. So Meinong says of the infamous golden mountain that it is both gold and mountainous, even though it does not exist. The same applies to the even more infamous round square, which is, he says, as surely round as it is square. The converse of the independence principle does not apply. What an object is like may well determine that it does not exist – if it is inconsistent or incomplete.

3. The Source of Possibility

When we consider Meinong's objects, complete as well as incomplete, existent as well as inconsistent, there appears to be nowhere for the modal notion of possibility to "get a grip". Take Napoleon. There are presumably more facts about Napoleon than we can possibly enumerate or express – only a supernatural being could do that – but these objectives are facts whether anyone knows or thinks them or not. Likewise all the unfacts about Napoleon are unfacts irrespective of whether anyone knows or thinks them. Being a fact or an unfact is something wholly objective. Take any meaningful and non-modal sentence about Napoleon, such as

C. Napoleon was born in Ajaccio.

That one states a fact. Others, such as

D. Napoleon was born in Paris

state unfacts. It is similar with non-existent objects, though for somewhat different reasons. Take the sentence

E. The round square is round.

This, as we saw, for Meinong states a fact. Likewise

F. The round square is green

states an unfact. In the second case however it is not because the property of being green contradicts anything in the nature of the round square. Here is why. For Meinong there is another non-existing object, the green round square, for which the following sentence

G. The green round square is green

states a fact. The two non-existing objects, the round square and the green round square, are different because the latter has a property the former lacks, namely being green. Each of them is both inconsistent and incomplete, but the green square is slightly less incomplete, to the tune of this one property. What distinguishes them is that the round square has no further properties than being round and square, whereas the green round square has one further property.

The logically agile may well consider at this point that the property of having no further properties than being round and being square is itself another property and so the round square has at least this other property. And they would be right: so it does. But here is where Meinong has a way to deal with this worry. He distinguishes between two kinds of property. Nuclear properties (*konstitutorische Bestimmungen*) are those which go to make up the nature of an object, properties like being round and being green. Extra-nuclear properties (*außerkonstitutorische Bestimmungen*) are those odd "philosophical" properties like existing, not existing, having two nuclear properties, being complete, being consistent, etc., which belong to an object without being part of its nature. Any group of nuclear properties can be assumed to be together in some object, but extra-nuclear properties attach to it or do not in a way which it is beyond our freedom to assume. The property of having no further properties than being round and being square is just such an extra-nuclear property. So while the round square has other properties than just being round and being square, it has only these two nuclear properties.

To return to the matter at issue, it looks as though there is no room for contingency on this theory. Napoleon is determined in all respects, and if he has all the (nuclear) properties he in fact does have, he could not lose one or gain another without being non-existent or being another object than he is. In the case of the radically incomplete objects like the round square it is even more obvious that they cannot lose or gain nuclear properties: the round square could not have been green because then it would have been the green round square, and that is a different object.

Common sense however tells us that for existing objects at least, like Napoleon, many of his properties are contingent. He was born in Ajaccio but might have been born in Paris, had his parents' history been a bit different. He did lose Waterloo but he might not have. And so on. So where is Meinong to find the resources to account for this commonsense feature of ordinary objects?

We fairly naturally say that whereas some of Napoleon's properties, like being human, are essential to his nature, others, like his losing Waterloo or going bald in middle life, are not. It does not matter exactly whether we can draw a sharp distinction: there is a difference to be accounted for. But Meinong's theory as we have it so far cannot do that, since it takes all of Napoleon's nuclear properties, the accidental as well as the essential, to be constitutive of his nature.

Let us consider the following object. It (he) is very like Napoleon, up until 18 June 1815, the day of Waterloo. Then, the battle being about to take place, he makes some different plans and troop dispositions, makes different decisions on the day, attacking the British positions earlier and managing to overrun them in time to drive them from the field and enabling him to fight a holding action against Prussian troops under Blücher and then advance on Brussels. In a word, he wins the battle at Waterloo. Who or what is this Napoleon? Firstly, he is an object, albeit a non-existent Meinongian one. Secondly, he is very like Napoleon, sharing an initial history. And thirdly he wins Waterloo. But it is however fourthly important to recognise that unlike Napoleon he is an incomplete object, since we have not determined in our description every last detail as to how he acts and commands so as to bring about the victory.

Now let us rewind the clock to the point just before the two Napoleons diverge, the actual one and the victorious (but incomplete) one. Consider the incomplete object that has all the properties these two have in common and no others. Call this likewise incomplete object Napoleon-minus, or N– for short. Call the actual Napoleon N. N has all the properties that N– has and many more besides (by 'properties' we always here mean nuclear properties). Now let's look at the group of all objects which are like N– but are *complete*, that is, have a full suite of properties, and are *consistent*, in that none of their properties are incompatible. Call these objects *completions* of N–. They fall into several subgroups:

N(W) those which fight a battle at Waterloo;
N(V) those which fight a battle at Waterloo and win;
N(L) those which fight a battle at Waterloo and lose;
N(D) those which fight a battle at Waterloo and neither win nor lose.

Obviously the class N(W) is made up of the disjoint subclasses N(V), N(L) and N(D), and as we know the actual Napoleon N is a member of the class N(L) and therewith of course of N(W). N– by contrast is not a member of any of these classes as N– is incomplete and all the members of N(W) are complete, but N– has the largest collection of properties that all the members of N(W) have in common: it is so to speak their ontological core. The actual number of members of each of these classes will be extremely large, but we will not let that put us off. Suppose we can in some way assess or measure the proportions of the three classes. Let us suppose for the sake of argument that of all the members of N(W), four-tenths or 40% are in N(V), where Napoleon wins; 45% are in N(L), where he loses; and 15% are in N(D), the case of a draw or indecisive action. Something like this fits Wellington's description of the battle as "It has been a damned nice thing – the nearest run thing you ever saw in your life." Then we might well want to say

The chances of Napoleon winning Waterloo were 40%
The chances of Napoleon losing Waterloo were 45%

so

The chances of Napoleon not losing Waterloo were 55%
The chances of Napoleon not winning Waterloo were 60%

Meinong would say that since the chances of Napoleon winning Waterloo (on this account) are 40% which is greater than zero, the statement

A. Napoleon could have won at Waterloo

is straightforwardly *true*.

The source of the ability to make modal claims like this lies, according to Meinong, in there being incomplete objects like N– which can be "completed" in different ways – not obviously in the sense that it can itself be modified, since if we take N– in itself, it is incomplete and so cannot exist, and anything with further properties is another object and not N–, but in the sense that all its nuclear properties are contained in those of many complete objects: the members of N(W). Meinong says in such cases that N– is *implected* in or *implexively contained* in each of the members of N(W). One of those members, namely N himself, actually exists, so N– is implected in something that exists, but everything else in which N– is implected does not exist. Meinong says that objects implected in something that exists thereby have *implexive being*. This is not especially felicitous as a term, but it does not do any serious work.

N– as the subject of a proposition can be judged modally according to the status of the complete objects in which it is implexively contained. So take a proposition of the form

H. N– is X

According as

all completions of N– are X	then	H is necessary
no completions of N– are X	then	H is impossible
some completions are X and some not	then	H is possible (contingent)

and we have a measure of the chance of H being true as

Pr(H) = the proportion: completions of N– that are X to all completions of N–

which will be a number in the range $0 \leq Pr(H) \leq 1$, being 0 if H is impossible, 1 if H is necessary, and somewhere between otherwise. Notice the difference from Napoleon himself. If we replace 'N–' in the above account by 'N', since N is already complete, his only "completion" is himself, so it is impossible that he win Waterloo and the chance of his winning it is 0. To allow non-trivial modality and probability to get a hold, we need to make incomplete but consistent objects the subjects of our statements. It is here, says Meinong, that modality is "at home".

In some modern uses of 'possible' it means 'necessary or contingent'. Meinong calls propositions which are true (which includes necessary truths) "also-factual" (*auchmöglich*). Clearly the interesting case is contingency and we shall continue to use the term 'possible' just for the contingent case.

4. Two Notions of Possibility

As can be seen from this account, there are really two kinds of thing that might be called 'possibility' in Meinong. One gives an answer to the simple question whether a certain proposition is possible or not (meaning 'contingent or not'). Here there is a straight yes or no answer: either a proposition is contingent or it is not, and if it is not this is because it is either necessary or impossible. Meinong has a (not especially pretty) name for this: he calls it 'unincreasable possibility' (*steigerungsunfähige Möglichkeit*). The other sort of case is represented by the grades in between 0 and 1, as in the possibility of Napoleon (N–) winning Waterloo being 0.4. Meinong calls possibility that comes in grades or degrees 'increasable possibility' (*steigerungsfähige Möglichkeit*). The two are of course not incompatible, but on the contrary intimately linked: a proposition or objective is unincreasably possible if and only if it has a degree of increasable possibility greater than 0 and less than 1.

The case of increasable possibility is a familiar kind of phenomenon, but we tend to know it not under this name but under the name 'probability'. Now Meinong does use the German word for probability, *Wahrscheinlichkeit*, but not for this. The reason is that he makes a distinction between the objective status of states of affairs on the one hand and the subjective knowledge or estimation of their likelihood on the other. Both of these have gone under the term 'probability', the former as objective probability, the latter as subjective or epistemic probability. Meinong's terminology reflects a desire to keep these two strictly distinct, but it also embodies the suggestive connotation of the German term for 'probable', *wahrscheinlich*, seeming true. He is picking up on the "seeming" part of this and relating it to the experience or estimation of the chances of something's being so, and reserving the term 'possibility' for these chances as they are in themselves, irrespective of how they seem to us or how we subjectively estimate them. We are not here concerned with the subjective side of probability in Meinong's account, so we shall have no reason not to use the term 'probability' for Meinong's increasable possibility.

5. Some Problems

To the extent that Meinong does deal with (objective) probability in his account of increasable possibility, or degrees of factuality, it must be admitted that his account is relatively rudimentary, and in the short summary at the end of his long treatise he admits as much. He deals only with cases where the number of possibilities is finite, or where the number of kinds of outcome is finite because of prior assumptions that all of the possibilities are equiprobable. What can be said in general is that Meinong's approach to probability is a species of statistical or frequency theory, whereby the probability of a given proposition (or as Meinong would say, the degree of factuality of an objective) is derived from the truth-values of a range of associated propositions.

So as a theory of probability, Meinong's account is at least in need of additions. When infinite domains are in question, the idea of probability as a ratio of whole numbers has to be replaced by that of a probability density function, which is a measure assigned to individual cases and which yields the probability of propositions in a range with infinitely many members via a mathematical integration operation. There is in principle no reason why this idea could not be adapted to Meinong's object theory, but it would need more work.

A related concern is that in the kind of example we have given, the numbers assigned to the various chances or likelihoods (e.g. of N– winning Waterloo) are not well motivated, since the number of completions of N– is infinite and it is not clear how the numbers derive from the individual cases. In statistical or frequency accounts of probability there is often a link between the proposition whose probability is in question and an ensemble of *actual* cases. If I buy a new car of a certain make, and of this model 7% have broken down in their first year, then it is reasonable to conclude in the absence of further information that there is a 7% chance my car will break down in its first year. The class from which this proposition derives its probability is a class of actually existing cars. In the case of our Napoleon example, there is not a range of actual Napoleons of which a certain number win their Waterloos, but only one actual Napoleon. That is why to give a probability to his winning Waterloo we need to expand the horizon of our objects of comparison to include objects that do not exist, but (we suppose) could have done so. There is no point in bringing in impossible objects, but we do need a wide range of alternatives to ground the degree of probability. This kind of idea is familiar from probability theory, and in Meinong it is applied quite consciously and clearly.

He does have the resources to deal with it. In some cases we will take our class of completions to comprise only *actual* objects sharing some incomplete core with our chosen case – this is like the new car case; in others we will want to allow non-actual completions as well, that is, complete and consistent objects which however do not exist, corresponding to the tradition notion of *possibilia*. He is aware that not all cases where a probability can be assigned are members of large classes where probability merely reflects statistics, but that one-off cases can be ascribed modal properties, including probabilities, as well, by adverting to suitable incomplete objects implected in the things in question. Meinong is well aware of the distinction between *a priori* and *a posteriori* grounds for the truth-values of modal expressions, and alludes to them in various places, but his account falls short of being systematic.

There is of course a measure of selection involved in choosing the incomplete object about which to weave our variations. We can let N– change to the extent of keeping Grouchy's forces near at hand and able to participate in the battle, or we can let him decide to attack earlier, and the probabilities will change. If we vary not N– but circumstantial factors, for example if we subtract the heavy rain of 17 June which caused Napoleon to delay the attack, if we let transport difficulties delay the Prussian arrival on the field by two hours, and so on, we encounter all the "what if"s of delicately balanced historical events, and shift the probabilities again. There is in all this idea of variation and degrees of possibility a tacit assumption of the form "other things being equal", on which Meinong does not focus, being concerned principally with simple cases of properties of individual objects.

6. Inhesivity

There is a standard notion of necessity, that a proposition is necessarily true or an objective necessarily obtains if and only if its negation or contradictory opposite is impossible. Meinong is aware of this and has no objection to it in principle. His main concern however is that it is only applicable to *a priori* modality, whereas he is interested in modality as applied to the real world and real cases, where empirical factors intrude. For this reason, while he acknowledges the idea of what he calls a "line of possibility" (*Möglichkeitslinie*) stretching between necessity at the top end and impossibility at the other, he is more interested in the idea of a line between factuality at the top and unfactuality at the bottom, because this is more usefully applicable to real situations, where the "best case" of factuality obtains not because of the logical impossibility of the opposite case. He is intent on capturing those notions of necessity and possibility which are empirical, physical, real, psychological and so on. But simply to take factuality or truth as the best case is inappropriate because its opposite is unfactuality or falsehood and that alone does not merit the epithet 'impossible'. He therefore looks for something else to warrant the idea of a "line of possibility" stretching from factuality to unfactuality, and finds it in the idea of "intelligible" factuality or unfactuality, the sort of factuality or unfactuality that we might describe with the words "it's no accident that" or "we can see why". If I know my friend well, I can predict for sure how he will react in a certain situation, though no one would say he is compelled to act thus or that he is conforming to a law or rule in so doing. Rather it's "like him", and I understand why he did it.

Meinong says in such a case that the predicate true of my friend is true not by chance but *inhesively*, and speaks then of the *inhesive* factuality of the resulting objective. This is contrasted with the case where something has a property as it were by mere chance, that it is now sunny, that Julius Caesar was murdered, that Napoleon delayed his attack until after 11 a.m. In these cases Meinong says the factuality is (merely) *adhesive*. The idea is then this: that the line of possibility stretches between inhesive factuality and inhesive unfactuality. So it is not just adventitious that Napoleon (understood via N–) could have won Waterloo: it was *in him* to have been able to win it, but it was not in him either to be sure to win it or to be sure to lose it. If S is inhesively P or S is inhesively not P then its being P or not P is not just by chance. If S is adhesively P or adhesively not P then it is one or the other by chance, but that it can be one or the other is not by chance. S is inhesively neither inhesively P nor inhesively not P. Possibility is inhesive subfactuality.

The key idea of inhesivity is by no means clear, and unfortunately Meinong does not spend a great deal of effort in analysing or elucidating it. Nor is it clear that the introduction of this additional distinctive element represents a step forward in the analysis of the concept of modality, because the difference between mere or adhesive factuality on the one hand and inhesive factuality on the other is itself a modal distinction. To put it in more traditional terms: if we take any (actual) individual and consider the properties he/she/it has inhesively, we arrive at something very like the traditional idea of an essence, which consists of those properties the individual could not lack and still exist or be that individual. We might allow "harder" or "softer" notions of inhesivity and thereby of essence, as appears to be Meinong's wish, but then we should always remain with a single strength in any one context on pain of changing the subject. The point remains that the elucidation of modality is shifted to another modal notion, and in view of its relative unfamiliarity it may be queried how successful a move this is, particularly as in a wider context we need to consider relational and complex propositions.

An interesting consequence of Meinong's choice of inhesive factuality for his notion of necessity is that he thereby denies that there is a kind of factuality above ordinary factuality. An inhesively factual objective is factual (true) for a reason somehow inherent in it, but it does not have a "better" kind or higher dignity of truth than any other truth. This point of view renders Meinong's object theory uncongenial to platonism. For platonists the being of the forms is a higher kind of being than that of mutable things, whereas while for Meinong there is a difference between things in space and time which are real, and objectives and mathematical objects which are ideal, the latter, if they have being, do not have a "better" kind of being than you or I: subsistence is simply different from real existence. In particular there is no thought anywhere in Meinong that any object might be real and exist of necessity, and his distinction between nuclear and extra-nuclear properties renders it unavailing to attempt any ontological argument for the existence or even subsistence of a perfect being out of its own nature, since being and existence are extra-nuclear properties and not part of anything's nature. This is Meinong's way of accommodating Kant's insight that "Being is not a real predicate."

7. A Note on Logic

For complete objects, and also for incomplete objects considered in themselves, there holds a principle of logical bivalence, whereby every objective about them is either factual or unfactual, *tertium non datur*. In the case of incomplete objects however we may consider them not just in themselves but in respect to their completions, as above. Taking the three kinds of case as above, we may say that the objective that N– is X is (derivatively) factual in the first case, unfactual in the second, and derivatively *subfactual* in the third. We may also ascribe it a degree of factuality in the range $0 \leq p \leq 1$.

What this means is that, for the particular case of the propositions which are possible the principle of logical bivalence is rejected, and Meinong is perfectly frank and willing to do this. Some propositions are possible and their corresponding objectives are subfactual. Counting unincreasable possibility as a third logical value, this gives a three-valued logic. Counting all the degrees of increasable possibility it gives an infinite-valued logic. So in this limited but important sense, Meinong is a pioneer of many-valued logic, and in particular of three-valued and infinite-valued or fuzzy logic. He himself was not a logician and did not pursue the idea, but others did. One who did, and who was almost certainly influenced by Meinong in so doing, was the principal founder of many-valued logic Jan Łukasiewicz, who visited Meinong in Graz in 1908 and 1909 while on a research scholarship, and who reported back to Poland that Meinong's incomplete objects made it likely that the principle of excluded middle was not universal in application. It is clearly no accident – it is we might say inhesive in the situation – that while in Graz Łukasiewicz worked on both probability and on the status of the traditional Aristotelian laws of thought, with an eye to discerning how the status of contingent propositions such as those about future actions of free agents might or might not fit into classical bivalent ways of thinking. The breakthrough came for him a few years later, with the development of three-valued logic in 1917 and that of infinite-valued logic in 1922. His understanding of the relationship between these was however exactly that of Meinong: there is either plain possibility or there is gradable possibility. The seeds of many-valued logic were germinated in the Graz greenhouse.

8. Conclusion

Meinong's account of modality is quite different from other accounts. Firmly distinguishing subjective from objective aspects, on the objective side he has neither possible worlds nor any of the other exotica of more recent theories, while his work is firmly anchored in his already existing theory of objects and objectives, of which is represents both an elaboration and an extension. He is firmly opposed to any reduction of modal notions to others such as those of linguistics, mathematics or psychology. He is deeply concerned to integrate his account of modality in general with that of probability, in both its objective and subjective senses, and this to my of thinking is a positive feature of his theory. His views are lacking in logical sophistication, and his exposition of them is rambling and frequently tedious. But there are definitely reasons not to forget his contribution, not for the usually cited (and generally ignorant) reasons that Meinong's views are so absurd that they should serve as fearful reminders to others, but because they embody fresh insights which can be farmed for future cognitive fodder.

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On the Indispensability of (Im)Possibilia

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ABSTRACT

According to modal realism formulated by David Lewis, there exist concrete possible worlds. As he argues the hypothesis is serviceable and that is a sufficient reason to think it is true. On the other side, Lewis does not consider the pragmatic reasons to be conclusive. He admits that the theoretical benefits of modal realism can be illusory or that the acceptance of controversial ontology for the sake of theoretical benefits might be misguided in the first place. In the first part of the paper, I consider the worry and conclude that although the worry is justified, there can be an epistemological justification for his theory. Next, I outline the so-called indispensability argument for the legitimacy of mathematical Platonism. Finally, I argue that the argument, if accepted, can be applied to metaphysics in general, to the arguing for the existence of concrete (im)possibilia in particular.

1. Introduction: Modal Realism

Modal realism[1] is a thesis according to which the world we live in is a very inclusive thing. It consists of us and all our surroundings, however remote in time and space. Every chair, every person and every city that is spatially and temporarily related to us belongs to our world. However, things might have been different in infinitely many ways. In fact, any way the world *could have been* is a way some real world *is*. We call the ways *possible worlds*.

But what are possible worlds? Lewis (1973; 1986) claims that if we want to know what kind of things possible worlds are, we do not need any sophisticated philosophical explanations. We need merely look around, because possible worlds are just more things of that sort. There are like remote planets (cf.

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[1] For a full and comprehensive outline of the theory, see Lewis' (1986) *magnum opus*.

Kripke, 1972, p. 44), although most of them are much bigger and are not remote. His argument – called also the argument from ways – goes as follows:

> I believe that there are possible worlds other than the one we happen to inhabit. If an argument is wanted, it is this. It is uncontroversially true that things might be otherwise than they are. I believe, and so do you, that things could have been different in countless ways. But what does this mean? Ordinary language permits the paraphrase: there are many ways things could have been besides the way they actually are. On the face of it, this sentence is an existential quantification. It says that there exist many entities of a certain description, to wit 'ways things could have been'. I believe that things could have been different in countless ways; I believe permissible paraphrases of what I believe; taking the paraphrase at its face value, I therefore believe in the existence of entities that might be called 'ways things could have been'. I prefer to call them possible worlds. (Lewis, 1973, p. 84)

As the above paragraph indicates, the primary aim of Lewis' theory is to explain modal notions away by appealing to possible worlds. Moreover, the analyses are non-modal, that is, they do not resort to any primitive modal notions. In other words, taking the paraphrase 'ways the worlds could have been' at face value enables us to grasp modality in purely non-modal notions and, at the same time, decrease the postulation of different ontological kinds at minimum.[2]

On the other side, it was argued by many Lewis' opponents that even if the argument was correct, it in fact says nothing about the very nature of the entities at issue. Since, the objection says, the phrase 'ways the world could have been' can be read at face value, while does not really commit us to the existence of a plenty *concrete* possible worlds, we should reject the Lewisian version of modal realism. So the second Lewisian argument.

The second argument – the so called argument from utility – says that the idea of *concrete* possible worlds is not only a natural existential quantification entrenched in our everyday description of reality. The hypothesis of there being a myriad of concrete possible worlds is also serviceable. Since concrete possibilia bring certain undeniable theoretical benefits, and the cost-benefits methodology plays an important (if not the most important) role in metaphysical methodology, their existence is worth of considering. Put in more

[2] Lewis distinguishes between quantitative and qualitative parsimony. More naturally, if a theory keeps down the number of fundamentally different *kinds* at the expense of extending of their instances, it is *qualitatively* more parsimonious than a theory that does not. See Lewis (1973, p. 87).

comprehensive terms, any theory which a) improves a unified systematization of our pre-theoretical opinions, b) saves economy regarding primitive (and thus unexplained) notions, c) is conservative with respect to our far-entrenched pre-theoretical opinion and, last but not least, d) does well in comparison to its rivals should be preferred. As Lewis shows, any of those criteria are met and thus any modal realist should accept possibilism rather than (one version or another of) *ersatzism*.[3]

To begin with, Lewis' analyses are *systematic*. His theory offers a comprehensive systematization (or unification) of our pre-philosophical opinions through the relations between our pre-theoretical opinions, their capture in the definitional framework and subsequent (controversial or not) metaphysical identifications. Furthermore, modal realism is *ontologically* 'homogeneous'[4] since the ontological primitives are individuals, sets and set-theoretic construction out of them. Also, the theory is *ideologically* parsimonious, because it requires only that we say how the individuals are by invoking natural and qualitative predications of them.

Secondly, the theory of concrete possible worlds is *conservative*. As the ontology and the definitional framework together capture the pre-philosophical opinions, the resultant theory does better for systematizing in a way that promotes the virtues of economy and conservativeness. That means that it respects and does not alter, it would seem, those pre-existing opinions to which we are firmly attached. Although modal realism has to deal with the objection from quantitative (un)parsimony, it "scores well on the measures that matter (most)" (Divers, manuscript, p. 11). For example, linguistic *ersatzism* is not in a position to completely describe every possibility since various pre-theoretically distinct possibilities cannot be identified with their linguistic descriptions in any language available to us. Finally, the overall theory is widely applicable. Having concrete possibilia and the Lewisian definitions at hand, we can clarify questions in many parts of metaphysics, the philosophy of logic, of mind, of language or science. Besides providing non-modal analyses of modal concepts, the theory offers extensional accounts of properties, propositions, counterfactuals and propositional attitudes. A philosophers' paradise.

[3] For now, I consider as *ersatzist* any theory which takes possible worlds to be abstract entities representing possibilities in one way or another. See Lewis (1986, p. 136).

[4] By homogeneity I mean the same as Yagisawa does: "... we want to keep the metaphysical category of world-ways homogeneous in kind, we therefore say that ways the world could be *are* worlds" (Yagisawa, 1988, p. 180, my italics).

2. Are Concrete Possibilia Indispensable?

Without going into further details, the theory of genuine modal realism provides at least two reasons why we should accept it. To repeat, there is the paraphrase argument on one side, several pragmatic reasons for the acceptance of possibilia, on the other. The problem is that these two arguments, however persuasive they may be, do not suffice for the desired claim that possibilia are indispensable for metaphysics (something Lewis doesn't believe himself). In particular, there are certain insurmountable epistemological problems modal realist (if any) has to face. The challenge is the following: even if we have some pragmatic reasons to believe in the existence of concrete possibilia, we have absolutely nothing at hand when it comes to knowledge.[5] Let me explain the objection.

Notoriously, mostly accepted epistemological accounts of justification include a causal component. Thus, to know something, according to the accounts, is to be in a causal contact with the "truthmaker for the known truth bearer" (Bueno & Shalkowski, 2000). But, *ex hypothesi*, there is no causal connection between the actual and merely possible individuals in the Lewisian conception. Since Lewis' worlds are maximal mereological sums of *spatiotemporally interrelated* individuals, the objection concludes, there is basically nothing beyond the purely pragmatic reasons that justifies us to proclaim the existence of concrete possibilia. Briefly, modal realism betrays modal knowledge. End of the objection.

Fair enough. Fortunately though, modal realist is not alone on the philosophical scene who claims to know something about entities spatiotemporally isolated from us. Famously, it is also a practice of philosophers of mathematics to nontrivially consider the realm on (abstract) entities being in no relevant relation to us. They treat numbers, classes, sets or functions as object (of one kind or another) subjected to the rational examination without any causal acquaintance with them. We only have to believe in the existence of realm of mathemata suited to meet the needs of all the branches of mathematics (cf. Lewis, 1986, p. 3).

If that is so, Lewis points out, our ontological commitment to the logical space full of possibilia is, methodologically speaking, not (fundamentally) different from our ontological commitment to the space of numbers, sets etc.

[5] For example, see Richards (1975) and Skyrms (1976).

We only have to believe in the existence of possibilia and "there we find what we need to advance our endeavors" (Lewis, 1986, p. 4). Yes, possibilia are causally isolated, and thus it is impossible to 'touch' them. But so are numbers, function and sets. Lewis states:

> Set theory offers the mathematician great economy of primitives and premises, in return for accepting rather a lot of entities unknown to *Homo javanensis*. It offers an improvement in what Quine calls ideology, paid for in the coin of ontology. It's an offer you can't refuse. The price is right; the benefits in theoretical unity and economy are well worth the entities. Philosophers might like to see the subject reconstructed or reconstrued; but working mathematicians insist on pursuing their subject in paradise, and will not be driven out. Their thesis of plurality of sets is fruitful; that gives them good reason to believe that it is true. (Lewis, 1986, p. 4)

Thus, according to Lewis, mathematicians and metaphysician have something in common. I said roughly, as the situation is much more complicated. In what follows, several stages of Lewis' position should motivate, elucidate and justify his very strategy.

3. Stage I: Setting the Things Up

Indisputably, we can distinguish between platitudinous uncontroversial claims about mathematics and controversial philosophical claims about it. The former present a great deal of mathematical knowledge, axioms of number theory, proofs, equation, solutions etc., simply all the activities mathematicians are educated and engaged in. It is no doubt that they know what they are talking about, they understand the subject matter, they know even more about the subject than laymen on the street.

Analogically, we can distinguish between uncontroversial platitudinous claims about possibility, necessity or contingency and their rather controversial interpretations. Taking our pre-theoretical opinions for granted, we all believe that there are donkeys, that grass is green or that I am writing this paper. We also all agree that there could have been talking donkeys, that grass could have been blue or even that I could have been a poached egg. Those are simply our pre-theoretical opinions and any philosophical analysis of modality should account for (and not violate) them.

Conversely to that, philosophers of mathematics have formulated particular theories about what mathemata are. According to some, they are Platonic entities inhabiting the Third realm. According to others, they are physical objects, symbols written on a piece of paper, concepts or immanent universals. All those mainstream views maintain that we have good reasons for thinking that numbers having a particular nature really exist as well as claim to provide the best systematizations of our mathematical knowledge.

And the same holds for modal metaphysics. There are many philosophers who take modality seriously. According to some, modality is best to be analyzed by means of possible worlds considered as real, isolated physical entities. Others have hypothesized rather actual surrogates for possibilia. For example, they say that possible worlds are platonic ideas, essences, universals, set-theoretic construction, fictions or states of affairs. Of course, there is a disagreement about what the entities in fact are. What matters, however, is that philosophers agree about what their pre-theoretical opinions are as well as philosophers of mathematics agree about what their mathematical platitudes are.

Now, given the distinction between pre-theoretical opinions, metaphysical interpretation of the opinions on one side and mathematical platitudes and their philosophical interpretation on the other we get a lattice of the following form:

I. Mathematical Platitudes	II. Pre-theoretical Modal Opinions
III. Philosophy of Mathematics	IV. Modal Metaphysics

Since there is a little dispute about mathematical platitudes (I) as well as our pre-theoretical opinions (II), mathematical and metaphysical *practice* is neutral with respect to many different controversial accounts of their subject matters (cf. Bueno & Shalkovski, 2000, p. 10).[6] Having that in mind, in modal case there is no dispute about what is possible (II). For, any modal realist is willing to accept the claim that possible worlds – whatever their metaphysical nature is – exist. It is because of the fact that various theories of both concrete and ersatz possible worlds typically *are* consistent with our pre-theoretical opinions about what is possible, impossible, contingent and necessary. What really varies is the very philosophical interpretation of the possible worlds discourse (IV). We all agree that there are donkeys, but not all of us would subscribe to

[6] In the lattice, those are (III) and (IV).

the thesis that there exist mind-independent physical objects. By the same manner, we all agree that there could have been talking donkeys, but only minority of us assumes that there exists a merely possible full-blooded talking donkey in a concrete possible world. Finally, I could have been poached egg, although not everybody accepts the claim that it is a counterpart of me, rather than me itself, that is the poached egg. And the same seems to hold for mathematics. Various philosophical accounts of mathematics – (III) – which conflict with mathematical platitudes fail to be good accounts of mathematics. On the other side, those philosophical accounts of mathematics that typically are consistent with the platitudes – most frequent are Platonistic and Nominalistic theories – provide competitive accounts of what the nature of mathematical entities is.

Thus, we can conclude the following. It would seem that Lewis uses the analogy between mathematics and metaphysics as an analogy between (I) and (IV) to show that there is the same reasoning in them. And that is a wrong way for Lewis to go. Since we do not need to be in a causal relation to possible worlds in order to know what is possible as well as we do not need to be in a causal relation to any mathemata in order to know axioms of number theory, proofs, equation, solutions etc., it is only the analogy between (I) and (II) (and not between (I) and (IV)) that is secure. However, what we really need is the very analogy between (III) and (IV). Put briefly, the argument goes as follows:

a. Modal realist argues for the existence of concrete possibilia in the same way as mathematician argues for the existence of mathematical entities.
b. We all agree that mathematicians gain some knowledge.
c. The uncontroversial mathematical knowledge is platitudinous.
d. If we take the analogy at face value, it secures only uncontroversial modal knowledge.
e. The existence of concrete possibilia is controversial modal knowledge.
f. The desired analogy is secured if and only if controversial modal knowledge is analogical to controversial mathematical knowledge.

Now, it should be clear that the analogy Lewis demands is more controversial than it looked before. It is not an analogy between mathematics (I) and modal metaphysics (IV). What he in fact needs in order for the analogy to work is a premise that commits him to the existence of controversial mathematical claims (III), the so-called Mathematical Realism (or Platonism). I do not think, however, that it discredits the very analogy. On the contrary. Given that we have some (not only) pragmatic reasons to believe in the existence of mathemata, and given the stronger version of the analogy between controversial claims in mathematics and metaphysics, we would have (not only) pragmatic reasons to believe in the existence of possibilia. I will discuss the reasons in turn.

4. Stage II: Indispensability Arguments in the Philosophy of Mathematics

Famously, the applicability of mathematics penetrates almost any part of human reasoning. It applies to virtually any part of empirical and theoretical science. It also provides elegant and economical statements of many theories. It is therefore not a surprise that given the practice and very success of science, the existence of mathemata used in it is indispensable to our theories. So, if an argument is wanted, here is one:

1. We ought to have ontological commitment to all and only the entities that are indispensable to our best scientific theories.
2. Mathemata are indispensable to our best scientific theories.

Therefore

C1. We ought to have ontological commitments to mathemata.[7]

The argument, as it stands, presupposes at least two things. Firstly, the Quinean criterion of ontological commitment epitomized in his slogans "To be is merely to be the value of a bound variable" and "No entity without identity". Secondly, Quine (and others) suggests that mathematics is epistemically on a par with the rest of science. It is idle to say that there has been a great deal of debate over the success of the argument. As Quine points out, and what is at issue here, the great medieval controversy over universals has flared up anew in the modern philosophy of mathematics. Yet, formulated in this way, the argument seems to be valid. To begin with (1), it is undisputable fact that, say, physics would not work without mathematics as it is partly the results of mathematics that constitute our knowledge of the field. Put differently, the thought is that (1) serves as a general and normative premise about what considerations govern our ontological commitments.

[7] This form of the argument is presented in Colyvan (2011).

Next, it is only very hard to imagine that given that our physical theory is *true* and, to repeat, mathematics is indispensable part of our physical theories, mathemata do not exists. Surely, to follow Shapiro, many of those unmoved by indispensability arguments do not believe the truth – in some heavy sense – of scientific theory in the first place. But for those who do it would seem that someone has to be realist about mathematics if one is a scientific realist. Therefore, mathematical entities do exist.

Shapiro (2000) formulates the argument more precisely. Namely:

1a. Real analysis refers to, and has variables range over, abstract objects called 'real numbers'. Moreover, one who accepts the truth of the axioms of real analysis is committed to the existence of these abstract entities.
2a. Real analysis is indispensable for physics. That is, modern physics can be neither formulated nor practised without statements of real analysis.
3a. If real analysis is indispensable for physics, then one who accepts physics as true of material reality is thereby committed to the truth of real analysis.
4a. Physics is true, or nearly true.

Therefore

5a. Abstract entities called 'real numbers' exist.

Now, Shapiro suggests that if we accept physics as true, we are automatically ontologically committed to the existence of real numbers. Thus, again, if the truth of the scientific theory is accepted, then it becomes a straightforward matter to see why one would assume an ontological commitment in accepting the theory as true (see Newstead & Franklin, 2012).

Mathematical Platonism is one metaphysical interpretation of mathematical discourse among many. Generally, it claims that mathematical theories relate to systems of abstract objects, existing independently of us, and that the statements of those theories are determinately true or false independently of our knowledge. Put otherwise, Mathematical Platonism is such a realistic account of mathematical discourse that provides for the fact how mathematical statements get their truth-values.

Although still controversial, the issue is clearer now than of old, because we have a more explicit standard at hand whereby to decide what ontology a given theory is committed to (cf. Quine, 1951). But if that is so, then we are back in the Lewisian analogy. Surely, by pointing out at uncontroversial mathematical platitudes on one side and our pre-theoretical opinions on the other – (I) and (II) – we gain nothing by the analogy. However, by pointing out the success of a controversial mathematical theory, namely the epistemological justification of Mathematical Platonism (III), and by applying the very (not only on pragmatic reasons based) methodology to modal realism, the Lewisian strategy can succeed.

Modal realist can thus argue in the following lines:

1. We ought to have ontological commitments to all and only those entities that are indispensable to our best scientific theories.
2. Platonic Mathemata are indispensable to our best scientific theories.

C1. We ought to have ontological commitments to Platonic Mathemata.[8]

3. If indispensability argument is valid in the case of mathematics, it should be applied to metaphysics as well.
4. We ought to have ontological commitments to all and only those entities that are indispensable to our best metaphysical theory.[9]
5. The existence of Lewis' possibilia is indispensable to our best metaphysical theory of the nature of possible worlds.

Therefore

C2. We ought to have ontological commitments to concrete possibilia.

Again, what we should have in mind here is the fact that the indispensability argument for the existence of concrete possibilia could be considered as of the same kind as its mathematical counterpart. After all, we showed that for Lewis to stay neutral about the Nominalism/Platonism dispute, and at the same time advocate the analogy between modal and mathematical epistemology, would mean nothing but the (irrelevant) justification of the uncontroversial modal opinions like 'there could have been a talking donkey', 'I could not be writing this paper' etc. It would neither persuade us to legitimately believe in the existence of a counterpart of me not writing this paper, nor give us any reason to believe in the existence full-blooded talking donkeys as parts of different

[8] For a summary of Mathematical Platonism, see Colyvan (2011).
[9] Here I assume that if a metaphysical theory true, it is necessarily so.

concrete worlds. It is a one step further, a route to Mathematical Platonism, that any advocate of the analogy between mathematics and modal metaphysics should undertake.

4.1. Stage III: premise 3

To repeat, the premise (3) claims that if the indispensability argument is valid in the case of mathematics, it should be applied to metaphysics as well. That means that if the existence of Platonic mathemata is indispensable to our best scientific theories, the existence of, say, concrete possibilia is indispensable if modal realism is the best metaphysical theory of what there is. And it raises a methodological worry. Namely, if we do not commit ourselves to such entities as numbers in our scientific enquiries, we lose explanatory power and the predictive value as to the empirical world those theories provide. But what is at stake when we do not commit ourselves to possibilia?

For Lewis, the goal of philosophy is to provide an overall systematization of our pre-theoretical opinions. It is pointless to build a theory, however systematized, that would be unreasonable to believe and it is not even the unity and sytematicity only that matters. A worthwhile theory must be credible and it does not gain its credence if it disagrees with much of common sense. It is common sense – unsystematic folk theory – that we do believe anyways and no theory should violate. We thus have the following imperative when it comes to the methodology of metaphysics: never put forward a philosophical theory that you cannot believe in your least philosophical and most commonsensical moments (Lewis, 1986, p. 135).

Moreover, other methods of philosophy govern metaphysical theorizing. For example, metaphysical endeavor concerns linguistic and conceptual analysis, employs the findings of science or applies theoretical virtues in metaphysical theory choice such as simplicity, explanatory power, systematicity and even its esthetic features. Philosophical theories, and especially those metaphysical ones, simply have to fulfill some requirements as to be accepted into the “theories battle”.

The question now is: what is the best philosophical systematization of our pre-theoretical opinions? Lewis is looking for such a theory that combines: firstly, the best balance of conservativeness and economy in our pre-theoretical opinions and metaphysical postulates, respectively; secondly, preserves all (or almost all) of our pre-theoretical opinions; and thirdly, when compared with different theories, its positive results overweigh the results of its competitors.

Having that in mind, we seem to have an idea of what the best metaphysical theory should do. Definitely, it is not its business to undermine pre-philosophical opinions. On the contrary, its business is to systematize them by means of the balance between metaphysical postulates, conservativeness, simplicity, explanatory power and economy. And if the advantages of a theory that meets the requirements overweigh the advantages of its rival, we have serious, even indispensable, reasons to accept it. Together with its ontological commitments, or course.

4.2. Stage IV: premise 5

I admit that the decision as which theory is the best when it comes to the above criteria is highly disputable. I also admit that the existence of Lewis' possible worlds raises a lot of incredulous stares. Yet, explanations of all sorts are offered by modal realism and these explanations are, for the most part, successful. For example, an accurate and appropriately non-modal analysis of modality is undefeated. Moreover, it can be even showed that the applications afforded by modal realism are greater than those afforded by its actualistic counterparts and the ontological costs of it not clearly greater than those of actualism (of one sort or another) (cf. Divers, 2002).

Unfortunately, to provide a full defense of modal realism would go far beyond the scope of this paper. Let me thus only mention the main sources of defense. Most importantly, it is Lewis'(1986) *magnum opus* in which he provides the most comprehensive advocation of modal realism. It is also Divers (2002) which, for example, defends modal realism against the objections concerning quantification over non-actuals, meets some epistemological worries concerning the theory and shows that no objection shows counterpart theory in any worse light than any other possible worlds account of *de re* modal content. The objection from circularity of Lewis' analyses is overcome in Divers (2002), Daly (2008), Kiourti (2010) and Cameron (2012), among others.

Despite the above I can still insist on the weaker reading of the premise. Namely, even if the reader is not persuaded by arguments on behalf of modal realism, my argument can be conditional. That is, no argument for the existence of concrete possible individuals is needed. Rather, the existence of concrete possible individuals can be assumed in a sense that if there are concrete impossible individuals there are such and such problems and such and such potential solutions. Briefly, I pursue the following strategy: 'were the assumptions I am hypothetically endorsing to be true such and such would be the case'.

5. Extended Modal Realism

What about impossibilia? For example, Takashi Yagisawa (1988; 1992; 2010) argues that modal realism, if fully comprehensive, should include impossible individuals into its ontology. By pointing out some deficiencies in the Lewisian analyses, Yagisawa finds Lewis' theory incomplete. Granted, there are other ways of the world than the way the world actually is. Those are Lewis' possible worlds. But beside these ways, Yagisawa adds, there are other ways of the world than the ways the world *could* be, namely ways the world *could not* have been. And we have the argument from ways.

Secondly, the existence of impossibilia seems to solve a lot of problems arising from the Lewisian conception. To give the reader a hint, Lewis' nominalistic approach to intensions cannot differentiate between various impossible and necessarily coextensive properties and propositions, unless we commit to the existence of impossibilia. Next, counterfactuals with impossible antecedent turn out, according to Lewis/Stalnaker analysis of counterfactuals, to be trivially true.[10] Consider the following pair of counterpossible conditionals:

a*. If Sally were to square the circle, we would be surprised.
b*. If Sally were to square the circle, we would not be surprised.

Apparently, if one of the conditional is true, the other is false as we seem to distinguish between the truth and the falsity of the conditionals in such a way that we assume something to be the case and wonder what would and would not follow from that. Without the modification of modal realism by means of the

[10] For Lewis' account of counterfactuals, see Lewis (1973). Being aware of the limitations of his account, he writes: "[t]here is at least some justification for the decision to make a 'would' counterfactual with an impossible antecedent to come out true. Confronted by an antecedent that is not really an entertainable supposition, one may react by saying that , with a shrug: if that were so, anything you like would be true" (Lewis, 1973, p. 24). For unintuitive consequences of the claim, see Mares (1997).

extension of it, however, the problems seem unsolvable. So is the argument from utility.

What about the indispensability argument? Could we extend the argument so as to demonstrate the indispensability of impossible entities? In any case, if we accept the need for impossible worlds and impossible individuals in the best theory of modal phenomena, parity of reasoning only support the extension of possibilists' ontology by concrete impossibilia. Moreover, if Priest is right in claiming that any of the main theories concerning the nature of possible worlds can be applied equally to impossible worlds (cf. Priest, 1997, pp. 580–581), indispensability arguments from concrete impossibilia would be the following:

1. We ought to have ontological commitments to all and only those entities that are indispensable to our best scientific theories.
2. Platonic Mathemata are indispensable to our best scientific theories.

C1. We ought to have ontological commitment to Platonic Mathemata

3. If indispensability argument is valid in the case of mathematics, it should be applied to metaphysics as well.
4. We ought to have ontological commitments to all and only those entities that are indispensable to our best metaphysical theory.
5. The existence of Lewis' possibilia is indispensable to our *best* metaphysical theory of the nature of possible worlds.

C2. We ought to have ontological commitments to Lewis' possibilia.

6. If Lewis' argument is valid in the case of concrete possible worlds, then it can be applied, mutatis mutandis, in the case of impossible worlds as well.

Therefore

C3. We ought to have ontological commitments to concrete impossibilia.

To even strengthen the point, there is one more way how to motivate (extended) modal realism from modal realists' point of view. Namely, in (Lewis, 1986) Lewis justifies his ontology by drawing a line between two kinds of truth, the actual truth and truth *simpliciter*. That means that the proposition

a. There is no beer

is true when looking into the empty fridge, although false, when we widen the scope of our quantification beyond the empty fridge. Analogously,

b. There are unicorns

is false when the actual world is considered, but when considered *simpliciter*, it's true (recall, that according to modal realism any possible individual really exist in some possible world). Surely, unicorns do not exist provided that we take the actual world into the account. We thus get the truth of

(A) *Actually P if and only if* (unrestrictedly) P

as well as

(N) *Necessarily* P *if and only* if (unrestrictedly) P.

But, as everyday discourse indicates, impossibilia are objects of beliefs, counterfactuals with impossible antecedents are not all trivially true, there are different impossible properties and propositions etc.[11] And if that is so, why do not accept (A) while deny (N). Since they are equivalent when possible worlds are at issue, they are quite distinct when it comes to impossibilia. To borrow an example from Kiourti (2009):

i. Necessarily the Law of Non-Contradiction holds if and only if the Law of Non-Contradiction holds when quantifying over possibilia,

can still be true, although, when dealing with impossible situations,

j. Necessarily the Law of Non-Contradiction holds if and only if the Law of Non-Contradiction holds when quantifying over possibilia and impossibilia

would become false.

6. Conclusion

Let me summarize the argument in the following table:

[11] Moreover, impossibilia are objects of logical arguments in a sense that when one argues that 'Necessarily, impossibilia do not exist', it is in fact claimed that necessarily something does not exist (cf. Routley, 1980, p. 83).

A	B	C
(Stage I): Mathematical platitudes	(Stage I*): Pre-theoretical opinions (about the possible)	(Stage I**): Pre-theoretical opinions (about the impossible)
(Stage II): Indispensability of mathemata for the best scientific theories	(Stage II*): Indispensability of entities postulated by the best modal metaphysical theory	(Stage II**): Indispensability of entities postulated by the best modal metaphysical theory
(Stage III): Philosophical disputes about the nature of mathemata	(Stage III*): Philosophical disputes about the nature of possible worlds	(Stage III**): Philosophical disputes about the nature of impossible worlds
(Stage IV): Mathematical Platonism	(Stage IV*): Modal realism	(Stage IV**): Extended modal realism

Stage (I) represents the basic mathematical truths like 2+2=4. Now, as Quine's and Shapiro's arguments suggest, the truths are about something, to wit, mathemata which, in order to play any role in truths of science, must exist. Recall that one who does not accepts any truths in science will not accept the move from Stage (I) to the Stage (II). Stage (III) represents philosophical disputes about what the nature of mathemata is. Finally, Stage (IV) is one particular theory of the nature of numbers, namely Mathematical Platonism.

Importantly, the move from Stage (II) to Stage (III) is controversial. What is the best philosophical systematization of mathematical knowledge must be decided somehow, but what exactly are the criteria of success of any philosophical theory is disputable. Recall, that what Lewis is looking for is such a theory that combines a) the best balance of conservativeness and economy in pre-theoretical opinions and metaphysical postulates, respectively, b) preserves all (or almost all) of our modal pre-theoretical modal opinions and c) when compared with different theories, its positive results overweigh the results of its competitors.

Now, having the column (A) complete, let proceed to the right. Namely, Stage (I*) represents our pre-theoretical opinions about what possibility is and what possibility there is.[12] Again, what pre-theoretical opinions about the possible there are is a tricky question. Since hard cases make bad theories, the best way how to outline the opinions is the following: pre-theoretical opinions

[12] That those questions are distinct, see Cameron (2012).

are those claims that we believe to be true and any theory (of modality) should accommodate.

Premises (3) and (4) put into contrast the practices of scientists and metaphysicians and are the most controversial assumptions of the whole argument.[13] Although I did not approach the question here in details, it is of the most importance to provide such an account of metaphysical methodology that would sustain the argument as well as describe the very practice of metaphysicians correctly.[14] Surely, we have some candidates for criteria to be fulfilled in order for a theory not to be dismissed at the very beginning. What criteria those are is open question.

The move from Stage (II*) to Stage (III*) only copies the move from Stage (II) to Stage (III) and is based on the indispensable existence of entities playing an important role in the most successful philosophical analysis (of modality). What entities those are – and whether those are concrete possible individuals – is, again, decided by the success of the best theory systematizing modal phenomena.[15]

By way of methodology, it is indisputable that the whole argument can plausibly be read as having a conditional form. Namely, it relies on highly controversial assumptions concerning the indispensability argument in the philosophy of mathematics, a feasibility of Mathematical Platonism, some grasp of methodology in metaphysics, its similarity to scientific practices, validity and last but not least the success of modal realism in philosophical analysis. Any assumption, for sure, deserves an extensive account on its own. One can thus read every stage of the argument as modus ponens as well as modus tollens. And I will be happy for a reader to choose.

To conclude, if (im)possible worlds are understood as other 'remote planets', no causal acquaintance with them is permissible. However, as the paper tried to show, such a limitation does not protect (extended) modal realist in defending the view. Surely, the analogy between modal metaphysics and mathematics concerning the existence of their subject matters must be approximated carefully as various ambiguities are around. As controversial as it

[13] Due to comments by anonymous referee I admit that in order to be as precise as possible, I should say that if the indispensability arguments in the philosophy of mathematics are ontological, their counterparts in the philosophy of modality are ontological too.
[14] For an interesting contribution to the debate between the methodology of science and methodology of metaphysics, see French & McKenzie (2011).
[15] I leave for a reader to finish the exposition of the table in the case of column (C).

seems, though, the basic idea behind the indispensability argument in mathematics is not fundamentally different from the idea behind indispensability argument in metaphysics, and both of them should be taken seriously.

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Modal Meinongianism and Actuality

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ABSTRACT

Modal Meinongianism is the most recent neo-Meinongian theory. Its main innovation consists in a Comprehension Principle which, unlike other neo-Meinongian approaches, seemingly avoids limitations on the properties that can characterize objects. However, in a recent paper A. Sauchelli has raised an objection against modal Meinongianism, to the effect that properties and relations involving reference to worlds at which they are instantiated, and specifically to the actual world or parts thereof, force a limitation of its Comprehension Principle. The theory, thus, is no better off than other neo-Meinongian views in this respect. This article shows that the notion *part of actuality* in Sauchelli's paper is ambiguous from the modal Meinongian viewpoint. Accordingly, his objection splits into two, depending on its disambiguation. It is then explained how neither interpretation forces modal Meinongianism to limit its Comprehension Principle. A third problem connected to Sauchelli's objection(s) is addressed: how to account for our felicitously referring to nonexistent objects via descriptions that embed reference to properties not *actually* instantiated by the objects. Overall, the replies to these difficulties provide good insights into the workings of the new Meinongian theory.

1. Modal Meinongianism and Comprehension.

Meinongianism is the view that some objects do not exist, but we can generally refer to them, quantify on them, and state true things about them.[1] Any Meinongian theory needs some principle of comprehension for its objects: a

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[1] This is the characterization provided in Sainsbury (2010), p. 45.

principle explaining which (nonexistent) objects there are and which properties they can bear. So-called naïve Meinongianism endorses what Parsons (1979), (1980) has called, by analogy with naïve set theory, an "Unrestricted Comprehension Principle" for objects:

(UCP) For any condition A[x] with free variable x, some object satisfies A[x].

Take Joseph Conrad's (allegedly) nonexistent fictional character Charles Marlow. The naïve view has it that the object is specified via a package of properties, like *x is a sailor of the British Empire, x is from London, x transports ivory on a boat through the river Congo,* etc. If A[x] stands for the conjunction of the corresponding predicates or open formulas in the appropriate language, then, according to the UCP, an object is characterized by A[x] and, calling it "Charles Marlow", m, Marlow really has the relevant properties, A[m]. The intuition is that nonexistent objects should in *some* sense have the properties they are characterized as having – otherwise, how could we know what we are thinking and talking about when we refer to them? We can in principle causally interact with ordinary, concrete, existent objects, thus being perceptually acquainted with many of their features. But when the thing does not exist, we need something like a Comprehension Principle.

The UCP does not last long. As Russell (1905a-b) famously showed, when A[x] = $Px \wedge \neg Px$ for some predicate P, the Principle delivers inconsistent objects violating the Law of Non-Contradiction. Additionally, one can prove the existence of anything one wills. For A[x] = "x is made of gold $\wedge$ x is a mountain $\wedge$ x exists", the UCP allows *a priori* an object actually having the features of being a golden mountain and existing; so there actually exists a golden mountain – which will not do (as Kant remarked: if the existence predicate could legitimately enter into definitions or characterizations, we could define things into existence). Worse, as pointed out by Graham Priest (2005, p. 83), one can prove anything. If A[x] is $x = x \wedge$ B, with B standing for any sentence, by the UCP for some object, say b, it is actually true that $b = b \wedge$ B; from which B follows by Conjunction Elimination.

Neo-Meinongians have traditionally tried to fix the Comprehension Principle by limiting the range of properties that can figure in characterizing conditions. So-called nuclear Meinongianism (Parsons (1980), Routley (1980), (1982), Jacquette (1996)) distinguishes between two families of properties, the *nuclear* and *extranuclear* ones. Only conditions including just predicates standing for nuclear properties can characterize objects (and a crucial move consists in denying that existence is nuclear). The strategy faces various problems, one of which consists in providing a principled criterion to distinguish nuclear from extranuclear properties.

In his book *Towards Non-Being* (2005), Priest has claimed that the Meinongian can do better. Drawing on insights by Daniel Nolan (1998) and Nick Griffin (1998), he has proposed a Qualified Comprehension Principle for objects:

> (QCP) For any condition A[*x*] with free *x*, some object satisfies A[*x*] *at some world.*

Because of its QCP's explicitly referring to worlds, this new kind of Meinongianism has been called "the other worlds strategy" (Reicher (2010)), or "modal Meinongianism" (Berto (2011), (2012)), and I will stick to the latter label. Objects characterized by a condition should have their characterizing features, not automatically at the actual world, but at others: those that make the characterization true. The justification for the QCP bears on the fact that nonexistent objects typically are the targets of intentional, representational states:

> Cognitive agents represent the world to themselves in certain ways. These may not, in fact, be accurate representations of this world, but they may, none the less, be accurate representations of a *different* world. For example, if I imagine Sherlock Holmes, I represent the situation much as Victorian London (so, in particular, for example, there are no airplanes); but where there is a detective that lives in Baker St, and so on. The way I represent the world to be is not an accurate representation of our world. But our world could have been like that; there *is* a world that is like that. (Priest 2005, p. 84)

By parameterising to worlds the having of properties, modal Meinongianism promises to avoid restrictions on the range of properties that can characterize objects. Given any property whatsoever, the represented object does exemplify it – at the worlds where things are as they are represented.

Besides the QCP, modal Meinongianism rests on two other pillars: (1) a modal framework including so-called *non-normal* or *impossible* worlds, broadly taken as worlds that are not possible with respect to an unrestricted (logical, perhaps metaphysical and/or mathematical) notion of possibility;[2] and (2) a natural distinction between properties the having of which entails existence, and properties the having of which does not.

As for (1), non-normal worlds help with inconsistent characterizations: $A[x] = Px \wedge \neg Px$ characterizes something which is and is not P – but only at the worlds where the characterization holds; and these are no possible worlds for sure. The theory avoids commitment to actually, or even possibly inconsistent objects.

As for (2), for instance, the actually nonexistent Marlow cannot actually have such properties as being a sailor, or transporting ivory on a boat, or thinking about Kurtz. To have such features one must be endowed with a physical location and causal powers, which Marlow as a fictional object actually lacks – in short: one must exist. But Marlow has those properties, at the worlds described by Conrad's story (the ascription of such properties to Marlow is "intra-fictional", as those working on the philosophy of fiction often say). At those worlds, Marlow is very much existent. His lacking existence at the actual world does not preclude Marlow from actually instantiating several other properties that do not entail existence, for instance: being a fictional character due to Conrad; being Marlow; being a nonexistent object; or being thought about by the Conrad readers (these count as "extra-fictional" ascriptions of features: Marlow does not have such properties within the Conrad fiction).

It is easily seen how this may seem to help with the existent golden mountain: $A[x]$ = "x is made of gold $\wedge$ x is a mountain $\wedge$ x exists" characterizes an object represented as an existent golden mountain, and which is a golden mountain at the worlds where the representational characterization is realized, which need not include the actual one. So the QCP does not allow one to prove the existence of whatever one wills.

An antecedent of this modal Meinongian setting may be due to Kit Fine, who proposed it in his critical discussion of nuclear Meinongianism back in the Eighties. Fine's early version of the QCP says: "For any class of properties, there is an object and a context such that the object [...] has in that context exactly the properties of the class" (Fine (1984), p. 138). Now Fine's *contexts*

[2] See Yagisawa (1988), Restall (1997), Mares (1997).

play a role similar to the one of the modal Meinongian's non-normal or impossible worlds: they are fictional or represented situations which can be locally inconsistent or incomplete. Also according to Fine, by parameterizing to contexts the having of properties by objects, one needs no restriction on the properties that can appear in the characterizing conditions, and "the whole apparatus of nuclear properties can drop out as so much idle machinery" (p. 139; see also Fine (1982), pp. 108-9).

In an interesting and thoroughly argued recent paper, Andrea Sauchelli (2012) disagrees. According to Sauchelli, certain characterizations of nonexistent objects spell trouble for the modal Meinongian, in such a way that she is forced to introduce restrictions to the QCP. Once the restrictions are in play, modal Meinongianism is no better off than nuclear Meinongianism or other neo-Meinongian theories. The supposedly unmanageable characterizations involve properties encompassing reference to the actual world or parts thereof, or entailing that the characterized object has relations to things that are part of actuality. Sauchelli's point is introduced in Section 2. As we will see, the notion *part of actuality* in play in the objection can be read in two different ways from the modal Meinongian viewpoint, thus giving rise to two distinct problems; and the theory has different replies to them.

In view of such replies, Section 3 makes things precise by providing a compressed formal presentation of modal Meinongianism, in the shape of a modal semantics including non-normal worlds. Section 4 shows how the theory can effectively address Sauchelli's (twofold) concern. In the closing Section 5 a third problem is addressed, not directly raised by Sauchelli but connected to his remarks, and having to do with the way definite descriptions referring to nonexistents work according to modal Meinongianism. Taken together the three issues, and their being dealt with by the theory, provide a deeper understanding of the workings of this new kind of Meinongianism.

2. The Objection from Actuality.

Sauchelli's objection to the QCP in unrestricted form is based on the idea that nonexistent and, in particular, fictional objects are often represented by cognitive agents

> as existing *at our world* and as having relations to objects that are part of our world. This means that the content of their representations contains attributions that are meant to relate them to parts of our world. [...] These

> representational properties are indexed at our world, in the sense that they are supposed to hold *at* our world. For example, Joseph Conrad, a member of our world, characterised Marlow, and thus attributed to him certain representational properties, that, among other things, contain reference to our world and that were meant to relate them to objects of our world. In particular, Marlow is represented as being in London, the London that is part of our world. (p. 3)

For another example: Travis Bickle, the main character of *Taxi Driver*, is represented in the movie as such that he drives a taxi in New York, "the New York that is part of @" ("@" standing for the actual world), and as "talking to the mirror (which is in the New York that is part of our world)" (p. 4). Realistic fictional works like *Heart of Darkness* or *Taxi Driver*, according to Sauchelli, prescribe us to imagine certain things as happening at the actual world. For example, the movie prescribes us to imagine "that our world contains a taxi driver who turned into a vigilante" (ibid.). The features Marlow or Travis are characterized as having are properties they are "represented as possessing as a part of our world; [they are] not represented as having those properties in other worlds" (p. 6).

It is thus in the content of the respective representations that Marlow, or Travis, be part of the actual world @, and thus exist at @: one who is represented as driving a taxi at @, since driving a taxi is an existence-entailing property, must exist at @. One who is represented as being from London – the London which is part of @ – must exist at @. But this flatly contradicts the modal Meinongian view that that Marlow or Travis are nonexistent objects. We should therefore conclude that the theory "is either inconsistent (if it embraces an unrestricted principle of characterization) or incomplete (for it cannot accommodate certain properties attributed to fictional characters)" (p. 6).

So formulated, the objection adopts a notion, *being part of actuality*, or *being part of @*, or *being part of our world*, crucially ambiguous from the modal Meinongian viewpoint. Which does not mean that the objection is flawed because of this. Rather, as we will see, it amounts to two different points, depending on how one disambiguates it. The ambiguity becomes apparent once modal Meinongianism has been phrased in formally precise terms; and to this we now turn.

3. Modal Meinongian Semantics

In this Section we use standard tools of world semantics to describe a simple model for the modal Meinongian theory. Take a standard first-order language, L, having individual variables: x, y, z ($x_1, x_2, \dots, x_n$); individual constants: m, n, o ($o_1, o_2, \dots, o_n$); n-place predicates: F, G, H ($F_1, F_2, \dots, F_n$); a designated one-place predicate, E; the usual logical connectives: negation $\neg$, conjunction $\wedge$, disjunction $\vee$, the conditional $\rightarrow$; the two Meinongian quantifiers Λ and Σ (written thus, for reasons to be explained soon); a sentential operator, ®; and round brackets as auxiliary symbols. Individual constants and variables are singular terms. If $t_1, \dots, t_n$ are singular terms and P is any n-place predicate, then $Pt_1 \dots t_n$ is an atomic formula. If A and B are formulas, then $\neg$A, (A $\wedge$ B), (A $\vee$ B), (A $\rightarrow$ B), and ®A are formulas; outermost brackets are omitted in formulas; if A is a formula and x is a variable, ΛxA and ΣxA are formulas, closed and open formulas being defined as usual. The only notational novelty is ®, called the *representation operator*. The intuitive reading of "®A" will be "It is represented that A", representation being understood as a generic for the intentional activities relevant for the characterization of our nonexistent objects – from imagining, to picturing, to envisaging, to describing in a fiction, etc.

An *interpretation* of L is an ordered sextuple <P, I, @, R, D, v>. P is the set of possible worlds; I is the set of non-normal or impossible worlds; P, I are disjoint, W = P $\cup$ I is the totality of worlds; @ $\in$ P is the actual world, a possible one. $R \subseteq$ W x W is a binary relation on the whole set of worlds. If <w_1, w_2> $\in$ R (w_1, w_2 $\in$ W), we write this as $w_1 R w_2$ and say that w_2 is *representationally accessible* or, quickly, R-accessible, from w_1. D is the set of objects of the theory; v assigns denotations to the descriptive constant symbols of L:

If c is an individual constant, $v(c) \in$ D;

If P is a n-place predicate and $w \in$ W, $v(P, w)$ is a pair,
<v+(P, w), v-(P, w)>, with v+(P, w) $\subseteq$ D^n, v-(P, w) $\subseteq$ D^n.

D^n = {<d$_1$, ..., d$_n$> | d$_1$, ..., d$_n$ $\in$ D}, the set of n-tuples of members of D (<d> is stipulated to be just d, so D^1 is D). To each pair of n-place atomic predicate P and world w, v assigns an extension v+(P, w), and an anti-extension, v-(P, w).

The (anti-)extension of P at w is the set of (n-tuples of) things of which P is true (false) there. The following twofold clause, called the Classicality Condition, ensures that at possible worlds the extension and anti-extension of each predicate be mutually exclusive and jointly exhaustive:

(CC) If $w \in$ P, for any n-ary predicate P: $v+(P, w) \cap v-(P, w) = \emptyset$
$v+(P, w) \cup v-(P, w) = \mathrm{D}^n$

If a is an assignment for the variables of L (a map from the variables to D), then v_a is the denotation function indexed in the usual way:

If c is an individual constant, then $v_a(c) = v(c)$;
If x is a variable, then $v_a(x) = a(x)$.

Then, "$w \Vdash^{+}_{a}$A" means that A is true at world w, with respect to assignment a, "$w \Vdash^{-}_{a}$A", that A is false at w, etc. (we will omit the assignment subscript when we deal with closed formulas). Atomic formulas have truth and falsity conditions phrased as follows:

$w \Vdash^{+}_{a} Pt_1 \ldots t_n$ iff $< v_a(t_1), \ldots, v_a(t_n) > \in v+(P, w)$

$w \Vdash^{-}_{a} Pt_1 \ldots t_n$ iff $< v_a(t_1), \ldots, v_a(t_n) > \in v-(P, w)$.

The extensional logical words have familiar clauses at all $w \in$ P:

$w \Vdash^{+}_{a} \neg$A iff $w \Vdash^{-}_{a}$A

$w \Vdash^{-}_{a} \neg$A iff $w \Vdash^{+}_{a}$A

$w \Vdash^{+}_{a}$A $\wedge$ B iff $w \Vdash^{+}_{a}$A and $w \Vdash^{+}_{a}$B

$w \Vdash^{-}_{a}$A $\wedge$ B iff $w \Vdash^{-}_{a}$A or $w \Vdash^{-}_{a}$B

$w \Vdash^{+}_{a}$A $\vee$ B iff $w \Vdash^{+}_{a}$A or $w \Vdash^{+}_{a}$B

$w \Vdash^{-}_{a}$A $\vee$ B iff $w \Vdash^{-}_{a}$A and $w \Vdash^{-}_{a}$B

$w \Vdash^{+}_{a} \Lambda x$A iff for all d $\in$ D, $w \Vdash^{+}_{a(x/\mathrm{d})}$A

$w \Vdash^{-}_{a} \Lambda x$A iff for some d $\in$ D, $w \Vdash^{-}_{a(x/\mathrm{d})}$ A

$w \Vdash^{+}_{a} \Sigma x\mathrm{A}$ iff for some $\mathrm{d} \in \mathrm{D}$, $w \Vdash^{+}_{a(x/\mathrm{d})} \mathrm{A}$

$w \Vdash^{-}_{a} \Sigma x\mathrm{A}$ iff for all $\mathrm{d} \in \mathrm{D}$, $w \Vdash^{-}_{a(x/\mathrm{d})} \mathrm{A}$

In the last four clauses, "$a(x/\mathrm{d})$" stands for the assignment which is just like a, except for assigning $\mathrm{d} \in \mathrm{D}$ to x. We can have the material conditional, the usual way: $\mathrm{A} \supset \mathrm{B} =_{\mathrm{df}} \neg\mathrm{A} \vee \mathrm{B}$. We can take $\rightarrow$ as a more vertebrate strict conditional. At all $w \in \mathrm{P}$:

$w \Vdash^{+}_{a} \mathrm{A} \rightarrow \mathrm{B}$ iff for all $w_1 \in \mathrm{P}$ such that $w_1 \Vdash^{+}_{a} \mathrm{A}$, $w_1 \Vdash^{+}_{a} \mathrm{B}$.

$w \Vdash^{-}_{a} \mathrm{A} \rightarrow \mathrm{B}$ iff for some $w_1 \in \mathrm{P}$, $w_1 \Vdash^{+}_{a} \mathrm{A}$ and $w_1 \Vdash^{-}_{a} \mathrm{B}$.

Everything works familiarly enough as far as worlds in P are concerned, the one change with respect to standard modal semantics being that truth and falsity conditions are spelt separately. This does not change much at possible worlds anyway. The CC dictates that, at each $w \in \mathrm{P}$, any predicate P is either true or false of the relevant object (or n-tuple thereof), but not both. That no formula is both true and false or neither true nor false can be checked recursively: there are no so-called truth-value gluts or gaps at possible worlds.[3]

Things change at non-normal worlds. At points in I, v treats complex formulas basically as *atomic*: their truth-values are not determined recursively, but directly assigned by v in an arbitrary way: $\mathrm{A} \vee \mathrm{B}$ may turn out to be true even though both a and b are false, etc.[4] The idea that complex formulas can

[3] A technical proviso: one needs, in fact, a couple of extra constraints on ® to rule out via the CC truth value gaps and gluts at world in P for formulas involving it, given that its clauses, which we are about to meet, allow access to non-normal worlds. We can skip this further complication, as it is unimportant for our purposes.

[4] Another technical note, which can be skipped without loss of continuity. We want the syntax of various complex formulas to be semantically neglected at non-normal worlds: this is what "treating them as atomic" consists in. But if, for instance, conditionals $\mathrm{A} \rightarrow \mathrm{B}$ are just assigned arbitrary truth values, one may have that $Fm \rightarrow Gm$ gets a different value from $Fn \rightarrow Gn$ although m and n denote the same thing. We fix this following a technique due to Priest (2005, pp. 17-8). Each formula A is paired to one of the form $M[x_1, \ldots, x_n]$, the formula's *matrix*. One gets the matrix of A by substituting each occurrence in A of a free term (an individual constant, or a free variable), from left to right, with a different variable $x_1, \ldots, x_n$, in this order, these being indexed as the least variables greater than all the variables bound in a in some ordering. The initial formula can always be regained from its matrix via the reverse substitutions. At points in I, in fact, the following takes place: v assigns there to each

behave as atomic at some points in a model goes back to seminal work in epistemic logic by Rantala: non-normal worlds were used to provide semantics for epistemic operators, capable of dealing with the various problems related to logical omniscience.[5] Something of the sort happens with our ®. At $w \in$ P:

$w \Vdash^{+}_{a}$ ®A iff for all $w_1 \in$ W such that wRw_1, $w_1 \Vdash^{+}_{a}$ A

$w \Vdash^{-}_{a}$ ®A iff for some $w_1 \in$ W such that wRw_1, $w_1 \Vdash^{-}_{a}$ A

The clauses remind us of the usual binary accessibility semantics for standard modal logics – except that representation allows us to access impossibilities. "wRw_1" ("w_1 is R-accessible from w") roughly says that at w_1 things are as they are represented to be at w, for instance, if ®A is your dreaming that you win the lottery, then an R-accessible w_1 is a fine world at which your dream comes true.

Logical consequence goes as in ordinary modal logics with a designated world: it is truth preservation at the base world, that is, the actual world @, in all interpretations (and assignments).[6] Given a set of formulas S,

S $\vDash$ A iff for each interpretation <P, I, @, R, D, v>, and assignment a, if @ $\Vdash^{+}_{a}$ B for all B $\in$ S, then @ $\Vdash^{+}_{a}$ A.

The Meinongian quantifiers have been symbolized as Λ and Σ to remind one of their existential neutrality: one can quantify on nonexistents, so one wants to

matrix M pairs of subsets of D^n, i.e., extensions and antiextensions: if w is non-normal and M the relevant matrix, $v(M, w) = <v+(M, w), v-(M, w)>$, with $v+(M, w), v-(M, w) \subseteq D^n$. Next, if $M[x_1, \ldots , x_n]$ is a matrix and $t_1, \ldots , t_n$ the replaceable terms, we give these truth conditions for the substitution instances:

$w \Vdash^{+}_{a} M[t_1, \ldots , t_n]$ iff $< v_a(t_1), \ldots , v_a(t_n)> \in v+(M, w)$

$w \Vdash^{-}_{a} M[t_1, \ldots , t_n]$ iff $< v_a(t_1), \ldots , v_a(t_n)> \in v-(M, w)$.

When we talk of "treating complex formulas as atomic" at impossible worlds, this matrix procedure is in fact understood as being in place.

[5] See Rantala (1982). A similar strategy showed up earlier for the evaluation of modal formulas in some weak modal logics, like the system S0.5: see Cresswell (1966).

[6] One could define logical consequence as truth preservation at all possible worlds in all interpretations. In this respect, the semantics has nothing to differentiate @ from the other w's (provided $w \in$ P: we are dealing with what logically holds, that is, what holds at worlds where logic is *not* different). @ has been flagged because it has other tasks to carry out, as we will see.

avoid "∃", for the temptation to read it as expressing existence is strong. Existence is a normal first-order property designated by the predicate *E*.[7] A task nicely performed by the formalism via this predicate is the representation of existence-entailments. If an *n*-place predicate *P* of L is existence-entailing in *i*-th position, it is so at all possible worlds:

$$\text{If } w \in \mathrm{P}, \text{ then if } <\mathrm{d}_1, \ldots, \mathrm{d}_i, \ldots, \mathrm{d}_n> \in v^+(P, w), \text{ then } \mathrm{d}_i \in v^+(E, w).$$

Thus, if Sherlock Holmes thinks about Pegasus at w, Holmes must exist at w, even though Pegasus need not exist there. But if Holmes kisses Watson at w, then at w both Holmes and Watson exist. And this always applies when $w \in \mathrm{P}$ (things may be different at impossible worlds: we may have nonexistent thinkers and kissers there – bizarre, but this is how impossible worlds are).

We can now spell out what the having of representational properties exactly amounts to in the theory. Nuclear Meinongianism maintained that any nuclear condition characterized some object *simpliciter*. Given one such condition A[x], calling o an object characterized by it, we have (in our notation) that $@ \Vdash^+ \mathrm{A}[o]$: objects actually have the relevant nuclear properties. But in modal Meinongianism characterization is representational. An object o is actually represented via A[x]: $@ \Vdash^+ ®\mathrm{A}[o]$. Then for all w that realize the representation, i.e., for all w such that $@Rw$, $w \Vdash^+ \mathrm{A}[o]$. As ® is not factive, we do not have, in general, $@ \Vdash^+ \mathrm{A}[o]$. Marlow is represented (at @), by Conrad and his readers, as a sailor of the British Empire coming from London, transporting ivory on a boat through the river Congo, etc. But Marlow does not have these existence-entailing, features at @.

That characterization is representational does not mean that the theory cannot afford full reference to the involved objects. Marlow only fictionally has the property of being a sailor, but we can really, not fictionally, refer to Marlow. Although ® has been introduced as a sentential operator, a *de dicto-de re* switch should, in general, be allowed insofar as we have to do with full-fledged, albeit nonexistent, objects. "Marlow", m, being a rigid designator in our semantics, it is natural to move from "It is represented (in Conrad's story) that

[7] Quantification on existents is thus for the Meinongian just restricted quantification, ranging on the subset of the existent items in D. Using the old symbols for the existentially loaded quantifiers, "All existing things are such that..." is: $\forall x\mathrm{A}[x] =_{\mathrm{df}} \Lambda x(Ex \rightarrow \mathrm{A}[x])$. "There exists something such that..." is: $\exists x\mathrm{A}[x] =_{\mathrm{df}} \Sigma x(Ex \wedge \mathrm{A}[x])$.

Marlow is a sailor", to "Marlow is such that he is represented (in Conrad's story) as a sailor". This can be settled formally via the addition of λ-abstraction clauses, allowing the move from ®*Sm* to [λ*x*.®*Sx*]*m*. We are effectively stating, of the nonexistent (at @) Marlow, that he has the property of being represented-as-a-sailor (in Conrad's story). "Charles Marlow", then, always denotes a unique object, namely Charles Marlow, both in intra-fictional contexts in which representational properties are ascribed to him, and in extra-fictional contexts – such as when we say: "Charles Marlow is a purely fictional character invented by Conrad".

4. The Objections from Actuality

Back to Sauchelli. Given the framework above, what can such expressions as "part of actuality", or "part of @", or "part of our world" mean in the sentences used to phrase his objection?

To begin with, notice that the model above is constant domain world semantics, D being the unique domain of quantification. One of the reasons for taking the domain of the quantifiers as variable across worlds in first-order modal semantics, having different worlds mapped to different sets of objects, is to represent contingent existence. I do not exist at other possible worlds where my parents never meet. *Vice versa* (and perhaps more controversially), a never-born sister of mine does not exist but could; mountains made of gold do not exist but appear to be possibly existent; and Marlow does not exist but, in the world of *Hart of Darkness*, he does. If existence is captured by the quantifiers, and we let the domain be constant across all worlds, then what is included in the domain of quantification at one world, and thus exists there, exists at all worlds. To exist at all (possible) worlds is to exist necessarily; thus, anything that exists at some world exists necessarily, against the intuition of contingency. Instead, in a variable domain setting the latter can be captured by representing contingency as domain variation across worlds, while having the quantifiers of the formal language range, at each world, only on what exists at that world.

For a Meinongian, however, existence is not quantification. Existential commitment is made explicit by means of the predicate E of L flagged above. The objects existent at a world w are just those in $v^+(E, w)$. That object o exists at world w_1, not at world w_2, is simply represented by having o satisfy the existence predicate at w_1, not at w_2.

Given this setting, to read Sauchelli's objection taking "being a part of @", or "being a part of actuality", as if they meant "being included in the domain of quantification at @", would make its import vanish. Trivially, *everything* for modal Meinongianism is part of actuality in this sense: everything is included in the unique domain of quantification, D, invariant across worlds. *Obiectus tantum obiectus*, objects are just objects, they are not at this or that world. What can be "at" this or that world (and, also, "at @"), that is, meaningfully world-indexed, is the having of properties by objects. Marlow is nonexistent at @, but existent in the Conrad worlds, merely fictional at @, but not fictional at all in the Conrad Worlds: at those worlds, Marlow is very real.

In what sense, then, can Sauchelli's claims to the effect that we often represent nonexistents "as existing *at our world* and as having relations to objects that are part of our world" count as an objection to the unrestricted QCP? They can so count, I take it, in two ways, none of which has to do with an object's being included in the domain of quantification at this or that world.

4.1 Reference to Existents, Relations With Existents

On a first reading, those remarks may point at the fact that fictional works also talk of things that are not purely fictional, but really exist, or have existed, at @; and purely fictional objects are characterized as having relations with these real things. In this sense, these things are "part of @", or "parts of actuality". "Part of @" here should mean something like: being (or having been) a spatiotemporal part of actuality; or being (or having been) physically located at the actual world; or having (had) causal powers in reality; in short: *really* existing (or having really existed). For instance: Napoleon is a really existed man, but also, a character mentioned in *War and Peace*. Besides, purely fictional characters of *War and Peace* are variously related to him in the story. London is a really existing city, but also, is referred to in *Heart of Darkness*, where Marlow is characterized as being from London.

Now another merit of modal Meinongianism is precisely its supplying an intuitive treatment of fictional discourse involving reference to things that are not purely fictional, but real, and to which purely fictional things may be related *in the relevant fictions*. It is represented (in Conrad's story) that Marlow comes from London: ®$F(m, l)$ ("m" standing for Marlow, "l" standing for London, "F" for the relation of *coming from*). According to the theory that "l", "London", there refers back to the unique really existing ("part of actuality", in this sense) London, so dear to us (and to Pierre), not to fictional or other-worldly London-counterparts. This does not create any problem as far as the nonexistence of Marlow is concerned. For it is only *within the representation*, not in reality, that (the unique real) London is Marlow's home city. Formulas beginning with the representation operator support the aforementioned *de dicto-de re* switch also for actually existing things. We can seamlessly move to "London is represented (in Conrad's story) as such that Conrad comes from *it*" (abstracting: $[\lambda x.® F(m, x)]l$). Conrad represented that quite existent city as such that Marlow came from it. By the same token, he was representing Marlow as such that he came from that quite existent city (abstracting: $[\lambda x.® F(x, l)]m$). But being represented as coming from an existent city does not make a nonexistent object existent: Marlow does not have the property of coming from London at @, nor does London have the property that Marlow comes from it at @. There is no problem for the QCP of modal Meinongianism, in this first reading of Sauchelli's remarks.

This simple treatment of real objects mentioned in fiction avoids to modal Meinongianism the need to treat such names as "Napoleon" as ambiguous, in the way of some realist accounts of fictional objects *à la* van Inwagen (1977). On these accounts, the name normally stands for the real and (former) existent historical man. But when it occurs in extra-fictional discourse on the character of *War and Peace*, the name stands for a purely fictional object, which is an abstract existent – thus, something quite different from the historical man. Additionally, the name may also denote nothing at all, when it occurs in the intra-fictional discourse of *War and Peace,* for Tolstoj only pretended to refer when he wrote the story. Such distinctions seem to be introduced *ad hoc*, not being supported by the intuitive data: competent speakers have no sense of the postulated ambiguity (the Wikipedia entry on *War and Peace* claims: "There are approximately 160 real persons named or referred to in *War and Peace*").[8]

In the modal Meinongian treatment, "Napoleon" simply stands for one thing in all the aforementioned contexts: it stands for Napoleon, the really existed man. That Napoleon lost at Waterloo is actually true, true at @, of that man. If a literary critic claims that the Napoleon of *War and Peace* is representative of Tolstoj's historical realism, she is referring again to the one and only Napoleon. What she claims can again be actually true, nor does this conflict with Napoleon's being a really existed man (you can make of *me* a

[8] See http://en.wikipedia.org/wiki/War_and_Peace.

representative of your historical realism, by lengthily talking about me in a historically realistic novel you write). Finally, when "Napoleon" appears in the phrases composing *War and Peace*, those phrases are still about the real Napoleon. The features Napoleon is *represented* as having by the story are had by him at the worlds that realize Tolstoj's story. Some of these features, such as being the self-proclaimed emperor of France, he may also have, or have had, in the real world; some others, he may not.

4.2 Pointers to Actuality

The second reading of "part of @" in Sauchelli's discourse may rely on the following idea: fictional works often ascribe to purely fictional objects properties *that are world-indexed*, that is, which include reference to this or that world, or "world-pointers", either implicitly or explicitly. Some of these properties, in particular those indexed to @ – including explicit or implicit reference to @, or "pointers to actuality" – are the ones that cannot be had by nonexistent objects (at this or that world), against the unrestricted QCP. When some nonexistent object, *o*, is represented as being such-and-such-at-*@*, where "being-such-and-such" stands for some existence-entailing property, *o* cannot be, at this or that world, as it is represented: for *o* would need to be such-and-such, and thus to exist, at the actual world.

The first thing to remark is that fictional representations involving world-pointers, and especially pointers to actuality, may be much less pervasive than the Sauchelli objection suggests on this reading. It is very uncommon for a writer of fiction to introduce talk of *worlds* (possible, or impossible) explicitly in her stories. Most writers have, of course, no special acquaintance with modal logic or metaphysics. Are representations in general *implicitly* world-indexed, then? I suspect not. We normally do not conceive, or imagine, or represent things having reference to worlds embedded in our representation. Evidence for it is that we most often grasp the content of a representation without having any clue on the worlds at which it may hold, and specifically on whether it is true, i.e., it holds at @. We may even be misguided on this and take fiction for reality, or *vice versa*. As Mark Sainsbury has noticed,

> a documentary might be mistaken for an ordinary drama-movie, or vice versa. An interesting feature of these mistakes is that they are consistent with the consumers grasping the content of the work. The movie shows a scene of rioters in Chechnya; that is made plain (they are certainly rioting, and the

> streets signs and buildings are distinctive of Chechnya). This does not tell us whether we are in the realm of fact or fiction, documentary or drama. (Sainsbury 2010, p. 5)

We don't know whether what is represented obtains at the actual world or not, but we understand the represented content quite well. It seems, therefore, that the representation brings no reference to worlds embedded in it, and in particular to the actual one. Otherwise, we could not understand it without understanding *that* it is given as actually holding. According to Sainsbury, this shows that "there is no distinctive species of meaning, 'fictional meaning', distinct from everyday meaning" (Ibid.)

Per se, this is no reply to (the second reading of) Sauchelli's objection yet. As he acknowledges (p. 6), the modal Meinongian may retort that, for instance, *Taxi Driver* "is not representing Travis Bickle as being part of our world" ("part of our world" meaning now: existing, or having existence-entailing properties, at @), for no world-indexing is explicit or implicit in the characterization. But as Sauchelli correctly points out, even if the examples he has provided are bad, nothing prevents one from producing a fictional characterization which does include explicit reference to actuality: "at least in certain fictions, reference to @ is explicit and central to their understanding." (Ibid.) One may imagine one's dreams or representations as realized. One may imagine or represent, for instance, not only a winged horse, but that something is a winged horse at the actual world.

Here is how the point can be made precise. The expression "actually", taken as a world-pointer meaning the same as "at the actual world", can notoriously work as a rigidifier for descriptions and property-ascriptions generally. I am, contingently, brown-haired, i.e., I am brown-haired at @ but not at other possible worlds. But then I am necessarily brown-haired-at-the-actual-world. Now suppose we add the following world-pointing device to our object language L above: a sentential operator, "*Act*", whose intuitive reading is something like "actually", or "it is actually the case that". The natural truth conditions for *Act* would seem to be the following:

$w \Vdash^{+}_{a} Act\mathrm{A}$ iff $@ \Vdash^{+}_{a} \mathrm{A}$

$w \Vdash^{-}_{a} Act\mathrm{A}$ iff $@ \Vdash^{-}_{a} \mathrm{A}$

"It is actually the case that A" is true (false) at a world if and only if A is true (false) at the actual world.[9] Now let us embed our new item in a characterizing condition. If B[*x*] = "*x* is a winged horse", then let A[*x*] = *Act* B[*x*] = "It is actually the case that *x* is a winged horse". Let something, *b*, be represented as being a winged horse at the actual world: $@ \Vdash^{+}$ ®A[*b*], that is, $@ \Vdash^{+}$ ®*Act* B[*b*]. By the QCP at some world, *w*, *b* has the property of actually being a winged horse. Since $w \Vdash^{+}$ *Act* B[*b*], we have that $@ \Vdash^{+}$ B[*b*]. *This* is what will not do: the QCP cannot deliver real winged horses by *fiat*.

However, the solution to this has already been pointed out by Priest.[10] What comes to the rescue, in fact, is the apparatus of non-normal worlds included in the semantics of modal Meinongianism. The clauses for *Act* above are only acceptable if *w* is a *possible* world. *Act* is an intensional operator whose semantics involves a world shift. Now, as Priest stresses, we cannot postulate the truth conditions of such operators to be uniform unrestrictedly across *all* worlds, normal and non-normal: we cannot housetrain the totality of worlds *simpliciter* in this way. If a is false at @, then *Act* A is not a necessary truth. But if *w* is an impossible world, *Act* A can hold at it even if A does not hold at @.

Act A must have different truth conditions at impossible worlds (one may take it as atomic there, via the matrix treatment explained above). Given a condition, B[*x*], we can certainly imagine, as Sauchelli has remarked, that it obtains *simpliciter*, that is, its holding at the actual world, and form a new represetational condition A[*x*] = *Act* B[*x*]. But this does not automatically guarantee its realization, as it would happen if the truth conditions for *Act* were uniform across all worlds. A[*x*] = "It is actually the case that *x* is a winged horse", therefore, is no problem for the QCP. Something has, at some world, the property of being a winged horse at @. But this doesn't give us a real winged horse. The intuition is simple: one may imagine one's dreams or fantasies to be realized, but unfortunately, that doesn't make them real.

[9] So phrased, *Act* does not correspond to the world-pointing use of "actually" taken as a modal indexical. *Act* has been so formulated for the sake of the argument. Sentences containing indexicals can express different contents in different contexts of use. In the standard Kaplanian treatment, to give their semantics we need a double indexing, taking into account not only worlds of evaluation, but also contexts of use. For the indexical "actually", the relevant contexts are worlds themselves: when embedded in an expression used at a world, "actually" picks out that very world. Used in the context of world w_1, "It is actually the case that A" is true at *w*, iff A, as used at w_1, is true at w_1, and false otherwise. $w_1 = @$ is a special case.

[10] See Priest (2011), Section 3.3. This is in reply to a remark by Beall (2006), which to some extent anticipates (this disambiguation of) Sauchelli's objection.

5. Marlow the Ivory Trader

The discourse so far leaves room for a linguistic subtlety. Modal Meinongianism focuses on the idea that the existence-entailing properties nonexistent objects are represented as having are not actually possessed by the relevant objects; and we have seen reasons for denying that (existence-entailing) representational property-ascriptions to nonexistents are, in general, world-indexed. The nonexistent Marlow, therefore, on this account is actually not an ivory trader from London, nor is Sherlock Holmes a detective, nor Travis a taxi driver, etc. However, we use such features to build descriptions apparently successfully referring to them. We felicitously refer to Holmes as "Doyle's detective living in 221b Baker St.", or to Marlow as "the ivory trader in search of Kurtz", etc. How come? For a nuclear Meinongian, Marlow actually *is* an ivory trader, albeit a nonexistent one, for being an ivory trader is a nuclear property. This is not so for the modal Meinongian, for whom these objects are only represented as having such features.

Donnellan (1966)'s famous referential/attributive distinction shows that we can use descriptions successfully to refer to objects that don't actually satisfy them. "The man over there with the champagne in his glass is happy" successfully refers to a man in the corner who is, in fact, happily drinking sparkling water. Kripke (1977)'s rejoinder to Donnellan is equally well-known. One should distinguish between what is meant by a speaker via a particular utterance (speaker's reference) and what is literally said (semantic reference). Only the latter has to do with semantics properly, whereas investigation of the former falls in the realm of pragmatics. My intention to refer to a person who, unbeknownst to me, has water in his glass, does not affect the proposition literally expressed by my utterance of "The man over there with the champagne in his glass is happy": this does not depend on the speaker's reference but on the description's semantic denotation, which cannot be any non-champagne drinker.

Whether the successful use of "the ivory trader in search of Kurtz" to refer to Marlow is a matter of pragmatics or semantics, the linguistic phenomenon brings no problem to the modal Meinongian ontology. It seems that we simply have unstable linguistic habits, mirroring shaky intuitions on when it is appropriate to use existence-entailing predicates, also in forming descriptions. The analogy between worlds and times is often useful. We say on the one hand that Joseph Conrad *was* an English novelist: assuming Conrad has ceased to exist given that he died in 1924, he can hardly be a novelist *in actu*. On the other hand, we also take "Joseph Conrad is an English novelist" as retaining much of its truth today (contrast "Joseph Conrad is a Scottish philosopher"). We may felicitously refer to Conrad, today, as "the English novelist who wrote *Heart of Darkness*". We allow ourselves to describe objects via predicates that express contextually distinctive, important, or salient features, even when the objects don't currently make those predicates true. Existence-entailing features, of course, can be quite salient. Compare the habit of calling "president" a former president of some nation, say the United States, even when, having finished the mandate, calling that person a president is, strictly speaking, false: *semel abbas, semper abbas.*

For an example projecting onto the future, take Brontë's Jane Eyre, being called (indeed, calling herself) "Mrs Rochester" the evening before her marriage. This is quite successful reference, even if Jane is to start satisfying the condition of being married to Rochester only the day after (the example has been taken from Yablo (1987)). In fact, in the story the marriage does not even take place in the end: being Rochester's wife is to remain an unrealized possibility for Jane. Which confirms that what happens across times also happens across worlds. We successfully refer to Holmes as Doyle's detective. Now being a detective is a property Holmes cannot have at the actual world: you have to exist to be one. The modal Meinongian view prescribes, as we have seen, that Holmes be a detective at the worlds at which Doyle's stories are realized, and @ is not among them. This doesn't make our referring to Holmes via the description "Doyle's detective" less felicitous: being a detective is one of the most salient features for Holmes, despite his not actually being such.

How to account for these felicitous uses of descriptions including predicates that are actually-currently false of the relevant objects certainly is a delicate issue in the philosophy of language. Perhaps "the president (of the US)" semantically refers only to whoever currently actually is the president. Perhaps contextually successful reference to the former president Jimmy Carter in "The president is busy, he is writing his Camp David memories", uttered at the phone by a member of Carter's entourage, must be located in the pragmatics of referential uses of descriptions, at the level of speakers' meaning (in the Kripkean sense). If this is so, certainly lots of speakers talk this way.[11]

[11] For criticisms of Kripke (1977), see Reimer (1998), Devitt (2004). For a defense, see Neale (1990), Ch. 3.

As the phenomenon is widespread, and independent from the existential status of the involved objects, it cannot be a problem for modal Meinongianism specifically.

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An Abstract Mereology for Meinongian Objects

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ABSTRACT

The purpose of this paper is to examine how any domain of Meinongian objects can be structured by a special kind of mereology. The basic definition of this mereology is the following: an object is part of another iff every characteristic property of the former is also a characteristic property of the latter. (The notions of *domain of Meinongian objects* and *characteristic property* will be carefully explained in the paper.) I will show that this kind of mereology ends up being very powerful for dealing with Meinongian objects. Mereological sums and products are not restricted in any way in a domain of Meinongian objects: there is a sum and a product for any pair of Meinongian objects. With the mereological operations of sum, product and complement, and two special Meinongian objects (a total object having every characteristic property and a null object having no characteristic property), we can define a full boolean algebra on Meinongian objects. Moreover, this kind of mereology is atomic and extensional: an atom is a Meinongian object having just one characteristic property and two objects are identical iff the same atoms are parts of both of them. A Meinongian object can finally be defined in mereological terms as the sum of the atoms of its characteristic properties.

Outline

(1) In the first section, a special notion of *part* is introduced. (2) In the second section, I will present a Meinongian axiomatic theory (a simplified version of Parsons' theory of nonexistent objects). (3) Using this theory as a framework, I will construct and study a mereological structure based on the special notion of

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part introduced in the first section. (4) Finally I will be presenting applications and extensions of this mereology in different fields (notably concerning the traditional round square). (5) As a conclusion I will outline a generalization by showing how this mereological structure can be constructed not only in the particular Meinongian theory I have been considering, but also in every domain of Meinongian objects.

1. Abstract Part

The mereology which I intend to present is based on a notion of *part* typically involved in sentences such as:

(1) Rationality is a part of any human being.
(2) Justice is a part of virtue.

What do we mean when we say that *x* is part of *y* in this special sense? Clearly it is different from what we mean when we say that fingers are parts of a hand, or the morning is a part of the day: in such cases (which are the most ordinary), *being a part of* means being *spatio-temporally included in*. Yet, justice is not spatio-temporally included in virtue, not even analogically.

It seems that what we mean by (1) and (2) has something to do with the instantiation of certain properties related to the notion of rationality, human beings, justice and virtue. Indeed, we could explain (1) by saying that everything that has the property of being human has also the property of being rational. And similarly, we could say that (2) expresses the fact that everything that has the property of being virtuous has also the property of being just.

This kind of use of part involving instantiation of properties (and how classes or bundles of properties are included in one another) has been studied by various authors.[1] The purpose of this paper is not to give an original account of this notion; it is rather to show its usefulness when applied to Meinongian objects.

If we assume that (1) and (2) express genuine mereological relations, we must clear up what kind of things are denoted by the terms *rationality*, *justice* and *virtue*. I will take them as designating a special sort of abstract objects: concepts of property.[2] The concept of virtue, for instance, or equivalently the

[1] See notably Goodman (1977) and Paul (2002). Tropes theorist also commonly use mereological machinery to describe how bundles of tropes are formed and are related to each others. Thus, studying this special sense of part is not a theoretical novelty.
[2] On the distinction between a property and its concept see Zalta (2000, p.140 and ff.).

concept of *being virtuous*, contains every property implied by *being virtuous*: hence it contains the property of *being virtuous* itself, and others as (presumably) the properties of *being just*, *being courageous*, etc.

The mereological relations expressed in (1) and (2) could be understood like this: justice is a part of virtue because every property of justice (i.e., every property contained in the concept of *being just*) is also a property of virtue. Thus the following definition seems correct at first glance:

> *x* is a part of *y* iff every property of *x* is also a property of *y*.

But rationality is an abstract object and thus we should assume that it has the property of *being abstract*, while no human being has the property of *being abstract* (since human beings are concrete objects). Hence, there is a property of rationality which is not a property of any human being, therefore rationality is not a part of any human being.

Of course, there seems to be something wrong in this argument: *being abstract* is a property of rationality, but not in the same way as *being rational* is a property of rationality; arguably, *being abstract* does not *belong* to the concept of rationality ; but this concept (like every other concept) *is* abstract, hence rationality must exemplify somehow the property of *being abstract*.

This remark can be generalized to every abstract object. Let us say that every abstract object is *characterized* by some of its properties, and call them *characteristic properties*. The idea can be intuitively grasped by considering a few examples. The characteristic properties of a number like 2 are its mathematical properties (such as *being pair*, *being prime*, *being the successor of 1*, etc., but not properties like *being abstract*, *being colorless*, *being eternal*, etc.). More generally, the characteristic properties of a theoretical object are exactly the properties that the relevant theory attributes to this object. Similarly, the characteristic properties of a fictional object are exactly the properties that the relevant fiction attributes to this object (for example *being a detective* is a characteristic property of Sherlock Holmes, but not *being created by Conan Doyle*). For an intentional object, the characteristic properties are just those involved in the content of the representation; for example, if I am searching for a golden mountain, *being golden* and *being a mountain* are characteristic properties of the object I am searching for, while *not being existent* is a non-characteristic property.

It seems natural to assume that two abstract objects are identical iff they share exactly the same characteristic properties.

Should characteristic properties be identified with essential properties? No, if by essential properties we mean *necessary* properties (i.e., properties an object necessarily has): indeed, a number is necessarily an abstract object, hence *being abstract* is one of its essential properties, but it is not one of its characteristic properties (since *being abstract* is not a mathematical property).

We can now reformulate our definition of part:

x is a part of *y* iff every characteristic property of *x* is a characteristic property of *y*.

In terms of class of properties, this definition is equivalent to this: *x* is a part of *y* iff the class of the characteristic properties of *x* is included in the class of the characteristic properties of *y*.

According to this new definition the problem with (1) is resolved: although *being abstract* is a property of rationality, it is not one of its characteristic properties, so it is not relevant for parthood. Rationality is a part of human beings iff every *characteristic* property of rationality (i.e., every property implied by *being rational*) is a characteristic property of human beings.

Let us consider another example. What are the parts of the square in this special sense of part. By using the notion of spatio-temporal part, one may say that each side is a part of the square; but a side is not a part of the square according to our special definition, for a side has numerous characteristic properties the square does not have (for instance a side has the characteristic property of *being a segment* while the square has not this property). But the square has every characteristic property of a rhombus; therefore the rhombus is a part of the square. Moreover the rhombus has every characteristic property of the quadrilateral, thus the quadrilateral is a part of the rhombus. If one thinks that it is a very unusual way to talk about geometric figures, one may find this reformulation more appealing: the *concept* of rhombus is a part of the *concept* of square. One may also prefer to use *being included* or *being comprised*: the concept of rhombus is *included* or *comprised* in the concept of square. Whatever terms are finally used, the important aspect here is to have a clear view of the definition.

A last example: what are the parts of Sherlock Holmes? By using the ordinary notion of spatio-temporal part (in an analogical way, though), one may say that Sherlock Holmes' arm is a part of Sherlock Holmes. But it is clearly not a part in our special sense, since Sherlock Holmes' arm has characteristic properties Sherlock Holmes has not: for instance, Sherlock Holmes' arm may have the characteristic property of *having a mass of less than 10kg*, while the whole Sherlock Holmes has not this property. However, concepts of properties such as rationality, intelligence, etc., are parts of Sherlock Holmes.

If we assume that Sherlock Holmes is the abstract object whose characteristic properties are exactly those ascribed to him in Conan Doyle's stories, and if we assume that Sherlock-Holmes-from-*The-Hound-of-the-Baskervilles* is the abstract object whose characteristic properties are exactly those ascribed to the protagonist of *The Hound of the Baskervilles*, then Sherlock-Holmes-from-*The-Hound-of-the-Baskervilles* is an abstract part of Sherlock Holmes. Indeed, every characteristic property of Sherlock-Holmes-from-*The-Hound-of-the-Baskervilles* will also be a characteristic property of the final Sherlock Holmes. We could say that Sherlock Holmes is the *mereological sum* of the Sherlock Holmes of each story.

In the following sections, I will show how this special kind of parthood can impose a structure on a domain of Meinongian objects.

2. Outline of a Meinongian Theory

2.1. Meinongian theories and characteristic properties

I will present a simplified version of Parsons' theory of nonexistent objects (see Parsons, 1980). Nevertheless, the mereology I will construct in this framework may be constructed similarly in any other Meinongian theory. For example, I constructed a first version of this mereology within Edward Zalta's theory of abstract objects. I am much indebted to Zalta (2000), an article in which a Leibnizian theory of concept is presented. An important part of the mereology presented in this paper can be seen as generalization and continuation of some ideas originally set forth in Zalta (2000).

We could say that Parsons' theory differ from Zalta's on the way they express the notion of *characteristic property*. According to Parsons, there is a distinction between two kinds of properties: some properties are nuclear, others are extranuclear. The former are the characteristic properties. According to Zalta, there is a distinction between two kinds of predication; exemplification and encoding. The properties an abstract object encodes are characteristic ones. The status of characteristic properties is thus very different according to Parsons' or Zalta's view. For Parsons, properties *themselves* are characteristic or not. For Zalta, a property is not characteristic in itself; a property is characteristic because an object possesses it in a special way.

Anyway, both theories agree on the following principle (interpreted in two different ways whether the phrase *characteristic property* means *nuclear property* or *encoded property*):

> For any condition φ on characteristic properties, there is an object which has exactly all the characteristic properties satisfying φ.

By a *domain of Meinongian objects* I mean a domain described by such a principle.[3] In the last section of this paper, some general rules for endowing any domain of Meinongian objects (and in particular Zalta's domain of abstract object) with a mereological structure will be provided.

2.2. Theory M

I will now present a Meinongian theory M. The language of M is a second-order language with two distinguished kinds of predicates: nuclear predicates and extranuclear predicates. I will use '!' to distinguish extranuclear predicates.

The language of M consists of individual terms noted as usual a, b, c, ..., (constants) and x, y, z, x_1, x_2 , ... (variables); n-adic nuclear predicates ($n \geq 1$) noted like standard predicate P^n, Q^n, R^n, ... (constants) and F^n, G^n, H^n, ... (variables); and n-adic extranuclear predicates ($n \geq 1$) noted similarly $P^n!$, $Q^n!$, $R^n!$, ... (constants) and $F^n!$, $G^n!$, $H^n!$, ... (variables). We skip the n's for adicity whenever there is no ambiguity. I call monadic predicates *properties* and polyadic predicates *relations*. The other symbols of the language are: a distinguished extranuclear predicate $E!$, standards connectors $\neg$, &, $\vee$, $\rightarrow$, $\equiv$, quantifiers $\exists$ and $\forall$, and identity symbol: =.

The extranuclear property $E!$ plays an important role in the theory. According to Parsons, $E!$ is the property of *being existent*. For Zalta, whose theory refers to a similar property, it is the property of *being concrete*, or *being located in space and time*. I think it is somehow the same. Anyone can choose the metatheoretical term he prefers as long as he understand correctly the role that $E!$ will play in the theory. I will refer to it as the property of *being concrete*,

[3] Concerning Graham Priest's (2005) theory of intentionality and Francesco Berto's (2011) modal Meinongianism, it is not clear if we have a domain of Meinongian objects: according to their view, for any condition there is an object satisfying precisely this condition *in a certain world*. If we identify the characteristic properties of this object with the properties this object owns *in this world*, then it seems that the domain of such objects can be deemed Meinongian in conformity to our definition.

and therefore objects lacking this property will be considered as *abstract* objects.

How one is supposed to know if a given predicate is a nuclear or an extranuclear one? We have no precise criterion. It is a weakness of Parsons' account as he has never cleared this point up, at least not in a satisfying way. This weakness is of no consequence to the mereology that I will construct afterwards. But in order to clarify as much as possible this distinction between nuclear and extranuclear predicates, let us give some indications. Ontological properties like *existing*, *being concrete*, logical properties like *being complete*, *being contradictory*, are expected to be extranuclear properties, as well as certain intentional properties and relations like *being thought by Meinong*. On the other hand, properties like *being red*, *being made of gold*, *being a mountain*, etc., are nuclear. (Nuclear property are likely to outnumber extranuclear properties by far.)

Formulas of the language are defined in the usual way. An atomic formula is a n-adic predicate $K(!)^n$ (nuclear or extranuclear) and n individual terms t_1, ..., t_n:

$$K(!)^n t_1 \ldots t_n$$

The other rules for identity, quantifiers and connectors are standard.

The theory M is an axiom system where standard first-order logic is complemented with elimination and introduction rules for quantifiers binding variable nuclear and extranuclear predicates (these rules are analogous to the rules for quantifiers binding individual variable), and two extra axioms.

The first axiom is:

$$\text{(LL)} \qquad x = y \equiv \forall F(Fx \equiv Fy)$$

This axiom asserts that two objects are identical iff they share exactly the same *nuclear* properties. (Remember that F is a *nuclear* variable predicate.) Thus, this axiom can be understood as Leibniz Law restricted to nuclear predicates.

The last axioms are produced by the following axiom schema:

$$\text{(OBJ)} \qquad \exists x \forall F(Fx \equiv \varphi) \quad \text{where } x \text{ is not free in } \varphi$$

This schema means that for any condition φ, there is an object having exactly every *nuclear* property satisfying φ. From this principle, we know *a* *priori* that there is a domain of objects having any sorts of combination of nuclear properties, i.e., a Meinongian domain of objects.

Notably, for any finite class of nuclear properties P_1, ..., P_n, there is an object having exactly those properties. Its existence is assured by this instance of (OBJ):

$$\exists x \forall F(Fx \equiv (F = P_1 \vee ... \vee F = P_n))$$

The property of being concrete *E!* is extranuclear, so this axiom schema does not allow to prove that there is a concrete golden mountain, i.e., an object having the properties of *being a mountain, being golden* and *E!*. The two former properties are nuclear ones, but the latter is not. It is thus provable that there is a golden mountain, but not a *concrete* golden mountain.

2.3. Introducing definite descriptions

Let us use the notation $\exists!\alpha$ for *there is a unique* α:

$$\text{(Df}\exists!) \quad \exists!\alpha(\varphi) =_{\text{df}} \exists\alpha(\varphi \,\&\, \forall\beta(\varphi(\beta/\alpha) \rightarrow \beta = \alpha))$$

where $\varphi(\beta/\alpha)$ is the result of substituting every occurrence of α in φ by an occurrence of β.

With (LL) it is easy to show that an object whose existence is assured by an instance of (OBJ) is unique for any given condition φ. In other terms, what follows is a theorem schema:

$$\text{(OBJ!)} \quad \exists!x\forall F(Fx \equiv \varphi) \quad \text{where } x \text{ is not free in } \varphi$$

It will be useful to introduce a notation for this unique object determined by the fact that its nuclear properties are exactly those satisfying a condition φ. Resorting to Russell's iota notation, we get: $\iota x(\forall F(Fx \equiv \varphi))$. The theorem schema (OBJ!) assures that every description of this form is indeed satisfied by a unique object.

The unrestricted addition of definite descriptions brings with itself some important logical modification. For the sake of simplicity I will only allow the use of a definite description $\iota x(\varphi)$ under the condition that it has been already proved that this description φ is indeed satisfied by a unique object. Thus definite descriptions enter M thanks to the following rule:

If $\exists!x(\varphi)$ is a theorem, then we can use the complex individual term $\iota x(\varphi)$.

The schema (OBJ!) allows us to use terms of the form $\iota x(\forall F(Fx \equiv \varphi))$.

The logic for definite descriptions in theory M is very simple. The object $\iota x(\varphi)$ satisfies ψ iff there is an object satisfying both φ et ψ:

(DD) If ψ is a formula where the term $\iota x(\varphi)$ appears, the following is an axiom: $\psi \equiv \exists y(\varphi(y/x) \,\&\, \psi(y/\iota x(\varphi))$

3. Meinongian Mereology

3.1. Part and proper part

My aim is to construct a mereology based on this special definition of *part*:

> x is a part of y iff every characteristic property of x is a characteristic property of y.

In the theory M, characteristic properties must be identified with the nuclear ones. The *part* relation, for which I will use the symbol $\preccurlyeq$, should thus be defined in the following way:

(Df$\preccurlyeq$) $x \preccurlyeq y =_{\mathrm{df}} \forall F(Fx \rightarrow Fy)$

It is easy to prove that this relation is reflexive, transitive and antisymmetric:[4]

(T1) $x \preccurlyeq x$

(T2) $(x \preccurlyeq y \,\&\, y \preccurlyeq z) \rightarrow x \preccurlyeq z$

(T3) $(x \preccurlyeq y \,\&\, y \preccurlyeq x) \rightarrow x = y$

I define *proper part* in the usual way: x is a proper part of y iff x is a part of y distinct from y.

(Df$\prec$) $x \prec y =_{\mathrm{df}} x \preccurlyeq y \,\&\, x \neq y$

3.2. The null object and the total object

There is an object having no nuclear property. Let us call it the *null object*. I introduce the notation $o_{\emptyset}$ defined by this definite description:[5]

[4] The extent of this paper does not allow me to go into a thorough proof for the theorems, but I will give an outline for the most important and difficult ones.

(Df∅) $o_{\emptyset} =_{\mathrm{df}} \iota x(\forall F(Fx \equiv F \neq F))$

There is an object having every nuclear property. Let us call it the *total object*. I introduce the notation o_{Ω} defined by this definite description:

(DfΩ) $o_{\Omega} =_{\mathrm{df}} \iota x(\forall F(Fx \equiv F = F))$

Of course, any contradiction could be substituted to the condition $F \neq F$, and any tautology could be substituted to the condition $F = F$. No nuclear property F satisfies the condition $F \neq F$, hence $o_{\emptyset}$ has no nuclear property. Every nuclear property F satisfies $F = F$, hence o_{Ω} has every nuclear property. Therefore, the following formulas are theorems:

(T4) $\neg Fo_{\emptyset}$
(T5) Fo_{Ω}

The null object is not an object without any property at all. It is an object without *nuclear property*. One can consider this object as the concept of nothingness or nonbeing. The null object however has extranuclear properties; for instance it has the extranuclear property of *being abstract*.

Similarly, the total object has only every *nuclear* property but lacks many extranuclear properties; notably it lacks the property *E!*.

With (T4) and (T5) it is easy to prove that the null object is part of every object, and every object is a part of the total object.

(T6) $o_{\emptyset} \preccurlyeq x$
(T7) $x \preccurlyeq o_{\Omega}$

It is worth noting that the existential generalization of these theorems are the mereological principle known as *Bottom* and *Top*:

(*Bottom*) $\exists y \forall x\, y \preccurlyeq x$
(*Top*) $\exists y \forall x\, x \preccurlyeq$

Two theorems follow respectively from (T6) and (T7): the null object is a proper part of every object except itself, and every object except the total object is a proper part of the total object.

(T8) $x \neq o_{\emptyset} \rightarrow o_{\emptyset} \prec x$

[5] Remind that the theorem schema (OBJ!) allows us to introduce this definite description as well as every others that will be of this form: $\iota x(\forall F(Fx \equiv \varphi))$.

(T9) $x \neq o_\Omega \rightarrow x \prec o_\Omega$

3.3. Atoms

An *atom* in standard mereology is defined as an object having no proper part. I have shown that the null object is a proper part of every object except itself (see (T8)); hence, according to this standard definition, the null object would be the single atom of our mereology.

But if I define an atom as an object having no proper part *except the null object*, the atoms would be objects having *only one nuclear property*. This notion of atom looks more promising from the start, and we will see beneath that these atoms are indeed the basic building blocks of every other object, except the null object. By contrast, the null object should not be considered as an atom since it does not play a genuine role in the constitution of other objects.

I will define atoms as follows:

(Df*Atom!*) $Atom!(x) =_{\mathrm{df}} \exists! F Fx$

(About the use of '!' in *Atom!*, see the note).[6] An atom is thus an object having exactly one nuclear property. Equivalently, an atom is an object having a single proper part (the null object); an atom is an object whose parts are only itself and the null object. Those equivalences could be taken as definition as well as (Df*Atom!*).

(T10) $Atom!(x) \equiv \exists! y\, y \prec x$

(T11) $Atom!(x) \equiv \forall y(y \preccurlyeq x \rightarrow (y = x \vee y = o_\emptyset)$

For every nuclear property F, there is a unique atom having F:

(T12) $\exists! x(Atom!(x) \,\&\, Fx)$

This theorem allows us to introduce a definite description for the atom of the nuclear property F. I will note this term a_F:

(Dfa) $a_F =_{\mathrm{df}} \iota x(Atom!(x) \,\&\, Fx)$

[6] The property *Atom!* would be a complex extranuclear property; but in order to keep the theory simple in this paper I have not introduced this kind of complex terms in the language. Hence, I only define the expression *Atom!*(x). I note *Atom!*(x) and not simply *Atom*(x) because this notion should correspond to an extranuclear property; but '!' has no real function here.

The nuclear property F and its atom a_F are related in interesting ways: two nuclear properties are identical iff their respective atoms are identical, and an object has a nuclear property iff its atoms is a part of the object:

$$\text{(T13)}\quad F = G \equiv a_F = a_G$$
$$\text{(T14)}\quad Fx \equiv a_F \preccurlyeq x$$

This last theorem is very important: it shows that the predication of a nuclear property has a sort of *translation* in mereological terms.

3.4. Extensionality

Extensionality is an important aspect of parthood. The idea of extensionality can be informally expressed with the following principle: two composed objects (i.e., objects having proper parts) are identical iff they share exactly the same proper parts.

In standard mereology, extensionality is obtained by adding to the three basic principles (reflexivity, transitivity and antisymmetry of part relation) another principle, the principle of *strong supplementation*:[7] if x is not a part of y then there is a part of x that does not overlap y.

The notion of *overlapping* is not yet defined, so the proof of this principle must wait. However I can already prove an atomistic version of this principle: if x is not a part of y then there is an atom z such that z is a part of x and is not a part of y.[8]

$$\text{(T15)}\quad \neg(x \preccurlyeq y) \rightarrow \exists z(Atom!(z) \,\&\, z \preccurlyeq x \,\&\, \neg(z \preccurlyeq y))$$

Extensionality also can be proved in an atomistic version: two objects are identical iff exactly the same atoms are parts of both of them.[9]

$$\text{(T16)}\quad x = y \equiv \forall z(Atom!(z) \rightarrow (z \preccurlyeq x \equiv z \preccurlyeq y))$$

In other terms: atoms make the identity of object. (I will show later that every object is a sum of atoms, in a sense that will be defined.)

[7] See Varzi (2012, 3.2).
[8] Suppose the antecedent: $\neg(x \preccurlyeq y)$. By (Df$\preccurlyeq$) there is a nuclear property F such that $Fx \,\&\, \neg Fy$. By (T14), this formula is equivalent to $a_F \preccurlyeq x \,\&\, \neg(a_F \preccurlyeq y)$. Moreover it easy to prove that $Atom!(a_F)$. Hence, $\neg(x \preccurlyeq y)$ implies $Atom!(a_F) \,\&\, a_F \preccurlyeq x \,\&\, \neg(a_F \preccurlyeq y)$, and by existential generalization we get to the consequent: $\exists z(Atom!(z) \,\&\, z \preccurlyeq x \,\&\, \neg(z \preccurlyeq y))$.
[9] Here is a very brief and informal version of the proof. By (LL), two objects are identical iff they share exactly the same nuclear properties. By (T14), an object has a nuclear property iff the atom of this property is a part of this object. Therefore, x being identical to y is equivalent to x and y containing exactly the same atoms.

Extensionality can also be proved in an almost standard way: two *non-atomic* objects are identical iff they share exactly the same proper parts.[10]

$$\text{(T17)}\quad \neg Atom!(x) \rightarrow (x = y \equiv \forall z(z \preccurlyeq x \equiv z \preccurlyeq y)$$

In this mereology, *non-atomic object* is not equivalent to *object having proper parts* since every atom has the null object as proper part. That is why extensionality is not proved in the usual way but in a slightly modified version.

3.5. Overlapping

Overlapping is usually defined as *having a common part*. But since the null object is part of every object, this definition would have the consequence that any object overlaps any other. Overlapping would be a trivial relation, hence it must be defined in another way.

I will take this definition: two objects overlap each other iff they have a common nuclear property.

$$\text{(DfO)}\quad xOy =_{\mathrm{df}} \exists F(Fx \,\&\, Fy)$$

Other equivalent definitions could be used: x overlaps y iff they have a common atom, or iff they have a common *non-null* part.

$$\text{(T18)}\quad xOy \equiv \exists z(Atom!(z) \,\&\, z \preccurlyeq x \,\&\, z \preccurlyeq y)$$
$$\text{(T19)}\quad xOy \equiv \exists z(z \neq o_{\emptyset} \,\&\, z \preccurlyeq x \,\&\, z \preccurlyeq y)$$

Strong supplementation can now be expressed and it is indeed a theorem: if x is not a part of y then there is a part of x that does not overlap y. (The proof is straightforward from (T15).)

$$\text{(T20)}\quad \neg(x \preccurlyeq y) \rightarrow \exists z(z \preccurlyeq x \,\&\, \neg zOy)$$

[10] If x is not an atom, either x is the null object or x is an object containing at least two distinct atoms. If x is the null object, the formula is trivially true. If x is composed of at least two atoms, then suppose an object y identical to x. By (T16), x and y have exactly the same atoms as parts, and since x is composed of at least two atoms, those atoms are proper parts of x and y. From there, it is easy to show that x and y share exactly the same proper part. (You just have to suppose an arbitrary proper part z of x and show, using (Df$\prec$), (Df$\preccurlyeq$) and (T14), that it is also a proper part of y).

3.6. Sum, product and complement. A full boolean algebra

3.6.1. Sum

I define the sum of x and y, noted $(x+y)$, as the unique object z having exactly all nuclear properties of x and y. (This definition is directly inspired by Zalta 2000.)

(Df+) $(x+y) =_{df} \iota z(\forall F(Fz \equiv Fx \vee Fy))$

Sum is idempotent, commutative and associative:[11]

(T21) $(x+x) = x$
(T22) $(x+y) = (y+x)$
(T23) $((x+y)+z) = (x+(y+z))$

In virtue of associativity, we may define sum of n terms:

(Df+n) $(x_1+\ldots+x_n) =_{df} (x_1+(\ldots+x_n))$
(T24) $(x_1+\ldots+x_n) = \iota z(\forall F(Fz \equiv Fx_1 \vee \ldots \vee Fx_n))$

The null object is a neutral element and the total object is an absorbing element for this operation:

(T25) $(x+o_\emptyset) = x$
(T26) $(x+o_\Omega) = o_\Omega$

An object overlaps the sum of x and y iff it overlaps x or it overlaps y.

(T27) $zO(x+y) \equiv (zOx \vee zOy)$

Sum in standard mereology (see Varzi 2012, 4.2) is defined as follows: the sum of x and y is the unique object z such that an object overlaps z iff this object

[11] Most of the proofs in this section use the following theorems schema:
(DD*) $Fix(\forall G(Gx \equiv \varphi)) \equiv \varphi(F/G)$ where $\varphi(F/G)$ is the formula φ where F is substituted for G.
Now, here is a proof of (T22). Assume that $(x+y)$ has an arbitrary property G. By (Df+). The formula $G(x+y)$ is equivalent to $G\iota z(\forall F(Fz \equiv Fx \vee Fy)$. By (DD*), it is equivalent to $Gx \vee Gy$. It is trivially equivalent to $Gy \vee Gx$. By (DD*) again, it is equivalent to $G\iota z(\forall F(Fz \equiv Fy \vee Fx)$. And by (Df+) it is equivalent to $G(y+x)$. Thus, for an arbitrary G it is proved that $G(x+y) \equiv G(y+x)$. By (LL) it is now easy to prove $(x+y) = (y+x)$. The way we proceed in this proof clarify why sum has some of the logical properties of disjunction (*idem* for product and conjunction, and for complement and negation). It is worth noting also that most of the theorems of this sections correspond to tautologies of propositional logic. For instance (T25) corresponds to $(p \vee \bot) \equiv p$. (For more details about this kind of proof, see the last part of Zalta, 2000).

overlaps x or y. We can see that our notions of sum and overlapping are correctly defined since this standard definition is a theorem:

(T28) $\exists!z\forall w(wOz \equiv (wOx \vee wOy))$
(T29) $(x+y) = \iota z\forall w(wOz \equiv (wOx \vee wOy))$

The sum of any two objects exists (it is a consequence of (OBJ)): our mereology is committed to an unrestricted principle of composition.

3.6.2. Product

Product is similar to sum in many ways. The product of x and y, noted $(x\times y)$, is defined as the object z having exactly all the nuclear properties common to x and y.

(Df×) $(x\times y) =_{\mathrm{df}} \iota z(\forall F(Fz \equiv Fx \,\&\, Fy))$

This operation is idempotent, commutative and associative:

(T30) $(x\times x) = x$
(T31) $(x\times y) = (y\times x)$
(T32) $((x\times y)\times z) = (x\times(y\times z))$

In virtue of associativity, we may define product of n terms:

(Df×n) $(x_1\times\ldots\times x_n) =_{\mathrm{df}} (x_1\times(\ldots\times x_n))$
(T33) $(x_1\times\ldots\times x_n) = \iota z(\forall F(Fz \equiv Fx_1 \,\&\, \ldots \,\&\, Fx_n))$

The null object is an absorbing element and the total object is a neutral term for this operation:

(T34) $(x\times o_\emptyset) = o_\emptyset$
(T35) $(x\times o_\Omega) = x$

An object overlaps the product of x and y iff it overlaps both x and y.

(T36) $zO(x\times y) \equiv (zOx \,\&\, zOy)$

Product in standard mereology is defined as follows: the product of x and y is the unique object z such an object overlaps z iff this object overlaps both x and y. As previously with the sum, we can see that our notions of product and overlapping are correctly defined since this standard definition is a theorem:

(T37) $\exists!z\forall w(wOz \equiv (wOx \,\&\, wOy))$

(T38) $(x+y) = \iota z \forall w(wOz \equiv (wOx \,\&\, wOy))$

The product of any two objects exists (as a consequence of (OBJ!)). Even if two objects do not overlap each other, there is a product of them: the null object. Thus, we have the following theorem: two objects overlap each other iff their product is not the null object.

(T39) $xOy \equiv (x \times y) \neq o_\emptyset$

It is worth noting that overlapping can be defined in at least four different ways. Indeed, *x* overlaps *y* iff:

i) *x* and *y* have a common nuclear property
ii) *x* and *y* contain a common atom
iii) *x* and *y* have a common non-null part
iv) the product of *x* and *y* is not null

3.6.3. Complement

The complement of *x*, noted $(-x)$, is the object having exactly all the nuclear properties *x* does not have.

(Df–) $(-x) =_{\mathrm{df}} \iota y(\forall F(Fy \equiv \neg Fx)$

The complement of the complement of *x* is *x*.

(T40) $(-(-x)) = x$

An object overlaps the complement of *x* iff it is a non-null object that does not overlap *x*.

(T41) $yO(-x) \equiv (y \neq o_\emptyset \,\&\, \neg yOx)$

There is a unique object *y* such that any object overlapping *y* is a non-null object that does not overlap *x*, and this unique object *y* is the complement of *x*.

(T42) $\exists! y \forall z(zOy \equiv (z \neq o_\emptyset \,\&\, \neg zOx))$
(T43) $(-x) = \iota y(\forall z(zOy \equiv (z \neq o_\emptyset \,\&\, \neg zOx))$

Note the difference between the two following formulas: $\neg Fx$ and $F(-x)$. The former means that *x* is not an *F*, the latter means that the complement of *x* is an *F*. However those formulas are equivalent:

(T44) $\neg Fx \equiv F(-x)$

3.6.4. A full boolean algebra

The operations of sum, product and complement, along with the null object $o_\emptyset$ and the total object o_Ω, produce a full boolean algebra. This result is not surprising since it appears very clearly that those three operations, sum, product and complement, have respectively the logical properties of disjunction, conjunction and negation, and the null object and the total object play respectively the role of contradiction and tautology.

I have already shown that the operations of sum and product are commutative and associative. They are also distributive for each other in the following way:

(T45) $(x+(y\times z)) = ((x+y)\times(x+z))$
(T46) $(x\times(y+z)) = ((x\times y)+(x\times z))$

There are also the following identities characterizing a boolean algebra:

(T47) $(x+(x\times y)) = x$
(T48) $(x\times(x+y)) = x$
(T49) $(x+(-x)) = o_\Omega$
(T50) $(x\times(-x)) = o_\emptyset$

Those identities are easily proved (with the method explained in note 11). About mereology and boolean algebra, see Pontow & Schubert (2006). Without the null object, we would obtain an incomplete boolean algebra. Mereology is generally suspicious about the existence of an object that is part of every object. It is an interesting feature of this mereology to assure the existence of this object and to make clear what it is: it is simply an object whose description in terms of nuclear property is to have no nuclear property at all. (Remind that it is different from not having property at all; the null object has extranuclear properties like any other object.)

3.7. General sum

I have shown that two objects are identical iff they have exactly the same atoms as parts (see (T16)). I want now to express the fact that all objects are made of atoms. In more rigorous terms, I will prove that every object is the sum of the atoms of its nuclear properties.

The problem is that the notion of sum that I have defined for the moment does not allow us to express this idea. I must introduce the notion of *general sum*.

The following theorems schema is an instance of (OBJ!):

$$\text{(T51)}\quad \exists! x \forall F(Fx \equiv \exists y(\varphi \,\&\, Fy))$$

In less formal terms, for any condition φ, there is a unique object having exactly every nuclear property of every object satisfying φ. This unique object is *the sum of x's such that* φ, and I introduce the following notation for it:

$$\text{(Df}\sigma\text{)}\quad \sigma x(\varphi) =_{\text{df}} \iota y(\forall F(Fy \equiv \exists x(\varphi \,\&\, Fx)))$$

The general sum $\sigma x(\varphi)$ and the sum $(x_1+\ldots+x_n)$ are identical iff the objects $x_1, \ldots, x_n$ are exactly all objects satisfying φ.[12]

$$\text{(T52)}\quad \sigma x(\varphi) = (x_1+\ldots+x_n) \equiv (\varphi(x_1/x) \,\&\, \ldots \,\&\, \varphi(x_n/x) \,\&\, \forall y(\varphi(y/x) \rightarrow (y = x_1 \vee \ldots \vee y = x_n)))$$

This theorem confirms that the notion of general sum is correctly defined. The general sum of objects such that φ is indeed the sum of every object satisfying φ.

The standard way to define general sum in mereology is the following:[13] the sum of x's such that φ is the unique object y such that every object overlapping y overlaps at least one object satisfying φ. This definition is provably equivalent:

$$\text{(T53)}\quad \exists! y \forall z(yOz \equiv \exists x(\varphi \,\&\, xOz))$$
$$\text{(T54)}\quad \sigma x(\varphi) = \iota y(\forall z(yOz \equiv \exists x(\varphi \,\&\, xOz)))$$

Our resources allow us to express as a theorem the claim that every object is the sum of the atoms of its nuclear properties:[14]

[12] From right to left. By (LL), the formula $\sigma x(\varphi) = (x_1+\ldots+x_n)$ is equivalent to $F(\sigma x(\varphi)) \equiv F(x_1+\ldots+x_n)$. By (DD*), (Df$\sigma$) and (Df+$n$), we prove that this formula is equivalent to $\exists x(\varphi \,\&\, Fx) \equiv (Fx_1 \vee \ldots \vee Fx_n)$. In other terms, there is an x satisfying φ and having an arbitrary property F iff one of the $x_1, \ldots, x_n$ has this arbitrary property F. It is clear that this formula implies that only the $x_1, \ldots x_n$ satisfy φ. – From left to right. Assume that the objects $x_1, \ldots x_n$ are all objects satisfying φ. Then, for an arbitrary property F, there is an object satisfying φ and having F iff one of the $x_1, \ldots x_n$ has F. That is: $\exists x(\varphi \,\&\, Fx) \equiv (Fx_1 \vee \ldots \vee Fx_n)$. And now by (DD*), (Df$\sigma$), (Df+$n$) and (LL) we show that this formula is equivalent to $\sigma x(\varphi) = (x_1+\ldots+x_n)$.

[13] See Varzi (2012, 4.4). In Hovda (2009), the definition I mention corresponds to fusion of type 1.

[14] As previously (see note 12), we prove by (LL) that $x = \sigma y(\varphi)$ is equivalent to $Gx \equiv G(\sigma y(\varphi))$. By (DD*) and (Df$\sigma$), we prove that this formula is equivalent to $Gx \equiv \exists y \exists F(Fx \,\&\, y = a_F \,\&\, Gy)$. All we have to do now is to prove this formula. – From left to right. The formula Gx trivially implies the formula $Gx \,\&\, a_G = a_G \,\&\, Ga_G$ (since $a_G = a_G$ and Ga_G are obvious theorems). Then, using existential

(T55) $x = \sigma y(\exists F(Fx \,\&\, y = a_F))$

This result shows that atoms play a role of composition *vis-à-vis* all other objects. An object is nothing but a sum of atoms: the sum of the atoms of its nuclear properties.

4. Applied Mereology

I have so far dealt with the most general features of the Meinongian mereology. In this last part, I will consider two applications on more specific fields. I will show how the theory deals with:

1. The notion of concept of property (and other cognates notions)
2. The notions of contradictory object and incomplete object

My purpose in this section is to illustrate how the mereology I have constructed increases the expressive power of the Meinongian theory.

4.1. Concepts of property

Consider the two examples I started from:

(1) Rationality is a part of all human beings.
(2) Justice is a part of virtue.

How can we express those sentences? I assume that justice, virtue and rationality are concepts of property. The concept of a nuclear property F can be defined in theory M as the object whose nuclear properties are those properties *implied by F*. This notion of implication for a property could be defined (with modality for example)[15], but here for the benefit of simplicity I will take it as a primitive one.

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generalization twice, we get to the formula $\exists y \exists F(Fx \,\&\, y = a_F \,\&\, Gy)$. – From right to left. Let b be an arbitrary instance of y and P an arbitrary instance of F. We get to the formula $Px \,\&\, b = a_P \,\&\, Gb$. The last two conjuncts entail Ga_P, and since an atom has only one nuclear property, it entails $G = P$. Therefore the first conjunct Px entails Gx.

[15] For example: F implies G iff necessarily every concrete object having F also has G. More formally, it would be expressed in that way: $F \Rightarrow G =_{df} \Box\forall x(E!x \rightarrow (Fx \rightarrow Gx))$. But I have not introduced modal operators in the theory M, therefore I cannot use this definition.

4.1.1. Definition of concept of property

I will use the notation $F \Rightarrow G$ for *the nuclear property F implies the nuclear property G*. To simplify things, let us assume that this notion of implication is introduced only for nuclear properties.

I will admit only few principles about this relation of implication. First: it is reflexive and transitive. Second: if a concrete object has a nuclear property F, then it also has every nuclear properties implied by F.

(A⇒1) $F \Rightarrow F$
$(F \Rightarrow G \,\&\, G \Rightarrow H) \rightarrow F \Rightarrow H$

(A⇒2) $E!x \rightarrow (Fx \rightarrow \forall G((F \Rightarrow G) \rightarrow Gx))$

(The restriction on concrete objects in (A⇒2) is a consequence of (OBJ): if we had assumed that an object having P also has every nuclear property P implies, there would presumably be instances of (OBJ) in contradiction with it, since (OBJ) assures that there is an object having P and no other nuclear property. As I will explain later, (A⇒2) only asserts that concrete objects are expected to be coherent. That seems acceptable.)

For every nuclear property F there is a concept of F, i.e., a unique x having exactly all the nuclear properties implied by F. I will note this object: c_F.

(T56) $\exists! x \forall G(Gx \equiv F \Rightarrow G)$
(Dfc) $c_F = \iota x(\forall G(Gx \equiv F \Rightarrow G))$

4.1.2. Formalizing (1) and (2)

Let *Just* and *Virtuous* be respectively the nuclear properties of *being just* and *being virtuous*, the sentence (2) can be represented in the following way:

(2') $c_{Just} \preccurlyeq c_{Virtuous}$

This sentence is true iff being virtuous implies being just:

$$c_{Just} \preccurlyeq c_{Virtuous} \equiv Virtuous \Rightarrow Just$$

This formula is a theorem if we substitute the variables F and G for *Just* and *Virtuous*: the concept of F is part of the concept of G iff G implies F.

(T57) $c_F \preccurlyeq c_G \equiv F \Rightarrow G$

Let us take the nuclear properties *Rational* and *Human*. The sentence (1) could be similarly expressed like this:

(1?) $c_{Rational} \preccurlyeq c_{Human}$

But this seems to mean that rationality is a part of humanity (i.e., the concept of *being human*), not that it is part of *all human beings*. Hence (1) should rather be expressed like this:

(1') $Human(x) \rightarrow c_{Rational} \preccurlyeq x$

This formula is true iff *being human* implies *being rational*:

$$(Human(x) \rightarrow c_{Rational} \preccurlyeq x) \equiv Human \Rightarrow Rational$$

More generally, an object having the nuclear property F has the concept of the nuclear property G as part iff F implies G.

(T58) $(Fx \rightarrow c_G \preccurlyeq x) \equiv F \Rightarrow G$

4.1.3. Other theorems about concepts of property

The concept of F is the sum of the atoms of the properties implied by F.

(T59) $c_F = \sigma x(\exists G((F \Rightarrow G) \,\&\, x = a_G))$

If the concept of F has a nuclear property G then the concept of G is a part of the concept of F. (For example the concept of square has the nuclear property of *being a rhombus*, therefore the concept of rhombus is a part of the concept of square.)

(T60) $Gc_F \rightarrow c_G \preccurlyeq c_F$

If the concept of F is a part of an object x, then the concept of every nuclear property implied by F is also a part of x. (For example, the concept of rhombus is a part of the concept of square, and since *being a rhombus* implies *being a quadrilateral*, the concept of quadrilateral is also a part of the concept of square.)

(T61) $c_F \preccurlyeq x \rightarrow \forall G((F \Rightarrow G) \rightarrow c_G \preccurlyeq x)$

The null object is not the concept of any nuclear property (since any nuclear property at least implies itself, by (A⇒1)):

(T62) $\neg\exists F\, c_F = o_\emptyset$

There may be a nuclear property whose concept is the total object: it would be a nuclear property implying every nuclear property.

(T63) $c_F = o_\Omega \equiv \forall G(F \Rightarrow G)$

Two concepts of nuclear properties overlap iff their product contains at least one concept of nuclear property;[16]

(T64) $c_F O c_G \equiv \exists H(c_H \preccurlyeq (c_F \times c_G))$

4.1.4. Coherent objects

I will define an object as *coherent* iff for every nuclear property F if this object has F then this object also has every property implied by F. Equivalently, that means that an object is coherent iff for every nuclear property F such that its atom is part of this object, then the concept of F is also a part of this object.

(Df*Coherent!*) $Coherent!(x) =_{\mathrm{df}} \forall F(Fx \rightarrow \forall G((F \Rightarrow G) \rightarrow Gx))$
(T65) $Coherent!(x) \equiv \forall F(a_F \preccurlyeq x \rightarrow c_F \preccurlyeq x)$

(*Coherent!* is a defined expression like *Atom!*. The '!' has no real function here. See note 6.)

The following objects are coherent: the null object, the total object, concrete objects and every concept of property.

(T66) $Coherent!(o_\emptyset)$
(T67) $Coherent!(o_\Omega)$
(T68) $E!x \rightarrow Coherent!(x)$
(T69) $Coherent!(c_F)$

If a coherent object has the nuclear property F then the concept of F is a part of this object.

[16] This theorem is less obvious than the others. Here is a sketch of a proof. – From left to right. The concept of H is distinct from the null object (by (T62)). Therefore a non-null object is part of $(c_F \times c_G)$, which means that c_F overlaps c_G (by (T39)). – From right to left. Suppose that $c_F O c_G$. It means (by (DfO)) that there is a nuclear property P such that Pc_F and Pc_G. By (Dfc), we know that $F \Rightarrow P$ and $G \Rightarrow P$. Suppose now that Q is an arbitrary nuclear property such that Qc_H. By (Dfc) we have $P \Rightarrow Q$. By transitivity (as I assumed in axioms (A⇒1)) we also have $F \Rightarrow Q$ and $G \Rightarrow Q$. By (Dfc) we can infer Qc_F and Qc_G. Thus, an arbitrary nuclear property of c_P is also a property of c_F and c_G. By universal generalization and by (Df≼), we get to $c_P \preccurlyeq c_F$ and $c_P \preccurlyeq c_G$, from which it is easy to prove the formula $c_P \preccurlyeq (c_F \times c_G)$, and by existential generalization we get finally to $\exists H(c_H \preccurlyeq (c_F \times c_G))$.

$$\text{(T70)}\quad \mathit{Coherent!}(x) \rightarrow (Fx \rightarrow c_F \preccurlyeq x)$$

For coherent objects thus, having a nuclear property can be "translated" in mereological terms as the fact that the concept of this property is part of the object. It is worth noting the similitude between this theorem and (T14) according to which the predication of nuclear property can be "translated" as the fact that the atom of this property is a part of the object.

A coherent object thus can be understood as the sum of the concepts of its nuclear properties.

$$\text{(T71)}\quad \mathit{Coherent!}(x) \rightarrow x = \sigma y(\exists F(Fx \,\&\, y = c_F))$$

Note again the similitude between this theorem and (T55) according to which every object is the sum of the atoms of its nuclear properties.

And we can prove a "conceptual" version of extensionality for coherent objects: if x is a coherent object and is not a concept of property, then x is identical to an object y iff both x and y have exactly the same concepts as proper parts.

$$\text{(T72)}\quad (\mathit{Coherent!}(x) \,\&\, \neg\exists F x = c_F) \rightarrow$$
$$(x = y \equiv \forall z \exists F(z = c_F \rightarrow (z \prec x \equiv z \prec y))$$

Two other interesting theorems: if an object is a sum of coherent objects then this object also is coherent, and *idem* for the product of coherent objects.[17]

$$\text{(T73)}\quad (x = (x_1 + \ldots + x_n) \,\&\, \mathit{Coherent!}(x_1) \,\&\, \ldots \,\&\, \mathit{Coherent!}(x_n)) \rightarrow \mathit{Coherent}(x)$$

$$\text{(T74)}\quad (x = (x_1 \times \ldots \times x_n) \,\&\, \mathit{Coherent!}(x_1) \,\&\, \ldots \,\&\, \mathit{Coherent!}(x_n)) \rightarrow \mathit{Coherent}(x)$$

4.1.5. Formalizing the round square

What about the well-known round square? How can we deal with it in our theory? Let us take the following nuclear properties: *Round, Square*, *Curved,*

[17] It is obvious for the sum, but maybe it is less intuitive for the product. Here is a sketch of a proof. Suppose that two object x and y are coherent. If their product is null, then their product is coherent since the null object is coherent. If their product is not null, then they share nuclear properties. Suppose that F is one of those nuclear properties. It is easy to prove by (T70) that the concept of F is part of x and y (since x and y are coherent). Therefore the concept of F is a part of the product ($x \times y$). Therefore the product ($x \times y$) is a sum of concept, and that is a coherent object.

Four-sided, *Axially-symmetric*, and *Red*. I assume that both *Round* and *Square* imply *Axially-symmetric*; *Round* implies *Curved* and does not imply *Four-sided*; *Square* implies *Four-sided* and does not imply *Curved*; and neither *Round* nor *Square* implies *Red*.

The round square could be represented as the sum of the atom of *Round* and the atom of *Square*.

$$o_1 = (a_{Round} + a_{Square})$$
$$Round(o_1) \;\&\; Square(o_1) \;\&\; \neg Curved(o_1) \;\&\; \neg Four\text{-}sided(o_1) \;\&\; \neg Axially\text{-}symmetric(o_1) \;\&\; \neg Red(o_1)$$

This round square is very minimal: it is round and square and nothing else.

A more interesting round square is the sum of the *concept* of *Round* and the *concept* of *Square*.

$$o_2 = (c_{Round} + c_{Square})$$
$$Round(o_2) \;\&\; Square(o_2) \;\&\; Curved(o_2) \;\&\; Four\text{-}sided(o_2) \;\&\; Axially\text{-}symmetric(o_2) \;\&\; \neg Red(o_2)$$

The round square o_2 is not only round and square, but it has also every property implied by *Round* or by *Square* (or both). Note that it does not have any property whatsoever: in particular, it is not red since *Red* is not implied by *Round* neither by *Square*. It is worth noting that as a sum of concepts, o_2 is a coherent object. This round square is coherently round and square (though it is a contradictory object, as we will see later; on the contrary o_1 is not a contradictory object but it is not coherent).

There is also an interesting intermediate solution:

$$o_3 = (a_{Round} + a_{Square} + (c_{Round} \times c_{Square}))$$
$$Round(o_3) \;\&\; Square(o_3) \;\&\; Axially\text{-}symmetric(o_3) \;\&\; \neg Curved(o_3) \;\&\; \neg Four\text{-}sided(o_3) \;\&\; \neg Red(o_3)$$

This round square o_3 is round and square and has all the properties common to the concepts of *Round* and *Square*, therefore it is axially symmetric (since both *Round* and *Square* imply *Axially-symmetric*), but it is not four-sided nor curved.

We could also consider that the round square is a square having *in addition* the property of *being round*, and that is different from the square round which is a round having *in addition* the property of *being square*. Though this intuition seems obscure at first glance, we can give a clear account of it. The first is the sum of the atom of *Round* and the concept of *Square*, and the second is the sum of the atom of *Square* and the concept of *Round*:

$o_4 = (a_{Round} + c_{Square})$
$Round(o_4)$ & $Square(o_4)$ & $Axially\text{-}symmetric(o_4)$ & $Four\text{-}sided(o_4)$ & $\neg Curved(o_4)$ & $\neg Red(o_4)$

$o_5 = (a_{Square} + c_{Round})$
$Round(o_5)$ & $Square(o_5)$ & $Axially\text{-}symmetric(o_\Gamma)$ & $Curved(o_5)$ & $\neg Four\text{-}sided(o_5)$ & $\neg Red(o_5)$

Those two objects are indeed distinct. The first is coherently a square (so it is four-sided and axially symmetric), and it has just in addition the property of *being round* (but only this one, therefore it is not curved). The second is coherently a round (so it is curved and axially symmetric), and it has just in addition the property of *being square* (but only this one, therefore it is not four-sided).

Maybe other sorts of round square can be defined but o_1, o_2, o_3 and o_4 are presumably the most interesting ones (I do not include o_5 since it would be a *square round* rather than a round square).

Note that they can be ordered by the proper part relation in the following way:

$$o_1 \prec o_3 \prec o_4 \prec o_2$$

I will say more about those objects in the next subsection when the notions of contradictory objects and incomplete objects will be defined.

4.2. Contradictory objects and incomplete objects

Contradictory and incomplete objects are among the most interesting fields of application (and the best-known for sure) for Meinongian theories. However in our Meinongian theory M we cannot give a satisfying definition of the notions of contradictory object and incomplete object (though we can talk about presumably contradictory objects like the round square). I must extend the theory in such a way that those notions will become definable. Then I will study them from a mereological perspective.

4.2.1. Negative properties

Complex properties could be introduced through operators of abstraction, but, since here I am going to deal only with negative nuclear properties, a less complex method is at disposal.

If F is a nuclear property then *non-F* is a nuclear property. I will call this property a *negative property*. It is the *negation of F*.

How negative properties are expected to work? A rather natural idea at first glance is that having the property *non-F* is equivalent to not having the property F.

Now, suppose that we take this as an axiom:

(Neg?) $\quad non\text{-}Fx \equiv \neg Fx$

This axiom raises a serious problem. For any property F, there is an instance of (OBJ!) according to which there is a unique object having exactly the two nuclear properties F and *non-F*. In mereological terms, it is the sum of the atoms of F and *non-F*. It is a theorem that this object has both F and *non-F*.

(T75) $\quad F(a_F + a_{non\text{-}F})\ \&\ non\text{-}F(a_F + a_{non\text{-}F})$

It is important to realize that this formula *is not a contradiction*: it is not a formula of the form '$\varphi\ \&\ \neg\varphi$'. But by (Neg?), this formula entails indeed the plain contradiction:

$$F(a_F + a_{non\text{-}F})\ \&\ \neg F(a_F + a_{non\text{-}F})$$

If (Neg?) is an axiom of the theory, the whole axiomatic collapses into contradiction. Therefore it must be rejected.

However, the equivalence between *non-F* and $\neg F$ seems relevant until a certain point. We should not entirely reject it but only restrict it. The most natural restriction is to consider that the equivalence stands only for concrete objects.

Thus I will take the following as an axiom: a concrete object has the nuclear property *non-F* iff this object has not the nuclear property F.

(Neg) $\quad E!x \rightarrow (non\text{-}Fx \equiv \neg Fx)$

By (T75) and (Neg), I can no longer infer a contradiction but only the following theorem: the sum of the atoms of F and *non-F* is not concrete.

(T76) $\quad \neg E!(a_F + a_{non\text{-}F})$

It seems very acceptable. More generally, (Neg) implies that if an object has both the nuclear properties *F* and *non-F* or if it lacks both of them, it is not a concrete object.

(T77) $(Fx \,\&\, non\text{-}Fx) \rightarrow \neg E!x$
(T78) $(\neg Fx \,\&\, \neg non\text{-}Fx) \rightarrow \neg E!x$

Perhaps I should also take the identity of *non-non-F* and *F* as an axiom. This principle seems to preserve theory from an undesirable multiplication of nuclear properties of the form: *non-non-non-...non-F*. But maybe one could argue against this principle, and anyway it does not play any role in what follows, so I will remain neutral.

4.2.2. A brief excursus on the equivalence between non-F and ¬F

It is worth considering the axiom (Neg) from a more general perspective. This axiom asserts that the equivalence between *having the characteristic property of not being F* and *not having the characteristic property of being F* does not stand for abstract object. I will take a few intuitive examples to illustrate this idea.

The number two has not the characteristic property of *being red*. But it seems unacceptable to attribute to this number the property of *not being red*. The characteristic properties of a number are expected to be mathematical properties.

Similarly, if we assume that Conan Doyle had never mentioned anything about a mole on Sherlock Holmes' left shoulder, it is true that Sherlock Holmes lacks the characteristic property of *having a mole on the left shoulder*. But Sherlock Holmes surely does not have the characteristic property of *not having a mole on the left shoulder*: in contradiction with my assumption, this would mean that Conan Doyle has indeed mentioned the absence of a mole on Sherlock Holmes' left shoulder (since characteristic property of a fictional objects are precisely those properties ascribed to the object by the relevant fiction).

This equivalence is indeed unacceptable for abstract object. As a consequence, (Neg) should not be extended to abstract objects.

4.2.3. Contradictory objects and complete objects

With negative nuclear properties, it is now easy to properly express the notion of contradictory object and incomplete object.

An object is *contradictory* iff there is at least a nuclear property F such that this object has both F and *non-F*.

(Df*Contradictory!*) $Contradictory!(x) =_{df} \exists F(Fx \,\&\, non\text{-}Fx)$

An object is *complete* iff for all nuclear property F this object has F or *non-F* (or both).

(Df*Complete!*) $Complete!(x) =_{df} \forall F(Fx \vee non\text{-}Fx)$

As a consequence of these definitions and (T77) and (T78), contradictory objects and incomplete objects are not concrete objects:

(T79) $Contradictory!(x) \rightarrow \neg E!x$
(T80) $\neg Complete!(x) \rightarrow \neg E!x$

Thus a concrete object must be non-contradictory and complete.

(T81) $E!x \rightarrow (\neg Contradictory!(x) \,\&\, Complete!(x))$

Although the null object seems somehow related to contradiction, it is not a contradictory object: it is a non-contradictory and incomplete object. On the other extremity, the total object is both contradictory and complete.

(T82) $\neg Contradictory(o_{\emptyset}) \,\&\, \neg Complete(o_{\emptyset})$
(T83) $Contradictory(o_{\Omega}) \,\&\, Complete(o_{\Omega})$

An object is contradictory iff its complement is incomplete, and an object is incomplete iff its complement is contradictory.

(T84) $Contradictory!(x) \equiv \neg Complete!(-x)$
(T85) $\neg Complete!(x) \equiv Contradictory!(-x)$

A sum of objects is contradictory if it contains a contradictory term; a product of object is non-contradictory if it contains a non-contradictory terms.

Similarly a sum of objects is complete if it contains a complete term; a product of object is incomplete if it contains an incomplete terms.

(T86) $Contradictory!(x) \rightarrow Contradictory!(x+y)$
(T87) $\neg Contradictory!(x) \rightarrow \neg Contradictory!(x \times y)$

(T88) $Complete!(x) \rightarrow Complete!(x+y)$
(T89) $\neg Complete!(x) \rightarrow \neg Complete!(x \times y)$

4.2.4. Perfect objects

I define a *perfect object* as an object such that for every nuclear property F this object has either F or *non-F* (but not both).

(Df*Perfect!*) $Perfect!(x) =_{df} \forall F(\neg Fx \equiv \text{non-}Fx)$

Perfect objects are in fact both complete and non-contradictory, like concrete objects.

(T90) $Perfect!(x) \equiv (Complete!(x) \ \& \ \neg Contradictory!(x))$
(T91) $E!x \rightarrow Perfect!(x)$

Perfect objects have incomplete non-contradictory objects as proper parts and they are proper parts of contradictory complete objects:

(T92) $(E!x \ \& \ y \prec x) \rightarrow (\neg Contradictory!(y) \ \& \ \neg Complete!(y))$
(T93) $(E!x \ \& \ x \prec y) \rightarrow (Contradictory!(y) \ \& \ Complete!(y))$

In other terms we could say that perfect objects are *minimally complete* and *maximally non-contradictory*: a perfect object with one nuclear property less gives an incomplete object, and a perfect object with one nuclear property more gives a contradictory object.

There are other interesting mereological theorems about perfect objects, for instance: the complement of a perfect object is a perfect object, and two distinct perfect objects are such that their sum is a contradictory object and their product is an incomplete object.

(T94) $Perfect!(x) \rightarrow Perfect!(\neg x)$
(T95) $(Perfect!(x) \ \& \ Perfect!(y) \ \& \ x \neq y) \rightarrow$
$(Contradictory!(x+y) \ \& \ \neg Complete!(x \times y))$

Note that the perfection of an object does not imply its coherence (following the definition that I gave for those notions): there may be incoherent perfect objects. Let us say a little more about coherence now.

4.2.5. Perfection and coherence. A definition of possible objects

I have not mentioned any axioms governing negative properties in relation to our primitive notion of implication for nuclear properties. For example, should I take as an axiom that no nuclear property implies both F and *non-F*? Consequently, every concept would be non-contradictory. – It is not a very clear matter and I prefer to remain neutral about this. Hence I will not assume any additional axioms in what follows. However, even without any assumption of this kind, there are some interesting theorems about coherence in relation to complete objects, contradictory objects and perfect objects.

If an object is coherent, then it is complete iff for every nuclear property F, the concept of F or the concept of *non-F* (or both) is part of this object.

$$\text{(T96)}\quad \mathit{Coherent!}(x) \rightarrow (\mathit{Complete!}(x) \equiv \forall F(c_F \preccurlyeq x \vee c_{non\text{-}F} \preccurlyeq x))$$

If an object is coherent, then it is contradictory iff there is a nuclear property F such that the concept of F and the concept of *non-F* are both parts of this object.

$$\text{(T97)}\quad \mathit{Coherent!}(x) \rightarrow (\mathit{Contradictory!}(x) \equiv \exists F(c_F \preccurlyeq x \ \& \ c_{non\text{-}F} \preccurlyeq x))$$

The total object for instance is a coherent complete contradictory object, and the null object is a coherent incomplete non-contradictory object.

If an object is coherent, then it is perfect iff for every property F either the concept of F or the concept of *non-F* (but not both) is part of this object.

$$\text{(T98)}\quad \mathit{Coherent!}(x) \rightarrow (\mathit{Perfect!}(x) \equiv \forall F(\neg(c_F \preccurlyeq x) \equiv c_{non\text{-}F} \preccurlyeq x))$$

Concrete objects are coherent perfect objects. It can also be assumed that merely possible objects, like the golden mountain, are coherent perfect object.

This could be taken as a minimal definition of possible object.

$$\text{(Df}\mathit{Possible!})\quad \mathit{Possible!}(x) =_{\text{df}} \mathit{Perfect!}(x) \ \& \ \mathit{Coherent}(x)$$
$$\text{(T99)}\quad E!x \rightarrow \mathit{Possible!}(x)$$

4.2.6. What about the round square?

Let us take the same nuclear properties we took in 4.5.1.: *Round, Square, Curved, Four-sided, Axially-symmetric*, and *Red*. Note that we now have in addition the negations of these nuclear properties. Let us assume that: *Round* implies *Curved*, *Axially-symmetric*, *non-Square* and *non-Four-sided* and does not imply any other properties; *Square* implies *Four-sided*, *Axially-symmetric*, *non-Round* and *non-Curved* and does not imply any other property.

Recall that I distinguished four candidates for the round square:

$$o_1 = (a_{Round} + a_{Square})$$
$$o_3 = (a_{Round} + a_{Square} + (c_{Round} \times c_{Square}))$$
$$o_4 = (a_{Round} + c_{Square})$$
$$o_2 = (c_{Round} + c_{Square})$$

All four objects are *incomplete* relatively to the nuclear property *Red*: they are not *Red* nor *non-Red*.

The minimal round square o_1 is not a contradictory object: it is round and square and nothing else, therefore it is neither *non-Round* nor *non-Square*. It is an *incoherent non-contradictory object*.

The round square o_3 is also an incoherent non-contradictory object. But it is richer than o_1 since it is not only *Round* and *Square* but also *Axially-symmetric*. It would have more generally every nuclear property common to the concepts of round and square. It is an interesting way to represent a non-contradictory round square which is more than the minimal round square.

The round square o_4 is an *incoherent contradictory object*. It is contradictory in a minimal way: the only pair of contradicting nuclear properties are the pair *Round* and *not-Round*.

And finally, the round square o_2 is a *coherent contradictory object*. Since it is coherently *Round*, it is *Round, Curved, non-Square, non-Four-sided* ; and since it is coherently *Square*, it is also *Square, Four-sided, non-Round* and *non-Curved*. Therefore it is plainly contradictory.

If we expect the round square to be a contradictory object, we must thus choose between o_2 and o_4. If we expect moreover that the round square is a coherent object, then only o_2 is satisfying. (Note that a round square cannot be coherent without being contradictory.)

5. Conclusion. Outline of a Generalization.

A domain of Meinongian objects is sometimes compared to a jungle, and generally it is not a friendly comparison. I think however that the mereological tools I have defined in this paper allow us to explore systematically this realm, and far from being as chaotic and confusing as the image of a jungle suggests, this ontology presents a robust logical structure.

The results obtained in the theory M could presumably be obtained in similar theories based on a distinction between two kinds of predicates, but one may wonder if equivalent results can also be obtained in other forms of Meinongian theory. For purely mereological results (i.e., results presented in section 3), I think it is the case: equivalent results can be obtained in any framework providing a domain of Meinongian objects. Here, I will only sketch an outline of this generalization.

A domain of Meinongian objects is described by a principle of this form:

(P) *For any class of characteristic properties, there is an object whose characteristic properties are exactly all the member of this class.*

If you do not want to use the concept of class, this principle can be formulated like this: *for any condition* φ, there is an object whose characteristic properties are exactly all the properties satisfying φ. (It is a principle of this form that I use in theory M).

Meinongian theories can differ in the way they give an account of what is a characteristic property (and therefore in the way the principle (P) must be understood). But whatever is a characteristic property for a Meinongian theory, such a theory allows the construction of a Meinongian mereology as follows.

Let us define a *Meinongian* object as an object described by an instance of (P). In other terms, an object is Meinongian iff an instance of (P) assures that there is such an object.[18]

In what follows, *x* and *y* are supposed to be Meinongian objects.

We assume the following definitions:

x is a *part* of *y* iff each characteristic property of *x* is a characteristic property of *y*.

x overlaps y iff *x* and *y* share at least one characteristic property.

x is an atom iff *x* has a single characteristic property.

The *sum* of *x* and *y* is the Meinongian object having every characteristic property of *x* and every characteristic property of *y*.

[18] In Parsons' theory, all objects are Meinongian (it simplifies the presentation of the mereology), but this does not hold for other varieties of Meinongianism. For instance, in Zalta's theory, Meinongian objects are only abstract objects. Concrete objects are not Meinongian. Therefore the mereology that can be developed in this theory would only concerns abstract objects. (The results about concepts of properties and their relation with concrete objects would be very different from those I obtained in theory M (in 4.1.)

The *product* of x and y is the Meinongian object having every characteristic property common to x and y.

The *complement* of x is the Meinongian object having every characteristic property x does not have.

The *null object* is the Meinongian object having no characteristic property.

The *total object* is the Meinongian object having all characteristic properties.

The principle (P) should imply that there is indeed a null object and a total object. From those definitions, we should be able to prove, for each theorem of section 3, an equivalent theorem. For instance:

For every characteristic property there is a unique atom having this property.

Two Meinongian non-atomic objects are identical iff they share exactly the same atoms as parts.

Every Meinongian object is the sum of the atoms of its characteristic properties.

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Meinong on Aesthetic Objects and the Knowledge-Value of Emotions

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ABSTRACT

In this paper I trace a theoretical path along Meinong's works, by means of which the notion of aesthetic object as well as the changes this notion undergoes along Meinong's output will be highlighted. Focusing especially on *Über emotionale Präsentation*, I examine, on the one hand, the cognitive function of emotions, on the other hand, the objects apprehended by aesthetic emotions, i.e. aesthetic objects. These are ideal objects of higher order, which have, even though not primarily, the capacity to attract aesthetic experiences to themselves. Hence, they are connected to emotions, being what is presented by them. These results are achieved on the basis of a fundamental analogy between the domain of value and the aesthetic domain. Finally, the notion of an absolute beauty is discussed.

1. Introduction: The way ahead

While Meinong's theses about fictional objects have been widely examined and are still discussed, his theory of aesthetic objects has not yet received the attention it deserves. Actually, even if the problem of fictional objects is of considerable importance for Aesthetics, a fictional object is not necessarily an aesthetic object. The goat-stag (τραγέλαφος) of which Aristotle speaks[1] is an object of fiction, not an aesthetic object. Thus, neither non-existence nor being the product of phantasy constitute sufficient conditions for something to be an aesthetic object. Therefore the question arises, what are the necessary

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[1] Cf. Aristotle, *De interpr.* 1, 16a16–18; *Phys.* IV 1, 208a29–31; *An. pr.* I 38, 49a24; *An. post.* I 7, 92b7.

conditions for the constitution of aesthetic objects?

A composite answer to this question is offered by Meinong, together with several members of the Graz School, as the controversies between its members show. Not only Stephan Witasek in his *Grundzüge der allgemeinen Ästhetik* [*Outlines of General Aesthetics*] (1904), but also Christian von Ehrenfels, France Veber, Rudolf Ameseder, Alois Höfler, Robert Saxinger and Ernst Schwarz dealt with topics in Aesthetics. In the present paper, I will not undertake to deal with the aesthetic theory developed by Meinong or by the Graz school comprehensively,[2] but rather restrict myself to the issue of aesthetic objects.

Meinong did not write a specific text on Aesthetics, but he did touch on questions of Aesthetics in several works, and these allow us to assume that Meinong had developed an elaborate set of ideas on the subject. His most structured conceptions about Aesthetics can be found in one of his latest and most difficult works, namely *Über emotionale Präsentation* [*On Emotional Presentation*] (1917), which presupposes – and sometimes revises – the results of his researches in the theory of objects, the theory of values, and psychology. In what follows I'll try to trace a theoretical path through Meinong's writings, with particular attention given to this work (Meinong, 1917), in order to highlight the notion of aesthetic object and illustrate the changes this notion undergoes along Meinong's output.

According to Meinong, any object (concrete, abstract, non-existent and even impossible) is given independently of the subject, but is accessible only by means of the subject – to put it more precisely – by means of mental experiences (representations, thoughts, feelings, desires). In particular, aesthetic objects can be attained by means of a peculiar kind of experience (*Erlebnis*), namely, aesthetic feelings. It is thus necessary also to deal with the emotions and their objects, that is to say, with values. For Meinong, aesthetic objects can be understood by analogy with objects of value, while remaining distinct from them.[3]

2. Values and Emotions (Meinong's First Value Theory)

In his first theory of values, presented in *Psychologisch-ethische Unter-*

[2] About this, see Raspa (2010).
[3] Reicher (2006) acknowledges that Meinong's value theory can be applied to Aesthetics, but she does not investigate what Meinong actually said about aesthetic values.

suchungen zur Wert-Theorie [*Psychological-Ethical Investigations on Value Theory*] (1894), Meinong conceives value as depending on the psychical or mental, that is, on psychological analysis. In the first instance, we can say that something has a value for us when it is not a matter of indifference to us. Analogously, in so far as an aesthetic object has a value, we are not indifferent to it – it arouses something in us. Here Meinong defines value by means of the notion of possibility: the value an object has resides in the possibility of its being evaluated (*Werthgehalten-werden-können*). Thus an object has a value in so far as it is able to arouse in a subject the basis of a value-feeling (Cf. Meinong, 1894, GA III, p. 37) (i.e. a feeling of pleasure or displeasure for the existence or the non-existence of something). One year later, in *Über Werthaltung und Wert* [*On Valuation and Value*], Meinong states again that «The value of an object can be [...] defined as its capacity to be appreciated by an intellectually and emotionally normal subject» (Meinong, 1895, GA III, p. 248). Valuation (*Werthhaltung*) is that psychical fact (a feeling) that is always associated with a value. If something has a value for me, then I will be related to it in such a peculiar way that the thing will acquire a special meaning for me (Cf. Meinong, 1894, GA III, p. 26). Valuation makes an object's value manifest; notwithstanding, value is not connected with actual valuation – this in fact not only can vary from person to person but in certain circumstances can even not arise – rather with potential valuation. According to *Psychologisch-ethische Untersuchungen zur Wert-Theorie*, value belongs to the object, but it requires an existing subject to make the valuation. As a consequence, a thing loses its value as soon as the subject (for which it has a value) ceases to exist.

> To ascribe a value to something thus means not only to ascribe to it a certain faculty, but at the same time to assert the existence of a subject which can realize this faculty (Meinong 1894, GA III, p. 40).

Furthermore, the object has certain properties that, once they are acknowledged by the subject, allow for its valuation; and the object possesses these properties independently of being valuated. This means that value and valuation must be kept distinguished and that value is a second-order property, or, as Meinong will say in *Über emotionale Präsentation*, a higher-order property (Cf. Meinong, 1917, GA III, pp. 392, 394 [1972, pp. 96, 97–98]).[4] If we apply this definition of value to a property like beauty, it follows that an

[4] See also Meinong (1921, GA VII, p. 22; 1974, pp. 228–229).

object is beautiful if it is able to arouse in a subject the grounds for a positive aesthetic feeling. I stress here "positive" because even ugly, gloomy, languishing or boring are aesthetic properties.

There is another topic that anticipates Meinong's mature theory: the cognitive role of emotions. Emotions perform an intellectual function by means of which properties such as the beautiful, good or pleasant – which require a valuation – can be apprehended. Otherwise, i.e. without taking emotions into account, the apprehension of such properties would be forbidden. In any case, it would appear that common sense does not distinguish physical from aesthetic properties, e.g. a harmonious from a low voice (Cf. Meinong, 1894, GA III, p. 38).[5] While the pitch is a property of the object (the voice), which is perceived by means of a sense organ, its being harmonious is grasped also by means of a feeling, which – according to Meinong – is not a property of the object, but indicates a relation between the subject and the object or, more accurately, some of the object's properties. This seems to hold both for aesthetic feelings and value-feelings, which in any case differ in this regard: value-feelings are directed toward existence, while aesthetic feelings seem to be indifferent as regards existence, being thus directed – to adopt a term from Meinong's mature vocabulary – toward so-being (Cf. Meinong, 1894, GA III, p. 28).[6]

Another point, which will be developed in a very different way in *Über emotionale Präsentation*, concerns the relativity of value and hence of aesthetic properties like beauty. Since – as we have already highlighted – a value is given only because and only in so far as a subject exists for which it is a value, it follows that there is no absolute value, but only one that is relative to a subject. Whatever, according to Meinong, this does not mean that there are no objective values.

In the preceding, we have said that value and valuation must be kept distinguished. In fact, valuation is a psychical fact, while value is an object's quality that does not spring forth from the valuation. Value does not correspond to value-feeling, but it is associated with a feeling, at least possibly, since a thing has a value not only when a subject pays attention to it, but even when it is not thought of and hence it is not valuated. It often happens that we attribute value to something which has no value or, conversely, we refrain from

[5] Cf. also (Schuhmann, 2001, p. 533).
[6] In § 5 (see fn. 12) we will see that Meinong will replace "existence" with "being".

attributing value to something which has it. A subject can attribute value to an event which has not taken place; or she can attribute to a twig the value of a divining rod. In these two cases, by means of valuation, a value is ascribed to the object which depends only on the subject, being thus totally subjective. When valuation is really applied to an object (as for example to a medicinal plant), then its value is objective (Cf. Meinong, 1894, GA III, pp. 78–81). Value therefore is objective when its valuation does not rest on false premises (judgments) as in the case of superstition. In § 7, we will see that the meaning of "objective" shows a strong analogy with the meaning of "justified" (*berechtigt*). Following this analogy, we can also say that there is an objective beauty, which does not depend only on subjective liking. Now this is only a surmise made by analogy but we will deal with it at the end of this paper.

3. Impersonal Values and Emotional Presentation (Meinong's Later Value Theory)

Even if Meinong in his *Psychologisch-ethische Untersuchungen zur Wert-Theorie* speaks of objective values, he still subscribes here to a subjectivistic theory of values. Seventeen years later, in his *Für die Psychologie und gegen den Psychologismus in der allgemeinen Werttheorie* [*For Psychology and against Psychologism in the General Value Theory*] (1912), his value theory undergoes an objectivistic twist, as a consequence of his theory of objects.[7] There, Meinong asserts that «the value of an object lies in the fact that a subject has, could have or should reasonably have an interest in the object» (Meinong, 1912, GA III, p. 277). With the expression "should reasonably have", Meinong asserts that not all values are relative; he does not give up on the idea that certain values arise and vanish with a subject, but he asserts that, next to these kinds of values – called "personal" – there are also "impersonal" (or absolute) values, which brought him – as he himself admits (Cf. Meinong, 1917, GA III, p. 438 [1972, p. 135]) – to abandon the relativistic and psychologistic position he previously upheld. It is within this new conception that Meinong develops his theses about aesthetic objects, which we have up to this point treated by analogy with objects of value. But it is worth noting that the framework is not completely different, so that the new conceptions enrich and complete the earlier ones.

[7] About this, as well as about pre- and post- theory of objects' value theories, see (Raspa, 2013).

In the first instance, Meinong maintains again that our attitude toward value involves both intellectual and emotional experiences. For Meinong, objects can be apprehended only by means of a subject, i.e. by means of mental experiences (representations, thoughts, feelings and desires). And it is by means of the different kinds of experiences that different classes of objects can be found: from intellectual experiences (representations and thoughts), *objecta* and *objectives* are found, and from emotional experiences (feelings and desires) the classes of *dignitatives* and *desideratives* are determined. Meinong reasserts and explains that emotions play a cognitive role and that it is by means of them that objects can be apprehended. He does this by introducing the notion of "emotional presentation" (*emotionale Präsentation*).

Presentation is the act of a psychical experience that offers an object to thought. Traditionally – as Meinong asserts in the 1912 essay – this role was attributed to representations, which is partially incorrect because also judgments and assumptions present their peculiar objects to thought, i.e. objectives, and even emotions play this role. Actually, emotions are more imperfect than representations as cognitive experiences, but when a subject thinks of pleasant weather, or of a beautiful melody, then the feeling of pleasure that arises is not the result of thinking activity. The apprehension of properties like "beautiful" or "pleasant", in fact, can be explained only by conferring on emotions a cognitive character. Hence, when we say that the sky is beautiful, we ascribe to the sky a property in the same way as when we say that it is blue. In any case, the experience which presents that property is not simply an apprehending experience, but rather an emotion. Presenting experiences (both intellectual and emotional) contribute to the apprehension of objects, as is underlined in cases where an object, though presented through an intellectual experience, engenders at the same time an emotional experience. This kind of relation can be found in the judgment "this ornament is beautiful", in which there is an object (the ornament), presented by an intellectual experience (a representation), and another object (the beauty), which is instead presented by an affective experience. If the ornament is really beautiful, then it deserves the emotional experience which presents the beautiful. Beauty is thus an object of feeling (*Fühlgegenstand*) (Cf. Meinong, 1912, GA III, pp. 278–279). Hence, Meinong offers the following definition of an object of value:

> Thus, [...] an object has a value not because the interest of a subject is turned to it, but firstly because it deserves this interest. Or rather, put more simply: an

> object has a value insofar as whatever has to be presented by value experiences actually pertains to it; and therein lies an even simpler definition: value is what is presented by means of value experiences. By itself, of course, an object presented through emotions is as little an experience as an object presented intellectually. Value as I understand it is thus apprehended by means of an experience like all that is apprehended, yet by its nature it no longer has any relationship to an experience: it is neither personal, nor relative; hence, it can be termed impersonal or even absolute (Meinong, 1912, GA III, p. 280).

This definition – Meinong says – could apply also to Aesthetics and produce analogous conceptual constructions (*Begriffsbildungen*). Meinong was tempted to widen the meaning of the term "value", but doubts about language made him give up (Cf. Meinong, 1912, GA III, p. 281).

4. Aesthetic Objects: A First Acquaintance

Meinong also treated of aesthetic objects in two earlier works. In the first, *Über Urteilsgefühle: was sie sind und was sie nicht sind* [*Judgement-feelings: what they are and what they are not*] (1905), he speaks of literature, and so he examines the aesthetic objects which occur in poems and novels. Against Theodor Lipps, who ascribes an aesthetic reality to the characters of *Faust* (Cf. Lipps, 1905, p. 489; 1906, p. 27), Meinong holds that there is only one reality – that of the empirical world –; notwithstanding, he admits (with Lipps) that as regards the characters of a novel, it is necessary to take into account both the real psychical experience and the unreal object (Cf. Meinong, 1905, GA I, p. 599–600). Even if Meinong does not manage to achieve a distinction between autographic and allographic works, he associates literary works with musical ones. With regard to the question of where these works lie and when they came into existence, he replies: The being of a (literary or also musical) work is not at all existence, but it is a being which is disconnected from space and time, so that in certain circumstances the work can also be lost to humanity, but it can never be deprived of its own being.

Such a thesis brings forth a peculiar conception of artist's creating activity, in which the artist is not so much a creator but a discoverer:

> What the artist "creates" is a more or less composite reality, which has the property, for those who apprehend it, to "mean" something more or less composite, specifically the aesthetic object, which in this way, for those who apprehend that reality, is picked out from among the infinite totality of the

> objects outside of being and from whose viewpoint it can appropriately be designated as a predetermined object (Meinong 1905, GA I, p. 603).[8]

The artist works with real material, with signs, words, propositions that express real experiences, which are necessarily directed toward objects, which do not exist but consist of a possible combination of signs, belonging to the realm of extra-being. From the aspect of the subject, the artist does create, while, from the perspective of the object, he discovers a possible combination of signs. The artist relates the reader to the object, and opens to the reader a world which is otherwise precluded – a non-existing world. Meinong strongly reaffirms that, leaving aside the cases of an architectural construction or a natural landscape, «the true object of an aesthetic attitude is not at all touched, at least theoretically, by the existence of reality» (Meinong, 1905, GA I, p. 605), but shows the peculiar immutability of the timeless object.

Finally, regarding literature (or "'discursive' arts"), in *Über Annahmen* [*On Assumptions*] (1910) Meinong maintains that the true aesthetic objects are objectives and that these are apprehended by assumptions. Assumptions are psychical experiences, which are intermediate between representations and judgments (Cf. Meinong, 1902, p. 277; 1910, GA IV, p. 367 [1983, p. 262]). They are affirmative or negative like judgments, but without claiming truth like representations (Cf. Meinong, 1902, p. 257; 1910, GA IV, pp. 3, 340, 368 [1983, pp. 10, 242, 262–263]; 1921, GA VII, p. 33). Assumptions occur in the cases of fiction, within the realm of "as if", and conspicuously in lies, games, and art (Cf. Meinong, 1902, pp. 36–37; 1910, GA IV, p. 107 [1983, p. 81]). Literary tales are sometimes true, but they are mostly fictions and "fiction is just assumption" (Meinong, 1902, p. 45; 1910, GA IV, p. 115 [1983, p. 86]). Hence in literature, though judgments are not excluded, we are dealing primarily with assumptions; and since objectives are the objects of assumptions, as of judgments, they are the true aesthetic objects of narrative works. Moreover, assumptions play a prominent role in art (Cf. Meinong, 1902, pp. 210–211; 1910, GA IV, pp. 168–169 [1983, p. 124]), since our attitude toward aesthetic objects does not demand at all the conviction that these exist, and indeed the objectives that occur in art works are not generally believed, but assumed.[9]

[8] Cf. also (Meinong, 1910, GA IV, p. 274 [1983, p. 197]; 1915, GA VI, pp. 49 ff., esp. p. 52 fn. 1).
[9] I have discussed the theses expounded in this section more extensively in (Raspa, 2006). The present work may be read as a complement to that study in order to have a more complete picture of Meinong's Aesthetics.

5. The Cognitive Functions of Emotions

Up to this point, we have dealt with emotions and aesthetic objects, searching out Meinong's position within works that treat of value theory or of topics other than Aesthetics. What comes out is not really a theory but a not-structured set of thoughts. Meinong's theses about Aesthetics are analyzed more in detail in *Über emotionale Präsentation*, where the cognitive role of emotional presentation (thus of emotions) is deepened, and many conceptions, that he developed along his career, are refined and made more precise or even presupposed, as the great number of cross references highlights.

We already know that objects can be apprehended by means of presentation. We also know that this role is played not only by representations but by any kind of experience, so that if both an intellectual and an emotional presentation occur, then emotions take part of the cognitive process. Now we must turn to examine in greater depth the role played by emotions.

In this process, representations have a 'basic' position. According to the Brentanian intentionality thesis, which Meinong endorses, any thought requires an object that is thought, any feeling an object that causes pleasure or displeasure, any desire an object toward (or against) whose being or non-being a subject is directed. Meinong calls this object a "presuppositional object" (*Voraussetzungsgegenstand*), which does not necessarily have to be apprehended by means of a representation, since – as we already know – even the other apprehending experiences have their own peculiar object. Anyhow, it must be apprehended by means of a psychical experience which – when not itself a representation – presupposes a representation (Cf. Meinong, 1917, GA III, p. 294 [1972, pp. 8–9]). Consider the case of judgment: it is a non-independent experience, which – in order to exist – is in need of another experience that will function as its «psychological presupposition» (*psychologische Voraussetzung*) (Meinong, 1917, GA III, p. 290 [1972, p. 6]). For Meinong, judgment always requires a representation, while the converse does not hold. Moreover, judgment has a double object: the one about which we judge (i.e. the representational object) and the one that is what is judged (i.e. the objective) (Cf. Meinong, 1910, GA IV, pp. 43–44 [1983, p. 38]). It is impossible for a judgment not to judge about something as well as not to judge something. This implies that judgment cannot directly apprehend its object and that it invokes another experience, toward which it is non-independent. This prerequisite experience presents the object which is judged about, so that in the simplest case it is a representation, which works as a psychological presupposition (Cf. Meinong, 1917, GA III, pp. 351–352 [1972, pp. 60–61]). In this sense, any experience 'is based' on a representation.

The notion of non-independence pertains both to psychical experiences and to objects. Meinong introduces the notion of psychological presupposition in 1894, but it finds a place in his subsequent production (Cf. Meinong, 1894, GA III, pp. 45–46; 1905, GA I, pp. 582–583), as well as the notion of objects' non-independence, which is introduced in the 1899 work on higher order objects and later on developed and refined. For an object to be non-independent upon another object means that the former cannot be without the latter, which is the peculiar condition of higher order objects and – as a consequence – of aesthetic objects. But we must proceed slowly here, step by step.

According to Meinong, presentation can occur because any experience has a part (*Bestandteil*) or piece (*Stück*) – i.e. the content – which varies or remains constant with the object, so that it is by means of content that an object can be presented to thought (Cf. Meinong, 1917, GA III, pp. 288, 339, 347 [1972, pp. 4, 49, 55]). If we take into account representation, it is possible to note that two different representations can apprehend two different objects, in virtue of their content. Two representational acts can differ – for example, in one case a subject perceives something, in the other he remembers something – so that in the first case the representation is perceptual, while in the second imaginative, but the object that is apprehended by means of these two representations remains unaffected by such a modification, and can be the very same object in both cases. But, if the object is the same, then also the content is the same (Cf. Meinong, 1917, GA III, pp. 340–341 [1972, pp. 50–51]). By means of the analysis of content, Meinong explains how it is possible to acknowledge aesthetic objects.

Meinong begins his analysis by saying that it is doubtful that emotions have a content in the same way as representations and judgments;[10] he believes that emotions do have a content, but only in a peculiar way. In fact, what can be considered as the content of emotions or desires belongs to their psychological presuppositions, hence, in most cases, to representations. If someone likes a colour, her feeling of pleasure concerns an object (the colour) and a content,

[10] Meinong speaks about the content of feelings in his (1894, p. 39 *passim*), because at that time he did not yet distinguish between content and object, a distinction which was introduced in 1899 (Cf. Meinong, 1899, GA II, pp. 381 ss. [1978, pp. 141 ss.]).

which is notwithstanding an integrating part of the representation of the colour and not the content of a feeling. Actually, it is the content of that experience, which serves as a psychological presupposition of a feeling and in virtue of which a feeling can rise. Emotions, together with the object toward which they are directed, make up a complex: if someone smells a flower's scent, then there is a representation, which is directed to a certain object and which serves as its psychological presupposition, but by means of this presupposition, the emotion is directed toward an object, which is hence the object of that emotion, and not merely the object of a representation (or of a judgment). The object is connected with the psychological experience toward which it is directed (Cf. Meinong, 1917, GA III, pp. 314–315 [1972, pp. 26–27]).

Perhaps however emotions may have their own content, which might not coincide with the content of their psychological presupposition; if this were so, then the cognitive role of emotional presentation and hence of emotions themselves, would be strengthened.

Let us consider some examples, such as a refreshing bath, fresh air, sublime works of art, boring or entertaining stories: these attributes have a close relationship with feeling, but they are analogous to other properties which are usually presented by representations. If I say that the sky is blue or that it is beautiful, in either case a property is attributed to the sky. In the first case, the property is presented by a representation, in the second one, by a feeling (of pleasure). It can be objected that "beautiful", "pleasant", "sublime", "sad", "entertaining" express feelings but that they cannot be ascribed to objects (things or events). Meinong replies to this objection that, by analogy, when we say that the sky is blue, we do not intend to ascribe a representation as a property to the sky. Here he states the same thesis as in 1912, but while it is patent that experiences are not properties ascribable to objects, it is harder to say that the sadness of a melody is not a feeling but a higher order object that can be apprehended by means of an emotional presentation.

There is another objection, Meinong wants to overcome: feelings are more subjective than representations, so that it is hard to look at feelings as capable of characterizing objects with regard to their objective properties. Consider again the example about the sky. When someone says that the sky is blue, what she really wants to say is that she is having a sensation of blue caused by the sky. Anyhow, the judgment is not about the sensation perceived by the judging person, but about the sky and its property of being blue. The same analysis can then be applied to the judgment "the sky is beautiful", so that between the feeling of liking and the sky there is the same relation as holds between the sky and the representation of blue. Feelings thus, under favourable circumstances, can present a content. Moreover, Meinong elicits the analogy between feelings and representations by asserting that the character of subjectivity proper to feelings does not preclude them from presenting an object to thought, because it is also shared by representations. Subjectivity is hence an obstacle to apprehension, but it does not preclude it and this implies that even feelings – which are more subjective than representations – allow for some sort of knowledge. Presentation must be admitted also for feelings, otherwise many objects would remain inaccessible to apprehension, because feelings allow for the apprehension of peculiar features of reality. Hence, despite all their peculiarities, feelings have an affinity with intellectual experiences, or as Meinong puts it, «a quasi-intellectual functioning» (Meinong, 1917, GA III, p. 320 [1972, p. 31]).

Looking again at attributes like beautiful or pleasant, we can inquire after what kind of properties they are. Meinong maintains that something can be called beautiful or pleasant if it gives rise to a feeling of pleasure. Anyhow, he also stresses the fact that when someone attributes the property of being beautiful or of being ugly to something, she is referring to the object's properties, not to her own feelings. Here, Meinong asserts – in a way that seems patently in contrast with the preceding – that an aesthetic property like beauty is not constituted by its relation to an experience but is an object in itself, a higher order object like the sadness of a melody, which is presented by means of a feeling (Cf. Meinong, 1917, GA III, pp. 324, 365–366 [1972, pp. 35, 72]).[11] I will attempt to analyse this point more closely at the end of the present paper, but for the moment it is worth looking at the second kind of non-independence, the one pertaining to objects.

This non-independence assumes different forms, according to the kind of being that it helps to constitute. There is (*a*) a non-independence of existence, if an object cannot exist unless another object exists; (*b*) a non-independence of subsistence, as the one exemplified by the equiangularity of a triangle on its equilaterality; (*c*) a non-independence that has nothing to do with existence or subsistence (i.e. being), but concerns so-being. Any object of higher order can be taken as an example of (*c*): difference is non-independent, since there can

[11] For a critical analysis of this point, which involves feeling-expressivism and realism, see (Langlet, 2010).

be no difference without something that is different (which must be already a plurality). Moreover, this something does not necessarily have to exist and even less to subsist (the round square is different from the oval triangle). Hence, «if there is to be any meaningful talk about difference at all, we must presuppose so-beings with a 'so' such that 'difference' can be applied to them» (Meinong, 1917, GA III, p. 353 [1972, p. 61]; translation slightly modified). Actually, without a plurality there would be no difference, not even in the sense of extra-being, while if there is a plurality in the sense of extra-being, the difference between them would have not merely extra-being but subsistence. In cases of this sort, higher order objects show (*d*) a peculiar non-independence of extra-being. The relation between *inferiora* and their *superius* is not convertible; this assertion must not be interpreted psychologically – as meaning that difference cannot be thought of without what is different – rather, simply as a necessary fact occurring to what is different, which does not involve any thought of the difference. What is different is «logically prior» (Cf. Meinong, 1917, GA III, pp. 353–354 [1972, p. 62]).

The main kind of higher order objects is formed by founded objects (*fundierte Gegenstände*) and necessity is essential for them. A logical *prius* comes along, whenever a *posterius* is in need of it, whereas the *prius* has no kind of dependence on the *posterius*. In cases of this kind, one may speak of a foundation (*Fundierung*), which, as is true of psychological presupposition, is similar to what obtains between judgments and representations: «Judgments cannot exist without underlying ideas, whereas there is no objection in principle to ideas being given without judgments» (Meinong, 1917, GA III, p. 356 [1972, p. 64]). This relation of dependence is equivalent – ontologically – to the one subsisting between objectives and objecta and it plays a fundamental role, as we will see, for the acknowledgment of a peculiar kind of higher order object, like absolute beauty.

This new framework allows us to better understand the thesis that Meinong already presented in 1894: aesthetic feelings are feelings of so-being, in contrast with value-feelings which are feelings of being (Cf. Meinong, 1917, GA III, pp. 373, 375–376 [1972, pp. 80, 81–82]).[12]

We have seen that aesthetic feelings can have not only representations but also judgments and assumptions as their psychological presupposition. Now,

[12] Here Meinong modifies his previous conception, according to which value feelings are feelings of existence (see § 2).

judgments and assumptions have objectives as their presuppositional object and this means that our aesthetic attitude is directed also toward objectives. As we have stated earlier, aesthetic feelings are not directed toward being but only toward so-being. But does this mean that they are never directed toward existence? Taking literature as an example, Meinong easily shows that aesthetic feelings disregard the actual being of their objects. In dramas, it often happens that assumptions pass over into judgments, so that an «astonishing sovereignty of poetic or, more generally, artistic imagination» emerges:

> So, for example, in modern drama, exact information is frequently given as to the age or other properties of the characters in the play. At first this information can only be of the order of assumptions. But once such assumptions are made, the characters in question *are* indeed of the indicated age, as if the playwright were free to do with them as he wished (Meinong, 1917, *GA* III, p. 374 [1972, p. 80]; translation slightly modified).

According to this thesis, so-being plays a constitutive role for aesthetic objects and feelings; but it seems opposed to everything that compels us to attribute aesthetic dignity to objects of sensation or to higher order creations founded on those objects. We can look at music, but especially to sculpture and painting. According to Meinong, a colour, shape or sound even if they are not a so-being, they are a so (*ein So*), and a so is always present in any case of so-being. This answer can be seen as unsatisfactory but the point at issue is this: if it is true that the mere so-being even of non-existent objects can be the presuppositional object of an aesthetic feeling, then this is enough for Meinong to say that aesthetic feelings are not – in their proper essence – feelings of being. Thus, aesthetic feelings are «really indifferent whether their object-presuppositions are serious or imaginative» (Meinong, 1917, *GA* III, p. 375 [1972: 81]): as drama shows, aesthetic feelings can be determined even when their presuppositions consists of assumptions about untrue happenings. In such a case, aesthetic feelings are true feelings, and this hold also when the ones caused by the drama are imaginative.[13]

6. Aesthetic Objects as Higher Order Objects

We come now more specifically to the objects of aesthetic feelings. If it is true

[13] I have dealt with the dichotomy serious/imaginative as well with the difference between real feelings and phantasy-feelings in (Raspa, 2006 and 2010).

that an aesthetic object is one possessing aesthetic properties, it is also true that such are those properties which are capable of arousing aesthetic feelings.

Stephan Witasek developed an aesthetic theory deeply rooted in Meinong's philosophy.[14] In the *Grundzüge der allgemeinen Ästhetik*, he maintained that «an object becomes an *aesthetic object*, if it is bearer of aesthetic properties» (Witasek, 1904, p. 27). But what kind of properties are the aesthetic ones? On the basis of Meinong's dichotomy of real/ideal, Witasek explains that aesthetic properties, the most characteristic of which is beauty, are not real, i.e. perceptible, but ideal non-perceptible properties (Cf. Witasek, 1904, p. 14). If I look at a painting, I perceive masses of colour, not the beauty of the painting; if I listen to a melody, I hear sounds, but the beauty is not something existing alongside them. Moreover, an aesthetic property like beauty is not an objectual (*gegenständliche*) property, that is, a property which is represented together (*mitvorgestellt, mitgedacht*) with the representation of the object and can then describe it. For example, colour is an objectual property of a painting, but the similarity of this to a copy is not. The same holds for beauty, which is «an extra-objectual (*außergegenständliche*) determination of its bearer» (Witasek, 1904, p. 15).

Still in the *Grundzüge der allgemeinen Ästhetik*, Witasek says that an object is aesthetic when it is the object to which our feeling of pleasure and displeasure is directed. This means that aesthetic properties are relational, because they connect the aesthetic object to the mental attitude of a human subject. The relation is, on one hand, a causal one, whereby an aesthetic object (a painting, statue, or melody) induces an aesthetic attitude in the subject, and, on the other hand, a final relation, for the aesthetic feeling is in turn addressed to the aesthetic object.

> *An aesthetic property of an object is the fact that it may stand in a causal or final relation with a subject's aesthetic attitude* (Witasek, 1904, p. 22).

Therefore, an object becomes an aesthetic object, insofar as it stands, or can stand, in a given relation with a subject. This does not entail that objectual determinations, real or ideal, are indifferent in order for an object – for example – to be beautiful: «being beautiful means standing in a certain relation to a subject,» (Witasek, 1904, p. 28) and such a relation depends on the properties of the object.

[14] I deal very shortly with Witasek and only in relation to Meinong's point of view; for more details on Witasek's Aesthetics see (Smith, 1996), (Schuhmann, 2001), (Reicher, 2006, pp. 313–319), (Allesch 1987, pp. 357 ss. and 2010), (Raspa, 2006, pp. 65 ss., and 2010, pp. 21–38).

In *Über ästhetische Objektivität* [*On aesthetic Objectivity*] (1915), Witasek states more precisely the essential characteristics of aesthetic objects: these are the non-independence (*Unselbständigkeit*) from the *substratum*, which means that the being of an aesthetic object is founded on the being of another or other objects, and the dependence (*Abhängigkeit*) on variations of the *substratum* (Cf. Witasek, 1915, pp. 105, 108, 110–112). Meinong shares this thesis, but that does not mean that he agrees completely with his pupil. The points of disagreement between the two are relevant and relate to the role of objectives in Aesthetics, to different conception of phantasy-feeling, and – what for us is more important in this context – to the notion of aesthetic object, namely whether this is or is not an object of higher order. However, Meinong discusses in details Witasek's point of view, which he examines closely with the intention of developing it further (Cf. Meinong, 1917, GA III, pp. 387 ff. [1972, pp. 92 ff.]; Witasek, 1915, 112 ff., 180 ff.).

We have seen (§ 5) that an intrinsic non-independence applies not only to psychical experiences, but also to objects. That is why Meinong can speak about a parallelism between objects and the experiences which apprehend them. We know that the presenting experiences have as psychological presuppositions other experiences, which are above all intellectual experiences; in the same way, aesthetic objects are non-independent of being and dependent on so-being upon what is apprehended by the presuppositional experiences. This is the translation in Meinong's language of Witasek's thesis.

Like the property "red", the property "beautiful" requires a *substratum*, something of which it is a property; but it requires in addition another property or set of properties as its basis. The property beautiful is then non-independent from its basis and dependent upon the characteristics of such a basis. This makes it possible that a thing is more beautiful or uglier than another. There are evident analogies between aesthetic properties and objects of higher order. For example, similarity does not occur without similar objects; moreover, whether, and to what extent, two objects are similar, depends on the characteristics of the objects. Therefore, aesthetic properties seem to be ideal objects of higher order. But according to Witasek there are four reasons that exclude such a possibility. In what follows I will deal only with the two of them, which are discussed by Meinong.[15] I will restrict my remarks to beauty, but the discourse may also be extended to other aesthetic properties.

[15] For more details see (Raspa, 2006, pp. 73–77).

Witasek observes that an object of higher order, like similarity, is *between* the two members, connects them and builds with them a complex; beauty does instead not connect, for example, the tones of a melody, but has the whole melody as its basis. As a consequence, one can see that beauty does not need a plurality of *inferiora* as its basis, as objects of higher order do, but rather a unity; for objects of higher order, on the contrary, being based on a unity is a limiting case (namely that of identity) (Cf. Meinong, 1899, *GA* II, 394 [1978: 149]). If Witasek is right, much of Meinong's theory concerning aesthetic objects falls apart.

Meinong sees the major difficulties by accepting that aesthetic objects are objects of higher order in the oneness (*Einsheit*) of the *substratum* and identifies Witasek's error in his having considered objects of higher order only from the point of view of *objecta*, and not also from that of objectives. This is Meinong's argument: if objectives are also objects of higher order; and there are objectives that are not based on a plurality of *inferiora* – like objectives of being ("A is") or of existence ("A exists"), which are monadic by nature –; then not all objects of higher order need a plurality of *inferiora*, and if this is so, the main obstacle in considering aesthetic objects as objects of higher order, that is the oneness of *substratum*, no longer subsists. Their dependence on the *substrata* presented by the psychological object-presuppositions of aesthetic-feelings is a sign – just as Witasek recognized – of the *superius* character of aesthetic objects, which can be subsumed under the concept of higher order objects.

7. Absolute Beauty

The last question that is still open concerns objective beauty. We have seen that emotional experiences are means of knowing objects. But knowing – Meinong says – is always an intellectual operation; an emotional experience cannot alone apprehend an object, but only if it is connected with an intellectual experience as its psychological presupposition (Cf. Meinong, 1917, GA III, p. 403 [1972, p. 106]).

If knowledge is justified judgment, and if – although under certain conditions – emotions are means of knowledge, one wonders if they too possess the moment of justification (*Berechtigungsmoment*). But if emotions are not sufficient for knowledge, then a part of their justification should be searched in non-emotional experiences.

To address the issues, Meinong considers the analogy of ideas. Traditionally, it has been denied that ideas can be true or false; nonetheless, one says that someone has a right or a false idea, if by means of it one may make a true or a false judgment. If we substitute the idea as means of presentation with an emotion, then the reason that the corresponding judgment is justified or not can be attributed to the emotion. An emotion is then never justified *per se*, but in relation to an object toward which it is directed. Nobody would say that a feeling of pleasure is justified or not justified, but one may be justified or unjustified in being pleased with something or with a certain fact – one is unjustified in taking pleasure from the pain of raped children. Meinong synthesizes this idea in this way:

> If *P* is an object presented by an emotion *p*, then it is justifiable to attach the emotion *p* to an object *A* if *P* in fact applies to *A* (*dem A zukommt*), and the judgment "*A* is *P*" is therefore correct (Meinong, 1917, GA III, pp. 414–415 [1972, p. 115]).

In other words, an emotion is justified if the judgment which attributes the proper object of the emotion (a predicate like the beauty) to its presuppositional objects (for example, a subject like a melody) is justified. So the way to an objective beauty is open (as it was hypothesized at the end of § 2).

Let us come back to the analogy with values. Meinong defines value as «the capacity of an object to attract interest upon itself as a value-objectum» (Meinong, 1917, GA III, p. 426 [1972, p. 125]). It is obvious to speak of a relativity of all values, since the value of a thing often depends on the value of another thing, on the stock of material goods (according to the law of marginal utility), on the nature or on the interest of the subject. On the other hand, there are also good reasons for speaking against such a relativism. First of all – Meinong observes – if an object loses value as soon as the subject feel no more interest in it, reading and writing should not have any value for the majority of children, nor food, clothes and house for those who were in a state of mental confusion. On the contrary, we all recognize the value of those activities and things; therefore, the value may not coincide with the mere interest of the subject. Secondly, there should be no errors even with respect to the value (*Wertirrtümer*), which derive instead from the lack of attention to that "should reasonably have" (see § 3). Referring to the case of superstition already discussed in 1894, Meinong points out that, if the value depends on the mere interest of the subject, then one might attribute to a putative divining rod as much value as to a medicinal plant. On that occasion, he had spoken in the first case of "subjective value", in the second of "objective value", and he recognized axiological dignity also to the subjective value; now, instead, he assumes that whoever judges correctly denies a value to a divining rod. Moreover, if the existence of the subject is the ultimate foundation of all values, it would be superior to any value and life would be the highest good. Finally, it would even be possible for some people to turn good into bad, right into wrong (Cf. Meinong, 1917, GA III, pp. 427–430 [1972, pp. 125–127]).

Now, even though the predicate "valuable" does not differ characteristically from the predicate "beautiful" – so that the former means the capacity of an object to attract a value feeling, the latter the capacity of an object to attract an aesthetic feeling –, this does not however imply that the relation to the subject enters into the definition of both predicates. The relation to the subject is constitutive neither of the value nor of the beauty. If we paraphrase what Meinong writes on value, then we can say that 'beauty (or another aesthetic object) does not primarily consist in the capacity to attract aesthetic experiences to itself but simply consists in what is presented by aesthetic experiences' (Cf. Meinong, 1917, GA III, pp. 432–433 [1972, p. 130]).

In stating this, Meinong does not replace the concept of relative value with that of relation-free value, but simply affirms that there are two notions of value. He synthesizes this with reference to value experiences as means of knowledge:

> Value-experiences can, in particular, be utilized as the means of knowing the objects to which they attach. They are a means of knowing (*Erkenntismittel*) in a double sense. First, in the sense that what is presented by the value-experience is to be attributed to the objects as their property, and secondly in the sense that the objects have the property of provoking the experience which corresponds to the object of presentation (e.g., value). It is clear that the second interpretation remains valid even when the first does not, and even when the first cannot with right be attempted at all (Meinong, 1917, GA III, pp. 427–435 [1972, p. 132]).

To sum up, Meinong endorses two notions of value, a value relative to a subject and a relation-free value. Both are of great importance in value theory and in life. With the help of the concept of justification, one can say that there is a relative value wherever there is a value-experience regardless of its justification, while a relation-free value is always connected with a justification.

One could call the first kind of value 'objective' and the second kind 'subjective', but since Meinong used these terms as applying to relative values (see § 2), then he proposes the terms 'personal' and 'impersonal'.

Meinong repeatedly reaffirms that what is true for the domain of value also applies *per analogiam* to the aesthetic domain (Cf. Meinong, 1917, GA III, pp. 452, 455, 458 [1972, pp. 147, 149, 151]), and therefore it is legitimate to ask whether there is beside a personal (relative) beauty also an impersonal (relation-free) beauty.

The question has received a negative answer by those who, like Witasek (Cf. Witasek, 1915, 198 f.), argue that neither the existence of objects of perception nor the existence of ideal objects of higher order can belong to aesthetic objects, that these are to be taken into consideration only as objects of apprehension, that is, in relation to a subject, and that aesthetic norms are laws of psychical attitude. Meinong has instead shown that aesthetic objects are ideal objects of higher order; for these the a priori knowledge is appropriate, but is it really possible to know aesthetic objects a priori? The aesthetic character of an object cannot be verified empirically, since a property like beauty can adhere to the existent (i.e., to nature) as well as to the non-existent, as is proven by arts. On the other hand, if the same melody can be considered good, bad or indifferent, then it would seem that there is no a priori, and hence necessary connection between the melody and its corresponding aesthetic property, but anything which is known a priori is necessary. Therefore, if aesthetic objects are accessible neither to empirical nor to a priori knowledge, they belong to the domain of the *Erleben* and the relativistic point of view is justified (Cf. Meinong, 1917, GA III, pp. 453–454 [1972, pp. 148–149]). However, if one considers Greek sculpture and German poetry or music, it is difficult to maintain an "absolute relativity".

Given this situation, it seems that, as in the case of values, there is a personal (relative) beauty *and* an impersonal (relation-free) beauty. But how can the latter be demonstrated? According to Meinong, the ideality of an object is accessible to empirical knowledge. It is indeed possible to apply induction to not existent but subsistent instances, and hence

> it can happen that a state of affairs knowable *a priori*, that is, a necessary state of affairs (*Sachverhalt*), is connected with real (*reale*) concomitant state of affairs, in which latter natural lawfulness may make its appearance, that can be established empirically, or rather, inductively (Meinong, 1917, GA III, p. 456 [1972, p. 150]).

For example, the equality of the angles at the base of an isosceles triangle may be proved a priori, but it may also be established by measuring of a number of triangles.

Meinong's aim is not to say that inductive knowledge attains the same necessity of a priori knowledge, but to show, rather, that by induction one can reach relation-free results.

On the basis of a fundamental analogy between the beauty and value, and starting from the analysis of the latter, Meinong intends to argue that there is *also* an impersonal beauty, as well as an impersonal value. Since the empirical data available to us are personal values, it is only by way of these, by induction, that one can reach impersonal values.

> That an objectum *A* has the impersonal value *N* can be concluded under favorable circumstances from the fact that in *A* the personal value *N* occurs, i.e., that the idea of *A* under favorable circumstances arouses an emotion, or at first a feeling, which presents the object *N*. By reason of this presentation, it is presumed that the object *A* serves as foundation for the object *N*. The presentation here is the concomitant fact through which the induction gets hold of the *a priori* fact of the foundation [of the value in the object] (Meinong, 1917, GA III, pp. 456–457 [1972, p. 150]).

The object *N* is an object of higher order, and if it is founded on the object *A*, this implies that there is a relation of necessity between the *inferius A* and the *superius N*. Is this the same necessity which holds in the domain of the a priori? We can only presume (*vermuten*) it, since the process we adopted was induction, but our surmise is justified (in the sense we have seen above).

We can now develop Meinong's argument *per analogiam*. If *N* means 'beautiful' and it is founded on *A*, then *A* is beautiful, and if *A* serves as foundation for *N*, relation-free beauty pertains to it simply by virtue of the foundation. All this does not hold as a proof that there is a relation-free absolute beauty, since in connection with emotional presentation the impersonal beauty is accessible to us only through a detour by way of experience, that is, by way of the personal beauty, but– to adopt Meinong's words – «the way has been cleared to give reasons for such» (e.g., impersonal beauty) (Meinong, 1917, GA III, p. 460 [1972, p. 153]).

Do we find this disappointing? Whatever the case, the same Meinong will interpret – at the end of his life – by an analogy with Fechner's concept of a "bottom-up Aesthetics" – his own whole work as a "bottom-up philosophy" (*Philosophie von unten*);

> and such a philosophy encompasses within it also the theory of objects unreservedly, in so far as it may start from the given subsistent or even outside of-being [*ausserseiend*] as an empirical science can start from what is given in experience (Meinong, 1921, GA VII, pp. 42–43).[16]

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[16] See also (Manotta, 2005).

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Probably the Charterhouse of Parma Does Not Exist, Possibly Not Even *That* Parma

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ABSTRACT

In this paper, I will claim that fictional works apparently about utterly *immigrant* objects, i.e., real individuals imported in fiction from reality, are instead about fictional individuals that intentionally resemble those real individuals in a significant manner: *fictional surrogates* of such individuals. Since I also share the realists' conviction that the remaining fictional works concern *native* characters, i.e., full-fledged fictional individuals that originate in fiction itself, I will here defend a *hyperrealist* position according to which fictional works only concern fictional individuals.

1. Native and Utterly Immigrant Characters?

As everyone well knows, *The Charterhouse of Parma* (*TCP* from now onwards) is one of the most famous novels by Stendhal. One of its characters is the Charterhouse of Parma itself.[1] One of the last sentences of the novel indeed so recites:

> [Fabrizio del Dongo] retired to the Charterhouse of Parma, situated in the woods adjoining the Po, two leagues from Sacca (*TCP*, Vol. II, Chap. XXVIII, transl. by C. K. Scott-Moncrieff).

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[1] «Fictional characters belong to the class of entities variously known as *fictional entities* or *fictional objects* or *ficta*, a class that includes not just animate objects of fiction (fictional persons, animals, monsters, and so on) but also inanimate objects of fiction such as fictional places (Anthony Trollope's cathedral town of Barchester and Tolkien's home of the elves, Rivendell, for example)» (Kroon & Voltolini, 2011, p. 1).

Yet despite the geographical location which seems to be given to the Charterhouse in the above text, there is no chance for anyone to ever pick it out. Granted, if one travels towards Italy, after having crossed the border with Switzerland one finds the Charterhouse of Pavia in Southern Lombardy. Yet even if one travels a bit more southwards and gets to the region of Emilia, one does not find the Charterhouse of Parma, nor could one find it. For unlike the first charterhouse, the second charterhouse does not exist! Put alternatively, while the first charterhouse is a concrete artefact well located in a certain portion of the real universe, the second charterhouse is completely made up, it is one of Stendhal's most famous inventions.

At first blush, one may suppose that this failure of identification of Stendhal's Charterhouse with a certain real concrete artefact depends on want of sufficient similarity. For in point of fact there are two real concrete artefacts that may be identified with Stendhal's Charterhouse: the Abbey of Paradigna, lying in between the city of Parma and the river Po, and the Charterhouse of St. Jerome, very close to the city itself, a.k.a. the Charterhouse of Parma. The first charterhouse approximately shares the location with Stendhal's Charterhouse, while the second charterhouse shares the name itself with it. Since one cannot tell which of these charterhouses is more similar to Stendhal's Charterhouse, neither is identical with the latter.

Yet this supposition is incorrect. For even if it turned out that one of the two real charterhouses were more similar than the other to Stendhal's Charterhouse – in point of fact, it is quite unlikely that the Charterhouse of St. Jerome inspired Stendhal, for at his times it was no longer a Carthusian monastery – that charterhouse could not be the same as Stendhal's Charterhouse. For their resemblance would be merely coincidental, since, as Saul Kripke put it, there is no «historical connection» (Kripke, 1980, p. 157) between Stendhal's speaking of the Charterhouse of Parma and that charterhouse. As Kripke comments, in want of such a historical connection one cannot fill the gap between fiction and reality:

> The mere discovery that there was indeed a detective with exploits like those of Sherlock Holmes would not show that Conan Doyle was writing *about* this man; it is theoretically possible, though in practice fantastically unlikely, that Doyle was writing pure fiction with only a coincidental resemblance to the actual man. (1980, p. 157).

As is well known, there is a debate between antirealists and realists about fictional entities as to how to interpret the fact that a certain made up item, the

Charterhouse of Parma in this case, does not exist. For antirealists, the fact that the Charterhouse of Parma does not exist has a mere *ontological* negative import. For it means that, in the overall domain of what there is, *there is no* such a thing as the Charterhouse of Parma. For realists,[2] the very same fact has both an opposite ontological import and a *metaphysical* import. For it means that *there is* such a thing as the Charterhouse of Parma yet that very thing does not exist in another metaphysically relevant sense, that is, it does not figure within the subdomain of the spatiotemporal entities insofar as it is a *fictional* entity, an entity whose metaphysical nature is that of *being fictional*. Put alternatively, realism about fictional entities is an onto-metaphysical thesis about the overall domain of what there is. For realists, such a domain contains both real individuals and fictional individuals, i.e., individuals that are not real in another, metaphysically contrastive sense of the term: real individuals are simply individuals that are not fictional, namely, whose being is utterly independent of fictional or imaginative practices. If one saves the term "actual" for whatever belongs to the overall domain, for realists about *ficta* fictional individuals are simply actual individuals that are not real: they are not real concrete entities like you and me, but they are not even real abstract individuals like the number Two and the Platonic Beauty.[3] Elsewhere I have tried to show that realists are right: there are fictional individuals, even though they do not spatiotemporally exist.[4]

Yet over and above the Charterhouse of Parma, Stendhal's novel is also about at least another entity: Parma, of course. But *which* Parma, exactly? What a question – one will typically reply – the real concrete Parma, the Italian city renowned all over the world for its excellent food! In point of fact, while antirealists and realists divide themselves as to whether fictional works involve fictional entities – for, as we have seen, unlike the latter the former believe that there are no such things – both typically share the idea that such stories often involve real entities. Let me give another formulation of the same predicament. On the one hand, as some realists put it, while fictional entities like Stendhal's Charterhouse are *native characters*, i.e., full-fledged fictional characters that

[2] Kripke himself among others (Kripke, 2013).

[3] According to many realists, fictional individuals are abstract individuals (admittedly of different kinds: e.g. (Zalta, 1983); (Thomasson, 1999)). In the light of what I have just said in the text, one would then have to say that *abstracta* divide themselves into real and fictional items.

[4] Cf. (Voltolini, 2006), where I basically focus on ontological arguments in favor of fictional entities. In (Voltolini, 2012a), I have tried to put forward further semantic arguments as to why we have to read the claim "there are (fictional) individuals that do not exist" in the realist way.

originate in a certain fiction, entities like Parma are immigrant characters that originate in no fiction at all,[5] let me call them *utterly immigrant characters*: i.e., they are real individuals imported in fiction from reality.[6] On the other hand, antirealists will deny that fictional works involves native characters. Yet they will peacefully admit that they involve utterly immigrant characters. As allegedly is the case with Parma as to Stendhal's novel.

To be sure, some realists wonder whether fictional works do not effectively involve also fictional correlates of the real entities they allegedly involve. In point of fact, we sometimes speak of *the* Parma of Stendhal's novel, as well as of *the* Napoleon of *War and Peace*, *the* London of the Conan Doyle stories etc., by somehow distinguishing these entities from their real corresponding entities – our Parma, Napoleon, and London. So, such realists maintain that fictional works also involve what they call *fictional surrogates* of real entities: although properly speaking such works only contain real entities, they also mobilize fictional counterparts of those entities, the individuals terms of the kind "the N of story S" designate. By "fictional surrogates" they mean fictional entities that, owing to the storytellers' choices, correspond to real entities by somehow sharing a significant number of properties with them.[7]

In what follows, I will try to be even more radical than that. For I will claim that the relevant fictional works *only* involve such surrogates, fictional entities like any other such entity. Put alternatively, my thesis is that there are *no* immigrant characters imported in fiction from reality. All characters are native characters, i.e., fictional entities. Some of them involve no correlation with real entities, while some others involve such a correlation – in this sense, they are fictional surrogates of real entities – yet the real entities the latter are correlated with do not figure at all in the relevant works. If there is a gap between fiction and reality, this is a *total* gap. Thus, over and above *mere realists* on fictional entities, i.e., people believing that there are fictional individuals, as mobilized by the relevant fictional works, there are *hyperrealists*, i.e., people believing that fictional works only involve fictional individuals, some of which are fictional surrogates of real individuals. So, I

[5] For this terminology, Parsons (1980, pp. 51–2, 182–5); Zalta (1983, p. 93).

[6] Zalta (1983, p. 93) also allows for non-utterly immigrant characters: fictional individuals that a pièce of fiction inherits from another fiction. I also believe that there are no non-utterly immigrant characters either (Voltolini, 2012b), but I will not deal with this issue here.

[7] For the thesis that fiction involves both utterly immigrant characters and their fictional surrogates (Parsons1980, pp. 57–9). For this account of a fictional surrogate, cf. (Bonomi, 2008).

agree with mere realists about *ficta* that the Charterhouse of Parma does not exist for it is a fictional entity. But I go further than them in claiming that also Stendhal's Parma does not exist for it is another fictional entity, which intentionally – i.e., because of Stendhal's authorial choices in writing *TCP* – shares many features with the real Parma.[8]

2. Why Fictional Works Contain Fictional Surrogates but Not Their Real Correlates

In order to show this, let me start from the idea that, as many people say,[9] fictional entities are *incomplete*, in the sense that, of some pair of properties *P* and its complement *non-P*, a fictional entity lacks both. Thus, fictional entities significantly differ from real entities. For an object's completeness, in the objectual sense – for any property *P*, the object has either it or its complement – is the hallmark of its reality.[10] As some have underlined,[11] this *objectual* way of characterizing *ficta*'s incompleteness is better than the *propositional* one. Propositional incompleteness with respect to *ficta* can be described in two modes, the formal and the material mode. According to the former mode, sometimes at least, neither a sentence apparently involving a fictional entity and predicating of it a property *P* nor its negation are true. According to the material mode, sometimes at least, neither a positive state of affairs to the effect that a certain fictional entity has *P* nor its negative counterpart to the effect that it is not the case that such an entity has *P* hold. Either way, propositional incompleteness amounts to the thesis that *ficta* involve the failure of Excluded Middle, a thesis that Russell originally found very problematic with respect to nonexistents in general: a good logical reason to rule out nonexistents in general, and fictional entities in particular, from the overall domain.[12] Yet no such failure is involved by characterizing incompleteness in the objectual way, as I just did; objectual incompleteness does not entail propositional

[8] Quite a minority of philosophers defends this hyperrealist approach: e.g. (Bonomi, 1994) (in 2008, Bonomi still defends this approach, though partially), (Landini, 1990). In some respects, also (Lamarque & Olsen, 1994, pp. 126, 293) share this idea. I have defended it in (Voltolini, 2006, chap.4; 2009).
[9] Cf. (Castañeda, 1989, p. 179), Parsons (1980, pp. 56, 183–4). The thesis is also implicit in (Zalta, 1983): cf. (Thomasson, 1999, p. 102).
[10] On this, cf. (Santambrogio, 1990, p. 662).
[11] On this point, cf. (Simons, 1990, pp. 182, 184).
[12] Cf. (Russell, 1905, pp. 485, 490).

incompleteness. To stick to *TCP* once again, consider the property of *being spotted on one's left shoulder* and Fabrizio del Dongo, the main character of the novel, as well as:

(1) Fabrizio is spotted on his left shoulder.

(1) is utterly false, hence false already with respect to the actual world. By uttering it, we say a sheer falsehood (not a fictional falsehood, a falsehood in the worlds of the story, etc., but a falsehood *tout court*). For among what Stendhal says or implies in his novel, there is no such thing as Fabrizio's being so spotted. So, it is straightforwardly not the case that Fabrizio has a spot on his left shoulder. Yet also:

(2) Fabrizio is non-spotted on his left shoulder

that involves the property complementary to the above one, is utterly false as well, for Stendhal is completely silent on that matter. So, it is not even the case that Fabrizio is non-spotted on his left shoulder. So, Excluded Middle is respected: both (1)'s negation and (2)'s negation are true. Hence, there is no logical reason to rule out Fabrizio of the overall domain. Yet Fabrizio is an incomplete object, for he neither has the property of *being spotted on one's left shoulder* nor its complementary property of *being non-spotted on one's left shoulder*.

Now, appearances notwithstanding, this incompleteness is shared by allegedly utterly immigrant characters, like Stendhal's Parma. To be sure, by itself, such an incompleteness may just signal a striking analogy between allegedly utterly immigrant characters and fictional entities. Yet it can be exploited in the framework of an argument that shows that such characters indeed are fictional entities. Here it is:

i) if an entity is a real individual, it is a complete entity;
ii) yet allegedly utterly immigrant characters, like Stendhal's Parma, are incomplete entities;
iii) hence, they are not real individuals.
iv) Allegedly utterly immigrant characters occur in fictional works, like *TCP;*
v) no entity other than real individuals and fictional individuals may occur in fictional works;

vi) hence, incomplete allegedly utterly immigrant characters are fictional entities.[13]

From this argument, a further interesting corollary follows. Since the characters in question are fictional entities, they are *merely* allegedly utterly immigrant characters; in other terms, they are native characters as any other fictional entity. Simply, unlike many other such entities, authorial choices as to how the relevant story has to be made up make it the case that merely allegedly utterly immigrant characters significantly resemble real individuals. As a further result, therefore, merely allegedly utterly immigrant characters are fictional surrogates of real individuals. For example, Stendhal's Parma so surrogates the real Parma.

Clearly enough, in the above argument premise iv) is something both hyperrealists and anti-hyperrealists – a class that includes both antirealists on fictional entities and mere realists on such entities, which as we saw are people believing that fictional works at least sometimes include fictional characters – might independently share. Hyperrealists have no problems in accepting that allegedly utterly immigrant objects occur in fictional works: there is no reason for them to question iv) as it stands. Yet anti-hyperrealists would have no problems in accepting it either, for they think that allegedly utterly immigrant objects are real, not fictional, entities. Also premise v) raises no particular problem, for it sounds rather trivial. On the one hand, anti-hyperrealists accept it, although some of them, the antirealists *tout court*, would further claim that, since there are no fictional entities, in point of fact real entities are the only entities that occur in fictional works. On the other hand, a hyperrealist accepts the very same premise for its triviality, even if she defends the thesis opposite

[13] A similar argument may directly involve incompleteness as follows:

I) If an entity is a real individual, it is a complete entity;

II) Yet allegedly utterly immigrant characters, like Stendhal's Parma, are incomplete entities;

III) Hence, they are not real individuals;

IV) Allegedly utterly immigrant characters occur in fictional works, like *TCP*;

V) Fictional entities occur in fictional works;

VI) Fictional entities are incomplete;

VII) Hence, incomplete allegedly utterly immigrant characters are fictional entities.

However, not only this argument includes a premise such as V) that antirealists reject, but its conclusion would not be guaranteed if fictional works mobilized other incomplete entities that are not fictional entities. Whereas the argument I have presented in the text skips these problems by replacing premise V) with premise v), which makes premise VI) superfluous and thereby warrants the argument's conclusion.

to that of the antirealist, namely that in point of fact fictional works mobilize fictional entities only. Premise i) is also hardly contestable. As I said before, an object's completeness, in the objectual sense, is the hallmark of its reality. So, the only really questionable premise is the one that plays the substantial job in the argument, namely premise ii). Why should anti-hyperrealists accept that allegedly utterly immigrant objects are incomplete?

Here's a way to justify ii). To begin with, note that, very often, allegedly utterly immigrant objects are such that fictional works involving them make utterly true sentences that are sheer falsehoods, when evaluated with respect to the actual world by assessing the deeds of the real entities such allegedly utterly immigrant objects (to put it neutrally) correspond to. In this respect, *TCP* is paradigmatic. For definitely, many things that Stendhal says in the novel about e.g. his Parma, which the work thereby makes utterly true, are utterly false of the real city. Consider e.g.:

(3) At Fabrizio Del Dongo's times, Parma was the capital of a principality.

On the one hand, *TCP* makes (3) utterly true: that Parma was at that time the capital of a principality is what Stendhal explicitly writes in the novel. Yet on the other hand, when evaluated with respect to the actual world and the real Parma, (3) results utterly false – at the time in which the plot of *TCP* is located, that is, just after the famous 1814–15 Vienna Congress that fixed the political destiny of Europe for many decades, Parma was the capital of a duchy, not of a principality.

So what, will the anti-hyperrealist reply. Since, she will go on saying, the allegedly utterly immigrant object in question is *nothing but* the corresponding real object, this is just a case in which fiction makes true what reality falsifies. *Of* one and the same object, i.e., the real Parma, *TCP* makes true what that object itself makes utterly false, namely that immediately after 1815 Parma was the capital of a principality.

Yet this is not the end of the matter. For such a predicament – fiction makes utterly true what reality makes utterly false – makes it rather the case that, for many other pairs of propositions that differ only because they respectively contain a property and its complement, a fictional work makes utterly false both propositions of the relevant pair. But if this is the case, then the allegedly utterly immigrant object those propositions are about is incomplete. Hence, since as premise i) states if something is real it is complete, such an object cannot be a real individual.

Consider *TCP* again. If *TCP* makes (3) true, then it also makes the case that:

(4) Parma was turned into a duchy after the times of Fabrizio's monastic retirement

is utterly false. The story says that immediately after 1815 Parma was the capital of a principality, but it neither says nor entails that *many years later*, once Fabrizio's famous deeds have come to a completion by his retiring in the monastery, an institutional change from being a principality to being a duchy took place in Parma. Yet by parity of reasoning, *TCP* also makes the case that:

(5) Parma was non-turned into a duchy after the times of Fabrizio's monastic retirement

is utterly false as well. The story not even says or entails that *in those later years*, Parma remained a principality or underwent a different institutional change (say, it became a republic). But if the city *TCP* is about has neither become a duchy nor has failed to become a duchy in those later years, this means that it is incomplete: it neither possesses the property of *being turned into a duchy after the times of Fabrizio's retirement* nor it possesses its complement. In other terms, Parma – *that* Parma, i.e., Stendhal's Parma – is incomplete. So, it cannot be the same as our real Parma.[14]

To be sure, there is a way for the anti-hyperrealist to block this conclusion. If we evaluate both (4) and (5) with respect to the actual world and the real Parma, we get that the first sentence is utterly false while the second sentence is utterly true. It is not the case that our Parma *has turned* into a duchy around the half of the XIX century, for it *already* was a duchy from 1815 (as we saw, this was one of the upshots of the Vienna Congress). So, (4) is utterly false. Moreover, insofar as our Parma has failed to undergo such a change, it possesses the complementary property of *being non-turned into a duchy after the times of Fabrizio's retirement*, so (5) is utterly true. Now, the anti-hyperrealist goes on saying, if we want to stick to the intuition that *both* (4) and (5) are utterly false, we rather have to paraphrase them a bit along the following lines:

(4') In *TCP*, Parma was turned into a duchy after the times of Fabrizio's monastic retirement

[14] A similar line of reflection is sketched in (Wittgenstein, 1978^2, IV§9).

(5’) In *TCP*, it was not the case that Parma was turned into a duchy after the times of Fabrizio’s monastic retirement.

In general, says the anti-hyperrealist, we have to so paraphrase fiction-involving sentences like (4)–(5)[15] in terms of *internal metafictional sentences* – sentences of the form “in the story *S*, p” –[16] if we want to stick to the intuition we have shared all along, namely that such sentences have *real* truth-values that can differ from the other real truth-values we give to them with respect to both the actual world and real entities. For, as we saw, the first truth-values require as their truth-makers not external actual circumstances, but rather the works themselves – or, the anti-hyperrealist would add, the external nonactual circumstances that realize such works. Once we so paraphrase those sentences, however, we can well keep the relevant names, “Parma” in this case, as referring to their ordinary real referents, our Parma in this case.[17] For then there is no problem in having a sentence like (5) as being both utterly false – when *TCP* is its truth-maker, so that it is read as (5’) – and utterly true – when the external actual circumstances are its truth-makers, so that it is not so paraphrased, says the anti-hyperrealist. *Mutatis mutandis*, the case of (4) considered as both not paraphrased and as paraphrased as (4’) becomes strictly analogous to that of:

(6) Parma is the paradise of ham
(7) Possibly, it is not the case that Parma is the paradise of ham

which are both utterly true and about *our* Parma insofar as (6) is made true by the external actual circumstances – if you want to eat the best *culatello*, you have to get to Parma – while (7) is made true by external *possible* circumstances – alas, there definitely is a possible world in which whoever gets to Parma is just served junk food. So, we need no incomplete object to account for the falsehood both of (4) and of (5).

[15] But also sentences like (1)–(3). I will get back on sentences (1)–(2) quite soon.
[16] In (Voltolini, 2006), I tell these sentences from *external metafictional sentences*, i.e., sentences that presuppose that there are stories yet make no reference to them. Cf. e.g. “Fabrizio is a fictional character”.
[17] The antirealist would say that by so doing we stick to the *de re* reading of such sentences. The mere realist would agree on that, yet unlike the antirealist she would add that also sentences like (1)–(3) are to be given such a reading when the relevant genuine singular term involved refers to a fictional individual. See immediately later in the text.

Yet this anti-hyperrealist reply is not exciting. For it implies that a real object involves a violation of Excluded Middle in a nonactual world. Since, as I said before, alleged violation of Excluded Middle has been put forward as of the main reasons to reject fictional entities, this definitely is an unwelcome result for the anti-hyperrealist.

In order to see the problem, let us go back to (1)–(2). Anti-hyperrealists typically provide for the purported incompleteness of a native character, like Fabrizio, the same treatment they give to the purported incompleteness of an allegedly utterly immigrant character, like Parma. That is, they will re-read (1)–(2) as the following false sentences:

(1') In *TCP*, Fabrizio is spotted on his left shoulder
(2') In *TCP*, it is not the case that Fabrizio is spotted on his left shoulder.

Moreover, mere realists about *ficta* will take (1') and (2') as having a *de re* reading along the lines both kinds of anti-hyperrealists give to (4')–(5'),[18] while antirealists will obviously take them as having only a *de dicto* reading. Yet there is a reason as to why it is better to read such sentences in an antirealist rather than in a mere realist way. For the falsity of both (1') and (2') entails that the sentences embedded in them are false with respect to the world of *TCP*. Put in the material rather than in the formal mode, a world realizing *TCP* is not maximal; if we take a certain positive state of affairs and its negative complement, namely that Fabrizio is spotted on his left shoulder and that it is not the case that Fabrizio is so spotted, neither state subsists in that world. Indeed, it is a natural principle to hold that in a story *S* a fictional entity *FE* is *P* iff at a world in which *FE* exists, *FE* is *P*. Then, if it is not the case that in a story *S FE* is *P*, nor it is the case that in a story *S* it is not the case that *FE* is *P*, at a world in which *FE* exists it is neither the case that *FE* is *P*, nor it is the case that it is not *P*. But this further means that in a world realizing *TCP*, Fabrizio, if there is such a fictional thing, involves violation of Excluded Middle. As we saw before, violation of Excluded Middle was taken by Russell as a good reason to reject such entities.[19]

[18] Cf. (Thomasson, 1999, pp. 107–8)

[19] For the principle and a very similar problem it raises, cf. (Sainsbury, 2010, pp. 83–4). Lewis would try to avoid the problem by denying that principle. For him, since at some worlds in which *FE* exists *FE* is *P* while at some other such worlds it is not the case that *FE* is *P*, a sentence of the form "in *S*, *FE* is *P*" (nor a sentence of the form "in *S*, it is not the case that *FE* is *P*") is neither true nor false. Cf. (Lewis, 1978, pp. 42–3). Yet it is obviously debatable whether to actually violate Bivalence is better than to possibly violate Excluded Middle. Moreover, it is debatable that in cases of incompleteness the

Yet by parity of reasoning, the same problem affects our Parma, if *it* is the protagonist of *TCP*. True enough, the falsity of (4') and (5') does not force Parma to involve a violation of Excluded Middle in the actual world. For since in (5') negation has narrow scope, (5') is not the negation of (4'). So both (4') and (5') can well be utterly false.[20] Yet that falsity forces their respective embedded sentences to be false with respect to a world realizing *TCP* as well. In such a world, it is neither the case that our Parma has turned into a duchy after the times of Fabrizio's retirement, nor it is the case that our Parma has not so turned. Since all anti-hyperrealists accept to read such sentences *de re*, as being about the real Parma, *Parma itself* involves a violation of Excluded Middle in a world realizing *TCP*. If this is a reason to reject a fictional entity, it is also a reason to reject a real entity insofar as fictional works involve it.

Beforehands, we saw that in order to rule out the unwelcome idea that fictional entities involve a violation of Excluded Middle, it is enough to read their incompleteness as an objectual rather than as a propositional incompleteness. This implies that it is wrong to paraphrase (1) and (2) as (1') and (2') respectively, insofar as that way of paraphrasing them reintroduces propositional incompleteness from the rear door.[21] *Mutatis mutandis*, this also shows that it is wrong to paraphrase (4) and (5) as (4') and (5') respectively. But if we no longer so paraphrase (4) and (5), we are no longer tempted to say that they involve real entities rather than fictional ones. So, we can stick to the

relevant internal metafictional sentences must be neither true nor false. As (Sainsbury, 2010, p. 89) says, the following argument is invalid insofar as its premises are true yet its conclusion is intuitively false:

i) (in the Doyle stories) Holmes lives at 221b Baker Street
ii) 221b Baker Street is a bank
iii) (in the Doyle stories) Holmes lives at a bank.

Yet in Lewis' account, the argument's conclusion should be neither true nor false, for there are Doyle worlds at which the sentence embedded in that conclusion is true (in such worlds 221b Baker Street is a bank) and other such worlds at which that sentence is false (in such worlds 221b Baker Street is not a bank). (Incidentally, *pace* Sainsbury hyperrealists have no trouble in accounting for the argument's invalidity – true premises, false conclusion – for according to the them it suffers from a fallacy of equivocation: in i) "221b Baker Street" refers to the fictional surrogate, in ii) it refers to the real location).

[20] (Thomasson, 1999, pp. 107–8).

[21] This does not *eo ipso* mean that paraphrasing fiction-involving sentences as internal metafictional sentences is incorrect; the point is simply that the "in the story"-phrase must not be read as an intensional operator. Cf. on this (Voltolini, 2006, chap.6).

above result: the sheer falsity of the non-paraphrased (4) and (5) shows that they concern incomplete entities, hence that they do not concern real entities – but, as my original argument purports to show, fictional ones.

To be sure, the above ontological argument is not the only reason to run hyperrealistically. For the hyperrealist may appeal to straightforwardly semantic reasons. Yet such reasons ultimately trace back again to the above onto-logical considerations against appealing to real entities when allegedly utterly immigrant characters are at stake: if allegedly utterly immigrant objects were real entities, such entities would involve a violation of Excluded Middle in the nonactual worlds of the stories. Take e.g.:

(8) For a while, Fabrizio inhabited Parma

which again *TCP* makes utterly true. A standard example of sentential meaning equivalence is given by the active/passive conversion: if one turns a sentence from the active to the passive form its meaning is preserved, hence it cannot be the case that a sentence in one form is true while a sentence in the other form is false. So, let us convert (8) into its passive form:

(8P) For a while, Parma was inhabited by Fabrizio.

Given their meaning equivalence, if (8) is utterly true, so is (8P). Yet suppose now that (8P) concerned our Parma. Then it would be utterly false: no real city has ever hosted a fictional individual. This strongly suggests that both (8) and (8P) are utterly true for they concern a certain relation holding between two fictional entities, Fabrizio del Dongo and Stendhal's Parma.[22]

To be sure, the anti-hyperrealist might again appeal to the idea that, in order for (8), whether taken as such or taken in the passive as (8P), to be utterly true, it must be read as an internal metafictional sentence about a real entity, our Parma:

[22] This problem was originally raised by (Woods, 1974, pp. 41–2). Yet the example I have given in the text is harder to deal with than the one Woods points out, which involves in the two relevant sentences a symmetrical relation, hence different relational properties of the kind *being R-ed* to *a* and *being R-ed* to *b*. As such, the 'mere realist'-solution (Berto, 2012, p. 186) provides to Woods' problem, which involves differences in focus between the two relevant sentences, does not apply to this example. Nor could even work Sainsbury's solution, which appeals to a presence versus an absence of fictional presuppositions in those sentences (cf. Sainsbury, 2010, p. 28). Moreover, the problem is reinforced if, as I have maintained in (Voltolini, 2006, p. 122), (8) is analytically true. For if this holds of (8), it must also hold of (8P), which is just its conversion into the passive.

(8') In *TCP*, for a while Fabrizio inhabits Parma/Parma is inhabited by Fabrizio.

So, one might accept both that (8), whether in its active or passive form, is utterly false, while (8') is utterly true. Yet this way out would simply take us back to the aforementioned onto-logical problem: if fiction-involving sentences, read as internal metafictional sentences, concerned real entities, such entities would implausibly involve a violation of Excluded Middle in nonactual worlds of the stories.

3. Objections and Replies

In this Section, I will consider some objections to hyperrealism along with some hyperrealist replies. If these replies are correct, hyperrealism will be corroborated.

(a) To begin with, anti-hyperrealists will wonder why I have chosen such a controversial example such as Stendhal's Parma. It is a commonplace among literary critics to maintain that Stendhal's Parma is an invention, for it is so different in many respects from our Parma. For instance, as I pointed out before, the political frame in which Stendhal's Parma is set is completely different from that of the real Parma at those times: in the years in which *TCP* is located, the real Parma was the capital of a duchy, not of a principality, ruled by Marie-Louise of Austria, not by Prince Ranuccio Ernesto IV Farnese. So, even if it were be taken for granted that Stendhal's Parma is a fictional character, there would be a host of more plausible examples of fictional works that involve real entities: to stick to the most famous and already quoted ones, *War and Peace* (as to Napoleon), the Doyle stories (as to London), etc.

Yet as we know from the beginning of this paper, it is not want of similarity with real things that makes a character a fictional rather than a real entity. Rather, it is want of historical connection. In this respect, what anti-hyperrealists should put forward is a precisely opposite objection based on the existence of a given historical connection between Stendhal and Parma. See immediately below.

(b) Here it is. What anti-hyperrealists should say is that, hyperrealists' convictions notwithstanding, Stendhal's Parma *is* the real Parma. For there well is a historical connection between Stendhal's talking of Parma in *TCP* and the real Parma. In the 1839 dedication letter prefacing *TCP*, Stendhal himself clarifies that his intention in writing *TCP* is that of publishing a tale he wrote some years before, in 1830, as a result of having heard in the Italian city of Padua a certain chap, the nephew of a dead Canon, telling a story about some intrigues happened at the court of *Parma* in the immediately previous years. In quoting the Canon's nephew himself, Stendhal writes:

> "In that case," said the nephew, "let me give you my uncle's journal, which, under the heading 'Parma', mentions several of the intrigues of that court, in the days when the Duchessa [Sanseverina]'s word was law there; but, have a care! this story is anything but moral, and now that you pride yourselves in France on your gospel purity, it may win you the reputation of an 'assassin'". (*TCP*, "To the Reader")

To sum up, if the above is correct, then anti-hyperrealists should face hyperrealists with the objection opposite to (a): since there is a historical connection between Stendhal's talking of Parma in telling *TCP* and the real Parma, what *TCP* is about is the real Parma, not a fictional surrogate of its.[23]

Yet to begin with, note that authorial intentions are not sufficient in order for a historical connection between a certain discourse and a real individual to hold. Many allegedly historical tales start with the presumption of their authors to talk about real events and individuals, but such presumptions are often wrong. In one of the most famous examples, Geoffrey of Monmouth's *Historia regum Britanniae* starts by talking of King Arthur as if he were a real individual having ruled Britain immediately after the Romans' domination. Yet nowadays most people are convinced that there is no real individual the name "King Arthur" refers to in Geoffrey's tale, Arthur's being a merely fictional king. This may well be the case with Stendhal's talking of Parma.

Suppose however that there really were a historical connection between an author's way of talking and a real individual, whether grounded in correct authorial intentions or in some other referential mechanism.[24] Yet that connection would not guarantee that *a fictional work* contains that individual. So, even if there were such a connection between Stendhal's talking of Parma and our Parma, *TCP* would not involve it yet. One has indeed to tell a fictional work, which in the end is a semantic entity made by the propositions that characterize the relevant story, from the content of utterances of fiction-

[23] As (Friend, 2011, p. 192) underlines, this intention may manifest itself even within the tale itself, as is the case with London in Orwell's *1984*.

[24] For instance, in a certain real individual being the dominant source of certain referential uses. For a survey of the relevant possibilities cf. (Friend, 2011, p. 198).

involving sentences occurring in a game of make-believe that is made (possibly *inter alia*) with those utterances, *fictional utterances*. Let me expand on this point.

As Kendall Walton remarked,[25] fiction starts from games of make-believe in which one makes fictionally true things that can well be not really such. As Evans originally maintained, such games of make-believe come in two varieties: existentially *creative* and existentially *conservative*.[26] On the one hand, the former games involve (typically concrete) *nonactual* individuals, i.e., individuals that do not figure in the overall domain of what there is, the actual domain – they only figure in the domain of the world of the game, which is a way of saying that there really are no such things. In these games, one makes believe *that* there is a (typically concrete) individual that does certain things.[27] For instance, in telling the story of *Oedipus Rex*, Sophocles makes believe that there is a concrete man named Oedipus who becomes blind after having married his mother. On the other hand, the latter games involve (typically concrete) actual individuals, i.e., individuals that figure not only in the domain of the world of the game but also in the actual domain.[28] In these games, *of* a (typically concrete) actual individual, one makes believe that such an individual does certain things. Historical tales mobilize games of this latter kind. Following Stendhal's intentions, one may well take his telling *TCP* as presenting (also) a conservative game: of our real Parma, Stendhal makes believe that in the post-1815 times, many intrigues happened there.

Yet this is not the end of the story. In both games, there are fictional utterances of certain fiction-involving sentences that have a certain truth-conditional content, a *fictional content*, and also a certain truth-value, a *fictional truth-value*; typically, such utterances with that content are true in the world of the relevant make-believe game. Yet in neither game such a content mobilizes a fictional individual. A fictional individual, if there is any – as realists of any kind believe – figures in the actual domain. So, it is different both from the (typically concrete) nonactual individuals creative games mobilize and from the (typically concrete) actual individuals conservative games mobilize. In the

[25] Cf. (Walton, 1990).
[26] Cf. (Evans, 1982, p. 358).
[27] I say "typically concrete" for there may be cases of creative games in which one makes believe that there is an abstract entity (for instance, the greatest natural number).
[28] I say "typically concrete" for there may be cases of conservative games in which one makes believe of an abstract entities (e.g., the number One) that it is such and such. Cf. (Voltolini, 2006; 2009).

former case, for a fictional individual and a (typically concrete) nonactual individual are members of different domains, or better, the fictional individual is a member of the overall domain of what there is, while the nonactual individual is in the end just a *façon de parler*. In the latter case, for although a fictional individual and a (typically concrete) actual individual are members of the same actual domain, they are individuals of different kind: fictional and real individuals.[29] As a result, even if there is a historical connection between someone talking in a conservative game about something and a certain real individual, that connection does not manage to pick up the different individual mobilized in the content of the corresponding fictional work, a fictional surrogate of that real individual.

In point of fact, for realists of any kind fictional individuals contribute to constitute the content of fictional works stemming out of creative make-believe games, which is different from the fictional content of the fictional utterances mobilized in such games. The former content rather is the content of other, *real*, utterances of the same fiction-involving sentences, those that are utterly verified or falsified by the relevant fictional works. Consider the following fiction-involving sentence, still related to *TCP*:

(9) The Duchess Sanseverina is fallen in love with his nephew Fabrizio.

Take a fictional utterance of (9), the one (9) has when uttered in the context of a creative game involving the tale of *TCP*. In such a case, (9) has a fictional content – one makes believe *that* a certain concrete woman loves a certain concrete man – and is evaluated as true with respect to the world of the game, it is fictionally true, for in that world that nonactual woman effectively loves that nonactual man. Yet (9) may also be uttered outside that game as a real utterance and be evaluated as utterly, not fictionally, true, insofar as the work of *TCP* is its real truth-maker, or alternatively put, since the story of *TCP* so unfolds that the Duchess loves Fabrizio.[30] But in the latter case (9)'s content is completely different from the fictional content of the corresponding fictional utterance of (9). For it involves two fictional individuals, the native character of

[29] One may sometimes even have a conservative game about a fictional individual; yet the fictional individual stemming out of that game will not coincide with that individual. Cf. (Voltolini, 2009).

[30] This is the utterances anti-hyperrealists would paraphrase as "In *TCP*, The Duchess Sanseverina is fallen in love with his nephew Fabrizio". Realists of all kinds may accept such a paraphrase if they do not construe a phrase like "in *TCP*" as an intensional operator. Or so I hold: cf. fn. 21.

the Duchess and the native character of Fabrizio, respectively different from their nonactual counterparts. Or so realists would say.

As realists of all kinds believe, therefore, fictional individuals populate those fictional works that stem out of creative games yet whose content, as we have just seen, does not coincide with the fictional content of sentential fictional utterances those games mobilize. Yet as just hyperrealists believe, fictional individuals also populate those fictional works that stem out of conservative make-believe games. These fictional individuals are mere fictional surrogates of the real individuals such conservative games mobilize. Hence, not even the content of such works coincides with the fictional content of the utterances of the relevant fiction-involving sentences those games mobilize. For while the content of these fictional utterances involve real individuals, the content of those works is the content of other, real, utterances of the same sentences that involves not real individuals, but fictional surrogates of such individuals. Again, these other utterances are made utterly true by the relevant fictional works. Take e.g.:

(10) Parma's citadel is ten minutes from Parma southeastwards.

When uttered in the context of a *TCP*-inspired conservative game, (10) has a certain fictional content involving the real Parma and is also fictionally true, for in the world of the game the military citadel of the real Parma is so located. Yet when uttered out of that game, (10) is also utterly true for *TCP* makes it true insofar as Stendhal's Parma, Parma's fictional surrogate, in the novel also has a citadel – a fictional citadel as well, of course – so located.

To sum up, even if we accept that a conservative make-believe game is about a real individual, so that there is a historical connection between someone's speaking in that game and that very individual, such an individual is not what the corresponding fictional work is about, a given fictional surrogate. So, even if we accept that Stendhal's storytelling involves a conservative make-believe game about our Parma, *TCP* is not about it but about its fictional surrogate: Stendhal's Parma.

(c) Yet the anti-hyperrealist may further object: at least in the case of a historical tale can't we say that such a tale also mobilizes *other* real utterances of the very same fiction-involving sentences, namely, utterances that have a *real* truth-conditional content, hence a real truth-value, involving a real individual pretty much as the fictional utterances of the same sentences? And why that real content involving that real individual cannot also contribute to constitute the content of the corresponding fictional work, the content of the different real utterances of fiction-involving sentences that are made utterly true by such works? For our purposes, the anti-hyperrealist may well go on saying, let us go back once again to *TCP*. This is how it starts:

> On the 15th of May, 1796, General Bonaparte made his entry into Milan at the head of that young army which had shortly before crossed the Bridge of Lodi and taught the world that after all these centuries Caesar and Alexander had a successor (*TCP*, Vol. I, Chap. I)

Let us well suppose that Stendhal's utterance of the above sentence occurs within a certain conservative make-believe game about our flesh-and-blood Napoleon that mobilizes a certain fictional content and a certain fictional truth-value: it is true in the world of that game. Yet the very same sentence may be uttered also not in a fictional, but in a real context, as a pièce of a historical narration about Napoleon. This real utterance is definitely paired with a real content and it also has a real truth-value – it is actually true, for Napoleon made his entry into Milan that very date. Now, the anti-hyperrealist may observe, why does not *this* real, *Napoleon-involving*, content, also belong to the content of the fictional work of *TCP*? In other terms, why this real content is not also the content of a *further real* utterance of the above sentence, the utterance that has not history, but the work, in focus, for it is the work, not the external actual circumstances, that makes this latter utterance utterly true? Obviously, one can repeat the question many other times. One may well see the aforementioned (10) as another case in point, with "Parma" referring to our real Parma both in a real historical utterance of (10) and in a real utterance of (10) made utterly true by *TCP*. Incidentally, this should also be the case with our aforementioned sentences (3)–(5). All of them have both real historical utterances whose truth-makers are external actual circumstances (so that the utterances of (3) and (4) are false, while the utterance of (5) is true) and other real utterances whose truth-maker is *TCP* itself (so that the relevant utterance of (3) is true, while the relevant utterances of (4)–(5) are false) that however share the same real content about our Parma. Of course, the point may even be more generalized. For, over and above historical novels, there are many other bits of fiction apparently involved with reality: e.g. parodies or lyrical poems (or autobiographies in general).

Now, the hyperrealist can well accept that a fictional utterance occurring in a conservative game and having there a fictional content is paired by a real utterance of the same sentence occurring outside the game in a pièce of historical narration and having a real content: this is the utterance that is made true by the external actual circumstances. Moreover, since the contents of both utterances involve the same real individual, the hyperrealist can also accept that such contents are just one and the same.

Yet consider now fictional utterances of fiction-involving sentences occurring in a creative game, such as (9). If they were paired by real utterances of the same sentences occurring in a pièce of a historical narration, one would have to say either that these real utterances have no real content or that if they have one they are utterly false.[31] For genuine singular terms occurring in the former utterances – the names "the Duchess Sanseverina",[32] "Fabrizio" – fictionally refer to something, but if they occurred in such real utterances, they would refer to nothing at all – pretty much as "King Arthur" in Monmouth's *Historia regum Britanniae*.

Moreover, take a fictional utterance of a fiction-involving sentence that mobilizes both a genuine singular term that mere fictionally refers and another genuine singular term that really refers to something. That is, take a fictional utterance that involves a game that is both creative as to the first term and conservative as to the second term. Our (8) before yields a case in point. Now, a fictional utterance of (8) has a fictional content that makes it true in the world of that game. Yet if there were also a real utterance of it taken as a pièce of historical narration, it would definitely have no real content or if it had one it would be utterly false, since in it "Fabrizio" refers to nothing while "Parma" refers to the real city. Yet even if it had a real content, that content would not be the same as the content that contributes to constitute the fictional work of *TCP*, the content (8) has when it is further really uttered as an utterance that has *TCP* as its truth-maker. For this further real utterance is *utterly true*.

As a result, there is no guarantee that when a fiction-involving sentence mobilizes a real utterance in a real historical context having a real content, this content is the same as the content *another* real utterance of that sentence has when a fictional work is its truth-maker. In the case of (8), mere realists would say that this difference depends on the fact that, while in the first real utterance "Fabrizio" refers to nothing, in the second real utterance it refers to a fictional

[31] This obviously depends on the semantic theory of empty genuine singular terms one adopts. I cannot enter here into details.

[32] As the text has clearly shown, I consider expressions such as "the Charterhouse of Parma", "the Duchess Sanseverina" and the like as genuine singular terms.

individual. Yet it may also well depend on the fact that, while in the first real utterance "Parma" refers to our real Parma, in the second real utterance it refers to a fictional surrogate of its, as hyperrealists would say. As no such content identity is guaranteed across different real utterances of the same fiction-involving sentence, moreover, the same may well happen in the case of the relevant different real utterances of the afore-mentioned sentence that constitutes *TCP*'s *incipit* and involves no genuine singular term that merely fictionally refers. Or it may well happen in the analogous case of the relevant different real utterances of (10) that merely involves the really referring name "Parma".

But why one has to stick to this hyperrealist reply, would the anti-hyperrealist retort? Isn't it more economical to acknowledge that the aforementioned real utterances of (8), the one that has external actual circumstances as its truth-maker and the one that has a fictional work as its truth-maker, have a different content and yet in both "Parma" refers to the real city? Moreover, it would not be extremely economical to say that when a real historical utterance of a fiction-involving sentence is only about real individuals, as is the case both with *TCP*'s sentential *incipit* and with (10), it has the same real content as a real utterance of the same sentence made utterly true by a fictional work, so that its relevant genuine singular terms refer to real individuals in both cases?

Well, if the latter were the case how could one justify the fact that even if such real utterances share their real truth-value, they differ in their *possible* truth-value? Suppose to evaluate a real historical utterance of (10) and a real utterance of it that is made true by *TCP* in a possible world that still contains *TCP* yet in which no citadel has been built around Parma. Clearly enough, with respect to that world the first utterance of (10) would be false and yet the second utterance would be true. So they cannot share the same content. It is easy to suppose that, while in the first utterance "Parma" refers to the real city, this is not the case of that name in the second utterance, for it there refers to a fictional surrogate of that city.[33]

As a further result, also in the case of historical novels, parodies, and lyric poems, a real utterance of a certain fiction-involving sentence that is made true by the relevant fictional work may well have a content, the one contributing to

[33] Incidentally, this result is further corroborated if one takes the real utterances of fiction-involving sentences that are made true by fictional works as being analytically true, as I held in (Voltolini, 2006).

constitute that fictional work, that differs from the content another real, historical, utterance of that sentence possesses. True enough, we would not fully understand e.g. a parody if it were not somehow related to a real individual. But this does not depend on the fact that the fictional work constituting the parody mobilizes that real individual. Rather, the point is that the parody mobilizes a fictional surrogate of that individual. Thus, its author wants to be understood as if, when her work says something about that fictional surrogate, she implicated something about that real individual. In this respect, Aristophanes' *The Clouds* mobilizes not a real, but a fictional Socrates. Yet, insofar as that fictional Socrates is a surrogate of the real Socrates, when *The Clouds* says that the fictional Socrates is absent-minded, Aristophanes wanted to be understood as implicating that the real Socrates was a buffoon. Moreover, if (as some critics say) *TCP* is an ironical narrative, probably this is how Stendhal wanted to be understood about the real Parma, i.e., as ironizing upon it (as well as upon the real Italy) when *TCP* says something about a fictional Parma that surrogates it (as well as something about a fictional Italy that surrogates the real Italy). In this respect, consider the sentence following in *TCP* the sentence just quoted:

> The miracles of gallantry and genius of which Italy was a witness in the space of a few months aroused a slumbering people; only a week before the arrival of the French, the Milanese still regarded them as a mere rabble of brigands, accustomed invariably to flee before the troops of His Imperial and Royal Majesty; so much at least was reported to them three times weekly by a little news-sheet no bigger than one′s hand, and printed on soiled paper. (*TCP*, *ibid.*)[34]

(d) Armed with the above reflections, the hyperrealist can discard another objection focalized on parodies or similar funny texts. Parodies have to concern real individuals, not their fictional surrogates, says the objection. For they emotionally move us towards real individuals, not fictional ones. The point of

[34] To argue against the idea that historical novels and the like are about fictional surrogates of real individuals, Kroon says that the fact that a certain individual intentionally resembles another one is not enough in order for the latter rather than the former to occur in a fictional work. For example, the fact that *Anna Karenina*'s Levin intentionally resembles Tolstoy does not make the case that Tolstoy figures in *Anna Karenina*. Cf. (Kroon, 1994, p. 215). This is correct, but it precisely proves that the fictional Levin is a fictional surrogate of the real Tolstoy, so that the former but not the latter occurs in that fictional work. Which is also what the famous Flaubert's motto "Madame Bovary c'est moi" is intended to show.

the parody (as well as of many other novels) would be lost, if they concerned fictional individuals: we want to make fun of real individuals, not of their fictional surrogates.[35] In point of fact, one may note, when at the end of a narration a warning appears to the effect that the narration's protagonists are merely fictional, such a warning is intended to discard a presumption that the narration concerns real individuals, as it would instead be the case if the narration were parodic, ironic, or even simply historical.

Yet once again, we have to tell the fictional content mobilized by fictional utterances of fiction-involving sentences in make-believe games and the content mobilized by real utterances of those sentences made utterly true by fictional works. One may well have parodic conservative make-believe games in which the relevant sentential utterances are about real individuals. While attending such games, one may well be emotionally moved by such individuals; this is to say, it may well be the case that, *in the context of such games*, one is emotionally moved by real individuals.[36] Yet this does not force the corresponding parodic fictional works to be about such individuals rather than their fictional surrogates. To be sure, when reading such works we may recognize a further authorial intention to convey something about such real individuals, and thereby be again moved by them. But, as I said before, this does not make the content of such works be about such individuals.

This hyperrealist account, moreover, does not make the above warning trivial. If the warning still belongs to the make-believe game, it simply reminds the audience that the game is creative and not conservative, hence that its protagonists are (typically concrete) nonactual individuals rather than (typically concrete) actual ones. If the warning does not belong to the game but it applies to the content of the fictional work itself that stems out of the game, it simply reminds one that it is the content of a *fictional* work, not what I have called the real content that further real yet historical utterances of fiction-involving sentences may well have. Thus, it also reminds one that such a content is about a fictional individual, not a (typically concrete) real individual.

(e) Yet the anti-hyperrealist may rejoinder, the above reply shows that emotions in fiction only concern (typically concrete) real individuals, not

[35] Cf. (Friend, 2000, p. 191; 2011, p. 193).

[36] In this respect, there definitely is no problem, as (Friend, 2000, pp. 189–95, 201–2) points out, in imagining something of a real individual one would never think of such an individual out of that imagination, or even in being make-believedly moved by such an individual in a way one would not really be moved.

fictional surrogates of them. As emotion-inducing is one of the points, maybe the most relevant one, of having fictional works in our ontology, why should fictional works be ever about fictional surrogates rather than (typically concrete) real individuals, since only the latter may induce us emotions?[37]

Yet once again, if by "emotions in fiction" one means emotions had in the context of a make-believe game,[38] the hyperrealist will definitely hold that they do not concern fictional individuals, let alone fictional surrogates, but either (typically concrete) nonactual individuals – in creative games – or (typically concrete) actual individuals – in conservative games. As I said before, games of either sort do not concern the fictional individuals that stem *out* of those games.[39]

In this respect, one may even engage oneself in a quite complicated self-cathartical make-believe game about oneself. As Friend herself points out,[40] a real subject *S* can well imagine that she is pitying herself while attending a *pièce* that presents her as despising herself. The hyperrealist may well agree with Friend on this respect, insofar as such a case presents a *nesting* of conservative make-believe games.[41] In the *nesting* conservative game involving her as a spectator, *S* pities herself, for in the *nested* still conservative game involving her again as a protagonist the former game nests, she dislikes herself.[42] The fact that a self-cathartical conservative game nests another

[37] Cf. (Friend, 2000).

[38] In order to discard some puzzles raised by (Kroon, 1994) on this concern, Friend herself (cf. Friend, 2000) maintains that what we have towards real individuals are make-believe emotions. I take this to mean that we have emotions towards such individuals in the context of conservative make-believe games.

[39] *Pace* (Friend, 2000, pp. 202–3).

[40] Cf. (Friend, 2000, pp. 195–200).

[41] In (Kroon, 1994, pp. 209–10), Kroon considers such a solution yet just in order to discard it. For according to him, the cases in question are not cases of games within games. Yet when originally describing "unofficial" make-believe games, such as the ones in which real subjects have make-believe attitudes with respect to fiction, Walton himself says that these games are extended games that include narrower "authorized" games (standard games having fictional tales as their props) as their parts: cf. (Walton, 1990, p. 403). Indeed, it seems to me that there is no principled distinction between the case of an extended make-believe game in which a spectator has emotions towards protagonists of an authorized game and the case of an authorized nesting game whose protagonists have emotions towards themselves as protagonists of another authorized yet nested game (we may e.g. understand Cervantes' tale of *Don Quijote II* as involving Don Quijote despising himself for how he praises himself in the apocryphal tale by Fernandez de Avellaneda).

[42] What complicates the case is the fact that the real subject and the real object of the make-believe attitudes coincide. But, as Friend herself points out (cf. Friend, 2000, p. 190), nothing would change

conservative game is the only relevant difference from a typical cathartical game, in which a conservative game nests a creative game. For instance, while attending a performance of *Oedipus Rex* ending with Oedipus disliking himself – a creative game involving a concrete nonactual individual named Oedipus – a subject *S* may well pity that individual for such a disliking – in a conservative game nesting the previous creative game yet involving *S* herself. Now, insofar as in the previous example the nesting game is a conservative self-cathartical game embedding another conservative game, both are about the same concrete real individual, *S* herself.

But if by "emotions in fiction" one meant emotions concerning a fictional work, once it has been proven that fictional works neither concern (typically concrete) nonactual individuals nor (typically concrete) actual individuals, but just fictional individuals, one may claim that such emotions cannot concern fictional surrogates only if one has an argument to the effect that such emotions cannot concern fictional individuals in general. Yet in the anti-hyperrealist camp at least mere realists doubt that any such argument may work: one may well admire fictional individuals pretty much as one can think of them. Definitely, one may model one's own behavior on the deeds of the fictional individual one takes inspiration from, as Alexander the Great did with Homer's heroes.[43] So, there is no preclusion for fictional surrogates to be objects of emotions as well. It is my disliking not the real London, but Orwell's *1984* London, that reinforces my antitotalitarian habits. In point of fact, this may well have been another point of *TCP*: not only that of inducing dislike towards its pretty ridicule fictional protagonist, Fabrizio del Dongo, but also that of inducing such a dislike towards the pretty narrow-minded fictional city he inhabitated for a while, Stendhal's Parma (perhaps with an eye by Stendhal to also induce dislike towards the real Italy and the real Italians in general, as some critics maintain).[44]

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if the real object of such attitudes (in the nesting and in the nested conservative game) differed from the real subject of them (in both games).

[43] As (Zalta, 1988, pp. 4, 127–8) suggested. *Pace* (Friend, 2000, p. 203), Thomasson herself is committed to this idea when she defends a creative theory of intentionality according to which our intentional states, hence emotions as well, can generate the nonexistent objects they are about. Cf. (Thomasson, 1999, pp. 88–92).

[44] I thank Carola Barbero and Elisabetta Sacchi for their useful comments.

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Commentary

Realism. A Critique of Brentano and Meinong

Gustav Bergmann
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In the Preface to *Realism. A critique of Brentano and Meinong* (Bergmann, 1967), Gustav Bergmann (1906–1987) stated that that was «the sort of book a man writes only once in his life» (p. VII). In fact, *Realism* is a formidable work, which combines different purposes. The first half of the book mainly consists in a presentation of Bergmann's mature views, as they have developed through the years, from the strictly positivistic beginnings, in the footsteps of Carnap and the Vienna Circle, to the rich ontology of the 60s[1]. Bergmann's aim is that of firmly establishing a realistic view, in two different senses of the word 'realism': realism_1, the view according to which universals exist (in opposition to nominalism); and realism_2, the view according to which – roughly speaking – the "world" is independent of minds (in opposition to idealism). It is Bergmann's considered view that a failure to secure a solidly realistic_1 ontology almost inevitably leads to some form of idealism (Bonino, 2009). The book can also be read as a sustained criticism of three main stumbling blocks on the way to realism_2: nominalism, reism, and representationalism. Nominalism is of course the view according to which there are no universals. Reism can be preliminary characterized as the view according to which all entitites are things (in a sense of 'thing' that will be specified later). Representationalism is the view that there are intermediaries of some sort between mental entities (subjects, minds, or whatever) and their intentions; such intermediaries (typical examples of which are the *ideas* of the empiricist tradition) inhabit what Bergmann calls the Third (world), whereas the First is the properly mental world and the Second is the physical one (the so-called "external world").

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[1] For two brief presentations of Bergmann's philosophy, cf. (Addis, 1971), (Tegtmeier, 1999). For broader examinations of his work, cf. (Hochberg, 2001), (Bonino & Torrengo, 2004), (Bonino, 2009).

Realism$_2$ can thus be reformulated as the view that the Second is independent of the First. The Third, according to Bergmann, does not exist, and its introduction almost inevitably leads – through more or less tortuous routes – to idealism. One of the main aims of *Realism* is to expose such tortuous routes. And that also accounts for the second half of the book, in which the philosophies of two significant members of the representationalist tradition are analysed and criticized: the philosophies of Brentano and Meinong. Brentano and Meinong are not typical exponents of unreconstructed representationalism. In fact, their views are very sophisticated, and both of them, at least in their intentions, aim at overcoming representationalism in order to attain a realistic$_2$ position. Yet it is Bergmann's contention that both of them fail, though in different ways and for different reasons. And also the degree of their failure is different. Whereas Brentano ended up for Bergmann in overt idealism, Meinong came very close to success. That is why Bergmann's whole book is dedicated "to the glorious memory of Alexius Meinong".

It must be made clear from the beginning that Bergmann's examination of Meinong's philosophy – as happens with all his analyses of other philosophers – does not belong to what Bergmann calls "factual history", but rather to "structural history", that is something very close to what is usually known as "rational reconstruction". Such a reconstruction is conducted by means of a constant comparison with the "foil", which is a schematized version of Bergmann's own ontological views. That makes the whole undertaking a rather complicated matter, in which one must always "translate" from Bergmann's notions to Meinong's ones and vice versa. This is one of the reasons that makes Bergmann's interpretation of Meinong's philosophy somewhat "violent"(Raspa, 2008, pp. 202–204); another reason is the highly selective character of Bergmann's reading of Meinong, which deliberately focuses mainly on the problems and issues that are interesting *from Bergmann's point of view*. Now, in order to understand at least something of Bergmann's analysis, a brief sketch of the foil is required.

The main ontological categories recognized by Bergmann in *Realism* are the following:

(A) things	(1) particulars	
	(2) universals	(i) properties
		(ii) relations
(B) facts		
(C) subsistents	(3) nexus	
	(4) other kinds of subsistents	

Roughly, the subsistents are the referents of the logical constants of the ideal language[2], with the addition of some other kindred entities. Intuitively, they are responsible for what Wittgenstein would have called the "form" or the "structure" of the world. By contrast, things correspond to its "content" (they are the referents of the descriptive constants of the ideal language). The category of things is further divided into two subcategories, that of particulars (referred to by individual constants), and that of universals (referred to by predicates). Particulars are to be understood as *mere* particulars, i.e., as devoid of any *nature*. All things are simple entities. Unlike things, facts are complex entities. Their complexity consists in their having constituents, which are "in" facts; such constituents are particulars and universals. Yet also subsistents are involved in facts. With reference to facts, the most significant subsistent is the nexus of exemplification, which ties together the particular(s) and the universal that make up the fact. Nexus are in fact those subsistents that "connect" other entities into more complex ones. Exemplification does not need a further nexus to tie it to what it ties, otherwise an endless regress would arise, as Bradley has showed. Here lies an important difference between things and subsistents, a difference which has to do with the "dependence" or "independence" of these entities. There is a sense in which facts may be regarded as independent, whereas things must be regarded as dependent. Such a dependence of things is spelled out by the *principle of exemplification*, according to which no universal that is not exemplified by at least one particular exists, as well as no particular that does not exemplify at least one universal exists. Bergmann claims that in this sense both particulars and universals are dependent$_2$, whereas facts are independent$_2$. But while they are dependent$_2$, there is also a sense in which things are independent. A particular, for instance, must indeed exemplify a universal, but it must not exemplify a

[2] It is here impossible to explain Bergmann's "ideal language method". For a thorough presentation cf. (Bonino, 2009), chap. II.

certain specific one: the mere presence of a particular and the universal *red* does not make up the fact that that particular is red. In order for some things to make up a fact, a connection is required, and such a connection is provided for Bergmann by a subsistent, i.e, the nexus of exemplification. This nexus, being a subsistent, does not need another connection in order to be connected to the other constituents of the fact, otherwise it would not be a subsistent but rather a thing, and an endless regress would arise. In this sense things may be said to be independent$_1$, whereas subsistents are dependent$_1$. It must also be noticed that ordinary objects, such as chairs, are not to be conceived of as things in the foil, but rather as facts, or as conjunctions of facts. To take a simpler example, a red round spot might presumably be analysed as a particular exemplifying two universals, i.e., redness and roundness, and therefore as a fact or a conjunction of facts.

Coming to Meinong, Bergmann's general assessment of his philosophy with respect to the three errors of nominalism, reism and representationalism is worth quoting at length:

> Meinong's *nominalism*, though as refined as it could possibly be, is extreme. In one of the struggles he thus remained in the rear. His *reism*, curiously and characteristically mitigated as it is, stretched to the utmost, as it were, does yet not stretch far enough. He remained a reist of a very special kind. That kept him out of the front ranks of another struggle. In the third, however, against *representationalism*, he led, and, had he also been in the forefront of the other two, might have conquered, might have arrived at an ontology not only realistic$_2$ and no longer representationalist but also adequate in all other respects. The one at which he did arrive is not. Yet, at the price of much bizarreness, he came agonizingly close. That makes him the most memorable Don Quixote of a great cause (Bergmann, 1967, p. 340).

Bergmann's detailed and painstaking analyses of Meinong's philosophy do not lend themselves to easy summarizing. What perhaps can be usefully done here is giving a sort of reasoned explanation of these curt pronouncements, with some more in-depth probings concerning few selected questions.

Let us start with representationalism, whose virtual overcoming is according to Bergmann the major reason for Meinong's glory[3]. Though originally belonging to the representationalist tradition, his craving for realism$_2$ led Meinong, in his mature philosophy, to free himself almost

[3] On Meinong and representationalism according to Bergmann cf. (Egidi, 2005).

completely of the shackles of representationalism. His ontology does not contain a Third: there are no intermediaries between the mental acts (which are in the First) and their intentions (which are in the Second). Mental acts, or better, their *cores*, i.e., their contents (which are simple entities) are directly connected with their intentions. That is exactly the same analysis proposed by Bergmann, who therefore cannot but recognize that – structurally at least – Meinong has genuinely attained a realistic$_2$ position. Yet such an attainment is marred by several troubles.[4]

These troubles are mainly due to Meinong's nominalism and reism. As to the former, Bergmann claims that Meinong remained a strict nominalist throughout the whole of his career. That means that he did not admit either universals or bare particulars; both are replaced by what Bergmann calls *perfect particulars* (in more usual terminology, *tropes*), i.e., particularized properties and relations. Bergmann held that nominalism is in itself inadequate, but that is just an extrinsic criticism. What is worse is that nominalism fosters reism. For a realist$_1$ like Bergmann an ordinary object is to be analysed as a fact, i.e., the exemplification of universals by particulars. For a nominalist it is rather analysed as a bundle of perfect particulars. Let us take a red round spot. According to Bergmann's view, it must be assayed as 'v_1 (a, A_1, A_2)', where 'a' stands for the particular that individuates the spot, 'A_1' for the universal *red*, 'A_2' for the universal *round*, 'v_1' for the nexus of exemplification. The nominalist scheme for the same spot is 'v_2 (a_1, a_2)', where 'a_1' stands for the perfect particular grounding the redness of the spot, 'a_2' for the perfect particular grounding its roundness, and 'v_2' for a nexus different from v_1 in that it connects entities belonging to the same ontological category. Now let us put ourselves in the situation of someone who has not yet decided about the ontological category to which the entities referred to by 'v_1 (a, A_1, A_2)' and 'v_2 (a_1, a_2)' belong. The advocate of the first assay acknowledges – up to this moment – subsistents, bare particulars and universals; the advocate of the second assay acknowledges subsistents and perfect particulars. Neither of them is likely to regard the new entity as a subsistent. The former can

[4] In Bergmann's view, Meinong's overcoming of representationalism should be considered all the more praiseworthy when taking into account his strict nominalism. Representationalism, indeed, arose – among other things – also as a means to solve some of the problems posed by nominalism; more specifically, to find some substitutes for universals: ideas, according to Bergmann, are nothing but "universals in exile from reality" (Bergmann, 1967, p. 135). On the other hand, Meinong's nominalism and reism are the sources of what Bergmann regards as the radical inadequacies of his philosophy.

contemplate the possibility of considering the new entity either as a bare particular or as a universal, but both alternatives seem unattractive. In fact the new entity neither seems to be "bare", nor can plausibly be regarded as a universal which has a particular "within" itself. Thus he is almost forced to recognize a new category, i.e., that of facts. By constrast, the nominalist may easily be tempted to regard the new entity as belonging to the same category of the perfect particulars; in that case the only difference between a_1 and a_2 on the one hand and the new entity on the other would be that the former are "simple", the latter "complex". In this case the distinction between things and facts collapses. Yet, in a sense, in the philosophical tradition the entities envisaged in such a world have usually been considered more nearly like things than like facts. But now a new temptation arises to simplify the schema further, by dropping also the nexus (subsistents), which – by the way – fully make sense only in a world in which there are both things and facts. Now we are in a position to characterize reism more exactly, as that view according to which: (i) there are no facts; (ii) all entities are things, either simple or "complex"[5]; (iii) subsistents are ignored or at least downplayed.

And this is, according to Bergmann, Meinong's view. Now, charging Meinong with reism may seem quite odd, if one considers that one of the reasons for which Meinong is famous is his acknowledgment of *Objektive*, and that *Objektive*, in so far as they can subsist or not subsist, seem to side with the sort of entities that are usually called 'facts', or 'states of affairs', which have such a "twofold" nature, rather than with things. One can just think of Wittgenstein's distinction, in the *Tractatus Logico-Philosophicus*, between objects on the one hand and facts and states of affairs on the other[6]; a distinction that is reflected, on a linguistic level, by the difference between names (which are like points) and sentences (which are like arrows, i.e., twofold, or bipolar). Yet Bergmann tries to prove that *Objektive* cannot be regarded as genuinely complex in the sense in which his own facts are complex. But *Objektive* are not the only kind of entities which, in Meinong's ontology, may be somehow made to correspond to Bergmann's facts: in addition to them there are also *Komplexe*. In fact Meinong explicitly identifies ordinary objects not with *Objektive*, but rather with *Komplexe*. Therefore, if he wants to show

[5] The double quotation marks indicate that, from Bergmann's point of view, this is not genuine complexity, which can only be attributed to facts, but just an illusion thereof.

[6] We can here disregard the further difference between facts (*Tatsachen*) and states of affairs (*Sachverhalte*). It will be disregarded in what follows as well.

that in Meinong's ontology there are no entities that are complex in the sense in which his facts are, Bergmann must address the case of *Komplexe* as well.

Thus Bergmann offers a "proof" that Meinong's *Objektive* are really things (not facts). In order to do so, he must independently prove that they are (i) particular (so that they cannot be categorized as universals), (ii) independent$_1$ (so that they cannot be categorized as subsistents), and (iii) simple (so that they cannot be categorized as facts). The proof, which concerns not only *Objektive*, but also another kind of Meinong's *Gegenstände höherer Ordnung*, i.e., *Relationen*, is long and tangled, and cannot be examined here in any detail[7].

What is most relevant is Bergmann's interpretation – which is a result of his proof – of the way in which *Relationen* and *Objektive*, as *Gegenstände höherer Ordnung*, are related to their foundations. According to Bergmann, *Relationen* and *Objektive* must not be thought of as complexes made up of their foundations (in the way in which in the foil facts are made up of their constituents); rather, they should be conceived of as the values of functions, of which the foundations are the arguments. Contrary to what happens with a fact and its constituents, the value of a function is not a complex entity *made up* of its arguments (i.e., it is not really a fact); rather it is a (simple) thing *coordinated* with them. In other words, Meinong's ontology – at least with respect to objects of higher order – is not a *complex ontology*, like Bergmann's, but a *function ontology*, though Meinong himself does not seem to be aware of that.

As to *Komplexe*, Bergmann does away with them by stating that they are literally nothing. According to his reconstruction, a *Komplex* is simply the collection of the things which in the foil would play the roles of the constituents of a fact; but – as Bradley showed – a collection of constituents is not a fact, since it lacks the required unity. Meinong is awake to the problem, and to face it he introduces a further constituent, under the guise of a *reale Relation*, which is supposed to provide such a unity; but since he does not recognize the category of subsistents (nexus), the further constituent is just another thing, which, in order to be connected with the other constituents would need another connection. Therefore we are left once again with a mere collection, which is nothing in addition to its constituents (and *a fortiori* it is not a genuine fact).

[7] See (Bonino, 2006) for a more accurate examination.

Therefore, if one accepts Bergmann's interpretation, neither *Objektive* nor *Komplexe* can be regarded as facts; the latter are just a delusion, the former are really things. It is thus clear in what sense Bergmann can accuse Meinong of reism. But it is also clear that Meinong's reism is extraordinarily sophisticated or, as Bergmann says, «stretched to the utmost». In fact Meinong recognized the need for connections (*Relationen*) and for complexes (*Objektive*), even if he did not know how to satisfy this need in an effective way. The same can be seen in connection with the notion of *Komplex*: even if the gambit based on the addition of a constituent cannot work, at least Meinong clearly acknowleged the need to secure unity to the collection.

From an exegetical point of view, many objections could be raised against Bergmann's interpretation. Concerning *Objektive*, the first remark to be made is that Bergmann's "proof" that they are (simple) things is not really a proof, but just – as Bergmann says – a "structural" one, i.e., the gathering together of different evidences that collectively should convince the reader that the interpretation put forth is the most natural one. Another criticism is based on Bergmann's propensity to conceive of *Objektive* only on the basis of Meinong (1899), thus putting them on a par with *Relationen*, although different views are put forward in Meinong's works (Cf. Raspa, 2008; Sierszulska, 2005). As to the accuracy of Bergmann's analysis of the notion of *Komplex*, even more objections can be raised[8]. Some doubts are also legitimate with reference to Meinong's alleged nominalism. (Raspa, 2008), for instance, points out that in later works, ignored by Bergmann, Meinong seems to establish a clear and unequivocal notion of universal.

Leaving the question of exegetical accuracy on one side, it seems to me that Bergmann's assessment of Meinong's purported reism (which is probably the most original feature of his interpretation) calls to our attention at least two interesting points, one concerning Meinong, one concerning Bergmann himself. As to the former, Bergmann warns us against too easy an identification of *Objektive* with facts or states of affairs. We have already remarked that, with reference to the distinction between objects on the one hand, and facts and states of affairs on the other, a distinction whose *locus classicus* is Wittgenstein's *Tractatus*, Meinong's *Objektive* seem to side with facts. Yet it is exactly by reference to the distinction of the *Tractatus* that one can appreciate how the notion of fact or state of affairs, meant as a complex entity, which – just

[8] (Raspa, 2008, pp. 223-225). On the notion of *Komplex* cf. also (Tegtmeier, 2000).

in so far as it is complex – can subsist or not subsist, takes on its full meaning in opposition to objects; the latter, being simple, do not possess such twofold nature. But in Meinong the twofold nature is not limited to *Objektive*; it applies to *Objekte* as well, which can exist and not exist, and that should raise some suspicions as to the genuine correspondence between *Objektive* and facts.

The point concerning Bergmann is suggested by the pair of notions *Objektiv-Komplex*, at least as interpreted by Bergmann himself. In fact the pair seems to point to a tension in Bergmann's own ontology. It is part and parcel of the conception of complex ontology that complexes (facts) be different from the collection of their constituents (as Bradley insisted); that result would no doubts be attained in a function ontology, in which the value of a function is certainly different from its arguments; and this seems to be the aspect of complexes that is made manifest by *Objektive*. But on the other hand, complexes must also be *made up of* their constituents (they are not just another thing), or – as Bergmann also says – the constituents are "in" the complexes. Of course this aspect of complexes is not taken care of by *Objektive* (that is indeed Bergmann's criticism of that notion), but rather by *Komplexe*; or better, that is the aspect of which *Komplexe* should take care, if they did not fail because of the lack of nexus in Meinong's ontology. It is as if Bergmann wanted to identify *Objektive* and *Komplexe* as the two poles of his own notion of complexes (facts). It is doubtful whether the different demands of the two poles can be accommodated by a single notion (it is, of course, the old problem of the unity of complexes): it is not difficult to find traces of a certain uneasiness about the whole question in Bergmann's writings, and probably it is not by chance that few years after *Realism* Bergmann developed a new ontology, which addresses these problems in a completely different way (Bergmann, 1992).

On the whole, it is somewhat strange that Bergmann's interpretation of Meinong's philosophy did not produce a great impact on Meinongian studies, although it took part in the general rediscovery of Meinong during the 60s of the 20th century. There are some trivial reasons for that, first of all the proverbial difficulty of Bergmann's works – to which his analysis of Meinong makes no exception –, mainly due to a highly idiosyncratic terminology. But there are certainly deeper reasons as well. (Raspa, 2008) suggests that Bergmann's interpretation failed to get in touch with the main motivations underlying the increasing interest for Meinong's philosophy, and thus ended up being excluded from the mainstream. In particular, Bergmann is hostile to Meinong's notion of *Daseinsfreiheit*, which is central to the contemporary debate on Meinongian issues. But all that can be accounted for by the consideration already made that Bergmann was not really interested in Meinong's philosophy *per se*, and in its themes and concerns. Rather, he sought in Meinong the opportunity to raise his own philosophical agenda, which was and still is, alas, distant from the mainstream.

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Commentary

Exploring Meinong's Jungle and Beyond: an Investigation of Noneism and the Theory of Items

by R. Routley
Canberra: Australian National University, 1979

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Richard Routley's *Exploring Meinong's Jungle and Beyond* is perhaps the most comprehensive and representative work in Neo-Meinongianism. It covers several topics: theory of items,[1] ontology, logics, aesthetics, theory of knowledge, philosophy of mathematics, philosophy of time. Routley aims at presenting a Meinong-inspired theory of items and at showing the advantages of such a theory within several fields. This book includes some articles published from the '60s and it partly inspired modal Neo-Meinongianism, even though Routley seems to accept the property-centered Neo-Meinongianism (see the Foreword).

I cannot give here an exhaustive account of Routley's whole investigation of noneism (i.e., the theory according to which, roughly, there are items that do not exist, or, in other words, that not all the items exist). Considering the structure of the book, it is possible to individuate: a brief presentation and defense of noneist theses (pp. 1–73); a critique of classical logic and the introduction of a revised, neutral (i.e., not existentially committed) logic grounded on the theory of items (this long part includes, among other things, some important remarks on the Characterisation Postulate, on identity, existence, possible worlds, inconsistency, definite descriptions, intensional contexts) (pp. 73–360); a defense of a Meinongian and presentist metaphysical theory of time (pp. 361–409); some replies to Quine's article *On what there is* (in the short paper *On what there isn't*) and to other objections

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[1] I shall use Routley's term "item" instead of "object", in order to respect the author's terminology and to clarify that even properties, states of affairs, facts, and so on, can be considered items, even if they are not ordinary existent or non-existent objects.

(pp. 411–488); the contiguity between noneism and common sense (pp. 519–536); noneist theories of fiction (pp. 537–606), of existence (pp. 697–768), of mathematical and theoretical knowledge (pp. 769–832) and of other topics (e.g., universals and perception) (pp. 607–696); Routley's interpretation of Meinong's work (pp. 489–518) and the differences between Routley's noneism and other theories of items (pp. 833–890); the paper *Ultralogic as universal* in the Appendix (pp. 892–959).

In this brief commentary, I shall focus on Routley's denial of the Ontological Assumption and on some theses, such as the Characterisation Postulate and the distinction between characterising and non-characterising properties. Furthermore, I shall present and discuss Routley's Meinongian Presentism and his theory of fictional items.

1. A Dialogue between a Noneist and an Actualist

In his review of Routley's book[2], W. J. Rapaport finds out four different formulations of the Ontological Assumption:

(OA1) no (genuine) statements about what does not exist are true (p. 22);
(OA2) a non-denoting expression cannot be the proper (i.e., logical, according to Rapaport) subject of a true statement (p. 22);
(OA3) nonentities are featureless, only what exists can truly have properties (p. 22);
(OA4) it is not true that nonentities ever have properties (p. 23).

It seems to me legitimate to summarize the idea behind the Ontological Assumption as follows:

(actualism) there are no items that do not exist, i.e., every item exists.

The thesis (actualism) is accepted by many philosophers and it implies, among other things, that statements about what does not exist are literally false (OA1), that they should be paraphrased in order to reveal the propositions that they express (or the facts that make them true), so that non-existent items are not their proper logical subjects (or non-existent objects are not involved in their truth conditions) (OA2), that non-existent items cannot instantiate properties,

[2] See (Rapaport, 1984). For other interesting critical commentaries of Routley's work, see (Griffin, 1982), (Parsons, 1983), (Jacquette, 1996a).

since they are not items at all (OA3–OA4). One of the major consequences of the acceptance of (actualism) (or, in Routley's terms, of the Ontological Assumption) is the acceptance of the framework defined by the Reference Theory, according to which «all (primary) truth-valued discourse is referential» (p. 52), where the adjective "referential" implies a restriction of reference only to existing items.

One could argue against the truth of (actualism) in several ways. Routley considers many seemingly true statements that seem to imply that we can refer to non-existent items:

(1) Sherlock Holmes is a detective;
(2) Sherlock Holmes is more beloved than Moriarty;
(3) Sherlock Holmes is taller than Frodo Baggins;

and so on. Routley argues to a large extent that, even if such statements can be paraphrased into other true statements that do not involve any reference to nonentities, such paraphrases (i) do not preserve the meanings of the original statements; (ii) even if they preserve their meanings, they do not always preserve their truth-conditions and truth-values. It seems to me legitimate to add that (iii) such paraphrases, even if they *do* preserve the meanings and the truth-conditions and truth-values of the original statements, are required only if we accept (actualism). Yet, why do we have to accept (actualism)?

Routley's strategy against (actualism) consists in showing that, if we accept (actualism), then we run into serious difficulties, which I have summarized as (i) and (ii). However, it seems to me that, if we want to provide an adequate defense of noneism, we should first consider the problem of the truth of (actualism). In turn, if we wish to consider such a problem, we should provide a terminology that is acceptable for both actualists and noneists.

For example, D. Lewis argues that Routley is not a noneist (i.e., someone who accepts that there are items that do not exist), but that he is an allist (i.e., someone who accepts that there are/exist more items than the ones commonly accepted as existent, that there are/exist some existentially controversial items)[3]. In Lewis' perspective, Routley does not deny (actualism), but simply claims that there exist round squares, fictional objects, and so on. Yet, Routley would obviously not accept this interpretation of his noneism. In fact, it is true for Routley that

[3] See (Lewis, 1990).

(non-actualism) there are items that do not exist.

How should Lewis and Routley define their disagreement? Routley introduces two neutral quantifiers (a particular and a universal one) that are not existentially committing (pp. 79–83). Thus, it is legitimate for him to distinguish between the neutral particular quantifier "there is$_n$" and the existentially loaded quantifier "there is$_e$". If we use neutral quantifiers, we can claim that, since it is true that (1), then it is true that

(1n) there is$_n$ an item, such that it is identical with Sherlock Holmes and it is a detective,

while it is false that

(1e) there is$_e$ an item, such that is identical with Sherlock Holmes and it is a detective,

since it is true that

(4) Sherlock Holmes does not exist.

So far, so good. Yet, Lewis could reply that what he means by "there is" when he accepts (actualism) is the same as what he means by "exists" and that, furthermore, it is the same as what is expressed by the neutral quantifier. In sum, Lewis could introduce a property P (perhaps, a non-natural property) that is instantiated by all the items over which it is legitimate to quantify in a neutral way and he could call such a property "existence". Thus, it would turn out that Routley is not a noneist. It would be true for Lewis that

(actualism-1) there are$_n$ no items that do not have P

and it would be true for Routley too. Actualists win. Yet, is this the end of the story? I do not think. Noneists could reply that it is not legitimate to introduce such a property, i.e., that there is no property such as P. They could invoke the Characterisation Postulate (see below), according to which items have all and only their characterising properties, and they could argue that P is not a characterising property. However, actualists could reply that P should be considered a non-characterising property, which is nevertheless instantiated by every item. P could be necessarily coextensive with the non-characterising property of *being an item*, which is instantiated by all items. There are$_n$ no items that are not items. If there are contradictory items that are not items (i.e., that have within their characterising properties the negative property of *being a non-item*), they nevertheless have the non-characterising property of *being an item*. Since P is necessarily coextensive with the non-characterising property of *being an item*, they have P too. What could noneists reply? They cannot reply that, even if P is necessarily coextensive with the property of *being an item*, there are items (e.g., impossible ones) that do not obey such a law of necessary coextension, so that they do not have P, even if they are items. In fact, actualists could introduce a further non-characterising property P*, that both such latter items and the former items have (e.g., the property of *being an item that obeys the law of necessary coextension of the non-characterising property P and the non-characterising property of being an item* or *that does not obey it*), and they could call it "existence".

On the other hand, noneists could argue that it is not legitimate to introduce whatever non-characterising property one can conceive of. Yet, I do not see any reason for accepting such a thesis. In fact, if properties are items, why cannot we claim that there is a property, such as the property P*, that has the characterising (second-order) property of *being the non-characterising property of being at item that obeys*, etc.? In order to deny such a conclusion, we should deny that properties are items or that they are items for which the Characterisation Postulate holds or we should affirm that it is not possible to introduce non-characterising properties in such a way. However, I do not see any good argument to support such replies. If, after this discussion, actualists are right, then it is true that

(actualism-2) there are$_n$ no items that do not have P*.

This strategy is a really powerful one. However, I think that noneists could reply that, even if (actualism-2) is true, actualists' P*-existence is not what is part of the truth-conditions of

(5) Obama exists.

Let me recall the Quinean paraphrase of (5):

(5Quine) there is an item that obamizes (i.e., that is identical with Obama)[4].

[4]See (Quine, 1948).

More generally, at least according to an ontology inspired by Quine's paraphrase, whenever we truly claim that something exists, as in (5), our statement is made true by the fact that there is something that has the property of being identical with that thing. Existence is not simply the property of *being identical with* i (where *i* is a variable ranging over items), but it is a property of that property. In fact, if now turn to true singular negative existentials about something (i.e., to statements which truly deny the existence of something, which have the form of the negation of statements such as (5)), it seems that they are made true by the fact that there is nothing that has the property of being identical with that thing, i.e., that the property of being identical with that thing is not instantiated. Otherwise, true negative existentials would be false or meaningless. Thus, according to this ontology, existence turns out to be a higher-order property: it is the property of *being instantiated*, which is instantiated by the property *of being identical with* i. Let me call such a property P**. If actualists are right (i.e., if every item exists) and if actualists' existence P* is identical with P**, then actualists run into serious difficulties. In fact, there are items that are not properties (so that they do not have P**), even if, following (actualism-2), they have P*. Thus, since it is a necessary condition for two properties to be identical that they are necessarily coextensive, P** is not identical with P*. Noneists (partly) win. On the one hand, it could be legitimate to introduce a property P* that is instantiated by anything. Yet, on the other hand, that property is not part of the truth-conditions of true ordinary singular negative existentials (and of true positive ones). This problem affects every actualist who wishes to maintain that everything exists *and* that there are true singular negative existentials (or at least true paraphrases of seemingly true singular negative existentials). Yet, actualists could reply that we cannot introduce P** into our ontology. Why? I do not see any valid reason to deny that there are properties such as P**. Perhaps, it is not a natural property. Yet, if P* is not a natural property and it is acceptable, why cannot we accept P** too? On the other hand, if the existential actualist quantifier did not express a property, how could we make (actualism) intelligible?

2. Characterising Noneism

Routley's noneism is grounded on eight Meinong-inspired theses (see pp. 2–3):

(M1) everything whatever is an object (or an item);
(M2) very many items do not exist and in many cases they do not have any form of being;
(M3) nonentities are constituted in one way or another, thus they have properties;
(M3*) properties can be subdivided into characterising and non-characterising;
(M4) existence (as well as many other ontological properties) is a non-characterising property;
(M5) every item has the characteristics it has irrespective of whether it exists or not (or of whether or not it has any other ontological status);
(M6) an item has the characterising properties used to characterise it;
(M7) important quantifiers of common occurrence in natural language neither conform to the existence nor to the identity and enumeration requirements imposed by classical logicians.

Furthermore, Routley accepts other theses that seem to be implied by the truth of (M1)–(M7):

(significance) «very many sentences the subjects of which refer to nonentities (...) are significant» and «the significance of sentences whose subjects are about (or purport to be about) singular items is independent of the existence, or possibility, of the items they are about» (p. 14);

(content) «many different sorts of statements about non-existent items, including many of those yielded by single subject-predicate sentences, are truth-valued, i.e., have truth-values true or false. Hence, in particular, many declarative sentences containing subjects which are about nonentities yield statements in their contexts. More generally, many sentences about nonentities have content-values in their contexts»(p.14);

(basic-independence) «that an item has properties need not, and commonly does not, imply, or presuppose, that it exists or has being» (p. 24);

(advanced-independence) «nonentities can (and commonly do) have a more or less determinate nature» (p. 24)

and the Characterisation Postulate, according to which

(char.post.) «nonentities have their characterising properties» (p. 24).

Finally, we should add one further thesis, concerning the nature of negation (see pp. 88–89):

(double-neg.) considering all items, propositional negation (e.g., it is not the case that Sherlock Holmes is a detective) is neither identical with, nor equivalent to predicate negation (e.g., Sherlock Holmes is a non-detective).

I cannot dwell here on each thesis. Let me only consider the distinction between characterising and non-characterising properties. Characterising properties are the ones that can be assumed to characterise an item, according to (char.post.). On the other hand, non-characterising properties cannot be assumed and are somehow "external" to an item. This distinction was suggested by one of Meinong's pupils, E. Mally, in order to deal with the famous Russellian paradox of the existent golden mountain, that both exists (since the property of existence is one of its characterising properties) and does not exist (since there exists no golden mountain in the actual world)[5]. In brief, according to this solution, the existent golden mountain does not exist (since existence is a non-characterising property), even if some property of existing* (some watered-down property of existing, in T. Parsons' terms[6]) can be considered a characterising property of some items *or* even if, in order to constitute an item, we are only allowed to consider its characterising properties (as it is claimed by Routley).

Yet, one of the major problems of such a distinction is that there is no clear criterion to distinguish characterising from non-characterising properties. This is true only in part. It is true that Routley considers at least five classes of non-characterising properties (or, better, in his terms, of non-characterising predicates, since the use of the term "properties" seems to imply for him the existence of such items): ontic, logical, intensional, evaluative, theoretical ones

[5] See (Russell, 1973, p. 80–81), and (Russell, 2003, p. 81–84).
[6] See (Parsons, 1980). For a critical commentary of Parsons' work, see (Fine, 1984).

(see p. 266). T. Parsons makes a similar distinction[7]. However, Routley claims that non-characterising properties, such as existence, seem to be logically supervenient on characterising ones: «items which exist are fully determinate in all extensional respect» and «this full determinacy can be explicated logically in terms of the coincidence of sentence and predicate negation» (p.244). In fact, recalling the distinction between propositional and predicate negation, he adds that

> (existence) by definition, an item exists = for every extensional property P, it is necessary that, if that item has non-P, then it is not true that it has P and it is contingently true that, if it is not true that it has P, then it has non-P (see p. 244).

According to D. Jacquette, non-characterising properties can be defined in purely logical terms: he claims that some property P is nuclear (or characteristic) iff it is *not* true that, for every item that instantiates it, that item does not have P iff it has non-P. On the other hand, according to Jacquette, some property P is extra-nuclear (or non-characteristic) iff it is true that, for every item that instantiates it, that item does not have P iff it has non-P[8].

Yet, it seems reasonable to assume that it is true, *at least according to Conan Doyle's stories*, that

(6) Sherlock Holmes exists,

even though it is also true that (4), i.e., that he does not exist. How should we deal with the paradox that Sherlock Holmes exists and does not exist in Routley's perspective? As we will see, Routley maintains that only characterising properties constitute fictional objects. He does not introduce any watered-down property of existing. Thus, Sherlock Holmes simply does not exist, i.e., he does not have the non-characterising property of existing. Yet, what does it make it true that (6), according to Conan Doyle's stories, if neither existence, nor watered-down existence* constitute Sherlock Holmes as an item? Routley talks of "full objects", in order to maintain that fictional items such as Sherlock Holmes do not only have characterising features that are ascribed to them by their stories, but also some non-characterising features that are ascribed by the same stories (perhaps existence too) (see pp. 596–

[7] See, for example, (Parsons, 1980, p. 42–44 and p. 52–57).
[8] See (Jacquette, 1996b, pp. 114–116).

597). Yet, it is worth asking: is Sherlock Holmes as a full object identical with or distinct from Sherlock Holmes as a non-full object? If they are distinct, then it is not true that (6), at least with regard to Sherlock Holmes as a non-full object. If they are identical, then we should change Routley's criterion of identity for fictional items (see below).

3. Being Sherlock – with a Little Help from his Source

According to Routley, fictional items are not reducible to other kinds of items (e.g., properties, propositions, and so on): they are nonentities, i.e., non-existent items (see p. 538). Fiction is an «authored discourse or communication which consists of imagined or invented statements or narrative, which conveys a story as contrasted with factual or reportative discourse» (p. 539). It is not properly true that fictional objects "live" in stories: stories depict fictional worlds, i.e., classes of statements that hold according to stories (see p. 540), and fictional worlds are not possible worlds (they are sometimes logically inconsistent and physically impossible and always incomplete) (see p. 545). Fictional worlds do not only comprehend what is explicitly determined as true within stories: it is legitimate to add to these worlds, by principles of material elaboration and formal closure, other truths (e.g., it is legitimate to claim that the statement "London is near to Oxford" is true within Sherlock Holmes' fictional world). Yet, since there is no uniform logic of fiction (inconsistency and incompleteness hold or might hold in fictional worlds) and since some material elaborations are useless in order to comprehend works of fiction, it seems unavoidable to restrict such additions.

After having defined fiction and fictional worlds, it is now time to define fictional characters. Routley explores several criteria for fictional items' individuation. He accepts the following one:

> (fic.char.) a fictional item *d* has *just* those characterising features its source S(*d*) ascribes to it (see p. 576).

A fictional item has some work of fiction as its source iff it is native to that work, i.e., it is "created" within that work (see p. 573). Thus, Sherlock Holmes has all and only those characterising features its source (i.e., Conan Doyle's stories) attributes to him. However, Routley's account immediately has to face at least one problem. If there were two fictional characters with all and only the same characterising features their sources attribute to them but with different sources, would they be identical or not?[9] For example: if some author different from Conan Doyle had written stories that are completely similar to Conan Doyle's stories (without having read such stories) and if he had "created" some fictional item *e* with all and only Sherlock Holmes' characterising features, would that item be identical with or distinct from Sherlock Holmes? Following Routley's criterion, it seems that it would be identical with Sherlock Holmes. Yet, let me assume that Sherlock Holmes and *e* respectively have S_1 (Conan Doyle's stories) and S_2 as their sources. This argument shows that Sherlock Holmes and *e* turn out to be both identical with and distinct from one another:

(a) Sherlock Holmes has the non-characterising property of *having S_1 as its source*;
(b) *e* has the non-characterising property of *having S_2 as its source*;
(c) if *e* has the non-characterising property of *having S_2 as its source*, then it does *not* have the non-characterising property of *having S_1 as its source*[10];
(d) for any two fictional items, they are identical iff they have all and only the same characterising features ascribed to them by their respective sources;
(e) Sherlock Holmes and *e* have all and only the same characterising features ascribed to them by their sources;
(f) for any two items, if they are identical, then, for every property, the former item has that property iff the latter item has it too (indiscernibility of identical);
(g) (from (b) and (c), by MP) *e* does not have the non-characterising property of *having S_1 as its source*;
(h) (from (a), (f) and (g)) Sherlock Holmes and *e* are not identical;
(i) (from (d) and (e)) Sherlock Holmes and *e* are identical;
(j) (from (h) and (i)) Sherlock Holmes and *e* are both identical and not identical.

How can a Meinongian deal with this argument? At first, one could notice that it is quite implausible that (e) obtains. Yet, it is *only* implausible: it is not

[9] This case is somehow similar to Pierre Menard's Don Quixote's case. See (Sainsbury, 2010, p. 74).
[10] One could argue that one and the same story-type is produced by Conan Doyle and the other author, even though they produce two different tokens of it. However, the same problem could arise with regard to story-tokens: Sherlock Holmes and *e* would have different non-characterising properties with regard to their story-tokens.
[10] See (Fine, 1984, pp. 103–104).

impossible and, if a criterion of identity for fictional items should be given in modal terms, it has to deal with such a possibility. Secondly, one could accept the argument and its conclusion, by claiming that there are true inconsistencies. Yet, I think that it would be better to question the premises or the general validity of the argument, before claiming that there are true inconsistencies (at least in the actual world). Thirdly, it is possible to weaken (d) by claiming that (d) is a true criterion of identity for most fictional items, even if it is sometimes not determined whether two fictional items are identical or not. Yet, I think that it would be better to exclude such cases of undetermined identity.

Are there ways to avoid (j)? Perhaps, one could try to change (a) and (b), by denying that there are such specific non-characterising properties as the property of *having S_1 as its source*. In fact, these non-characterising properties are not logically supervenient on their characterising properties: it is only a matter of fact that S_1 is Sherlock Holmes' source. Yet, this implies that we have to give some reason to exclude that there are such non-characterising properties instantiated by items *or* it implies that we have to change our criterion to distinguish characterising from non-characterising properties, since there are (at least in this case) non-characterising properties that are *not* logically supervenient on characterising ones. On the other hand, if we deny (c), we have to admit that some fictional items can have more than one source and this seems to be rejected by Routley. We could try with (e), by claiming that it is not true that Sherlock Holmes and *e* have all and only the same characterising properties. In fact, as it could be argued accepting Parsons' watered-down properties, Sherlock Holmes has the watered-down characterising property of *having S_1 as its source **, that is not had by *e*, while *e* has the watered-down characterising property of *having S_2 as its source **, that is not had by Sherlock Holmes. However, since such watered-down characterising properties are neither explicitly, nor implicitly ascribed to fictional items by their sources (it is not claimed within Conan Doyle's stories that Sherlock Holmes has those stories as his source and nothing seems to involve it), criterion (d) needs to be changed. Finally, one could try to restrict (f) to characterising properties. However, this solution seems to be highly counterintuitive: if two items are identical, then one might expect that they share *all* and *only* the same properties. In sum, at least according to my perspective, we should change (d), i.e., Routley's criterion to identify two fictional items.

A similar problem arises with two fictional items that have the same story as their source and that are indistinguishable with regard to their characterizing properties[11]. If one does not postulate that there is some kind of bare numerical distinction between fictional items, how can we avoid to identify them, given (d)?

Furthermore, there is another problem. Let me consider the following statement:

(7) Conan Doyle's Sherlock Holmes is identical with *Sherlock*'s Sherlock Holmes,

where *Sherlock* is a recent TV show whose major character is a detective named Sherlock Holmes, who lives in the 21st Century London, who has a friend named John Watson and who has adventures that are somehow similar to the ones narrated by Conan Doyle. Is it true that (7)? It is implied by the TV show that Sherlock Holmes did not live in the 19th Century, so that they do not seem to be identical. Yet, one could try to use the distinction between native and immigrant characters in order to deal with (7): it is perhaps the case that *Sherlock*'s Sherlock Holmes is the same fictional character as Conan Doyle's Sherlock Holmes, since he migrates from Conan Doyle's stories to that TV show (he is not "created" within that TV show). However, if we consider (d) and if we accept that such fictional characters are identical, *Sherlock*'s Sherlock Holmes (the immigrant Sherlock Holmes) does not acquire any characterising property attributed to him by *Sherlock*, since *Sherlock* is not his source. Thus, how does Sherlock Holmes have the properties attributed to him within *Sherlock*? I do not know. Perhaps both Conan Doyle's Sherlock Holmes and *Sherlock*'s Sherlock Holmes are part of one more comprehensive trans-fictional Sherlock Holmes. Yet, first, this latter Sherlock Holmes would have inconsistent characterising properties, such as the properties of *living in the 19th Century* and of *not living in the 19th Century*. Secondly, he would be different both from *Sherlock*'s Sherlock Holmes and from Conan Doyle's one. There is a vast critical literature on this problem[12].

I cannot examine here other theses of Routley's concerning fictional items (see, for example, with regard to relational puzzles, pp. 577–588).

[11] See (Fine, 1984, pp. 103–104).
[12] See, for example, (Voltolini, 2006).

Furthermore, there are other problems connected with his account, in particular with regard to the definition of fictional characters' "creation"[13]. However, as I have tried to argue (and as other authors have already argued following different strategies[14]), if we accept (d), we run into several difficulties.

4. The Difficulty of Not Existing Now

Routley defends a version of Meinongian Presentism according to which

> (mein.presentism) whatever exists exists now *and* there are items that do not exist (i.e., that do not exist now).

This does not exclude that there are merely past or merely future items, that have properties and that are distinct from one another. Furthermore, Routley deals with many problems concerning diachronic identity, substantial change, the definition of Prior's operators, of times and of the nature of time (see pp. 368–409). However, it is worth considering here his justification of (mein.presentism).

According to Routley, noneist presentists do not have any difficulty in grounding the truth of many statements about merely future and merely past items, even if they do not consider such items existent. On the other hand, actualist presentists are in trouble when they have to ground the truth of statements such as

> (8) Aristotle was born in Stagira.

This happens because they are both committed to

> (presentism) whatever exists exists now,

and to

> (actualism) there are no items that do not exist,

so that they accept a version of presentism according to which

> (act.presentism) there are no items that do not exist now.

[13] See the so-called "selection problem" in (Sainsbury, 2010, pp. 57–63).

[14] See, for example, (Orilia, 2005^2, pp. 161–167), (Voltolini, 2006, pp. 3–36), and (Berto, 2012, pp. 125–128).

On the other hand, if (8) is truly about Aristotle, it turns out that

(8a) there is an item that does not exist now, that is identical with Aristotle and that was born in Stagira.

This contradicts (act. presentism), according to which there are no items that do not exist now. Thus, Meinongian Presentism seems to work better than Actualist Presentism, at least if we wish to maintain that (8) is truly about Aristotle. However, according to Routley, the acceptance of Meinongian Presentism implies a revision of temporal logic and, more generally, of classical logic, in order to avoid its commitment to the Ontological Assumption and to the Reference Theory.

How could an Actualist Presentist reply to Routley? It is possible to follow different strategies that are characterisable as follows:

(a.p.1) (8) is not truly about Aristotle, but about something else that exists now;

(a.p.2) even though Aristotle does not exist now, he has some tenseless existence that is expressed by the quantifier "there is" in (8a), since he existed, so that it is now true that Aristotle existed and that he was born in Stagira;

(a.p.3) even though it is not now true that (8a) (since Aristotle does not exist now), it is true that (8), since it *was* true that Aristotle exists and that he has the property of being born in Stagira.

These are only examples of strategies connected with (act. presentism). Such strategies could commit to the existence (now) of entities different from Aristotle that make it true that (8) or they could imply that there are two kinds of existence. However, Meinongian Presentism has at least one advantage: by affirming that *there is now* an item such as Aristotle, even if he does *not exist now* (so that he does not exist at all), it can avoid such complications.

Yet, if we accept the following equivalence concerning existence (and existence now):

(existence-1) for every item, that item exists (and exists now) iff, for any extensional property P, it has non-P iff it is not the case that it has P (see p. 362), it turns out that merely past and merely future items are indeterminate with regard to at least one extensional property. Namely, as Routley claims, it is *not* the case that Aristotle (that is a purely past item) has the property of *having present baldness*, but it is *not* the case that he has the property of *not having present baldness*, so that Aristotle is undetermined with regard to the extensional property of *having present baldness*. However, Routley maintains that an item is negation-indeterminate with regard to some extensional property P iff it both has P and non-P (see p. 362). Thus, it seems to me that there are two ways in which a merely past or a merely future item does not exist:

(indeterminate-1) for every item, that item is indeterminate-1 iff, for some extensional property P, it is *not* the case that it has P *and* it is *not* the case that it has non-P;

(indeterminate-2) for every item, that item is indeterminate-2 iff, for some extensional property P, it is both the case that it has P *and* that it has non-P.

These two definitions of indetermination (even if (indeterminate-2) actually seems to be a definition of overdetermination) are not equivalent. Thus, one could ask: under which respect can a merely past or merely future item be indeterminate? Finally, one might introduce one further case of indetermination:

(indeterminate-3) for every item, that item is indeterminate-3 iff it is indeterminate-1 or indeterminate-2.

Let me now consider Aristotle and the property of *having present baldness*. Aristotle is indeterminate-1 with regard to this property, at least according to Routley. In fact, it is *not* the case that Aristotle has the property of *not having present baldness* and it is *not* the case that he has the property of *having present baldness*. Yet, it does not seem to be true that Aristotle does *not* have the property of *not having present baldness*! In fact, he does *not* have that property only if we presuppose – as Routley does – that he does not exist, i.e., that he does not exist now, following (existence-1). However, it seems acceptable to argue that, if Aristotle does *not* have the property of *having present baldness*, he has the negative property of *not having present baldness*: he does not exist now and he is not now bald! Routley accepts that

(non-ex.) nonentities are indeterminate-1, since they do not exist.

Yet, is there any reason to accept (non-ex.), since Aristotle seems not to be now bald?

Provided our second definition of indetermination, it is possible to reply that Aristotle is indeterminate-2. Yet, at least with regard to the property of *having present baldness*, it does not seem that he has it. If we do not want to consider him an inconsistent item, it should be conceded that he does not have that property, so that he is not indeterminate-2 with regard to that property, and it seems that there is no tensed extensional property (i.e., no property such as the one of *presently having baldness*, or of *having had baldness*, or of *going to have baldness*) and no other kind of property for which he is indeterminate-2. Since Aristotle is neither indeterminate-1, nor indeterminate-2, he is not indeterminate-3.

In sum, it seems to me that, given (existence-1), it is not possible to justify the thesis that a merely past item does not exist, so that it does not exist now[15].

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[15] Different attempts to defend Meinongian Presentism (or, better, some version of Presentism that accepts that there are objects that do not exist and that do not exist now, even not accepting some typical Meinongian theses) have been made, for example, by (Hinchliff, 1988), (Yourgrau, 1987 and 2000) and (Connolly, 2011).

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