Sainsbury, M., *Thinking About Things*.
Oxford: Oxford University Press, 2018, pp. ix + 199.

Mark Sainsbury's last book is about "aboutness". It is widely recognised that intentionality—conceived as a peculiar property of mental states, i.e. their being *about* something—posits some of the most difficult philosophical issues. Moreover, this mental phenomenon seems to be closely related to the linguistic phenomenon of intensionality, which has been extensively discussed in many areas of philosophy. Both intentionality and intensionality have something to do with nonexistent things, in so far as we can think and talk about things that do not exist—as fictional characters, mythical beasts, and contents of dreams and hallucinations. But how is it possible? And, more generally, how do intentional mental states actually work? In his book, Sainsbury addresses these fundamental problems within the framework of a representational theory of mind.

Representations are nothing but what we think with (and, at least in typical cases, *not* what we think about). They can be characterised as concepts which behave "like words in the language of thought" (1). According to this view, intentional states are essentially related to representations, namely to concepts, and it seems quite intuitive to assume that not all concepts have objects: as a consequence, *contra* Brentano's thesis,[1] we should concede that some intentional states lack intentional objects. Now, Sainsbury raises four main questions about intentionality:

1. How are intentional mental states attributed?
2. What does their "aboutness" consist in?
3. Are they (always) relational?
4. Does any of them require there to be nonexistent things?

Given what we just said, Sainsbury's answer to (4) will reasonably be negative. I will turn back to this one—as well as to questions (2) and (3)—in a while. But first, we should discuss his answer to (1), since it represents the core of the whole book: the display theory of attitude attribution.

Sainsbury presents the details of this theory in Chapter 3. In a nutshell, the idea is that correct attitude attributions *display* concepts (or structures of concepts, i.e. thoughts) that match those being used by the subjects in their intentional states. When I ascribe an attitude—either sentential or not—to someone else, I am in fact putting a mental representation on display: by uttering a sentence like "Mark is thinking about unicorns", I put the concept UNICORNS on display; the sentence is true if Mark is actually exercising that concept in his thinking.[2] Display theory is supposed to explain in a straightforward way the most (allegedly) problematic features of intensionality.[3]

First of all, there seem to be problems about existence (empty singular and general terms) and substitution (Frege's puzzle). We can easily explain them, respectively, as follows: in displaying the appropriate concepts, it does not really matter whether or not the concepts have referents; if distinct concepts have the

[1] The classical thesis, usually attributed to Franz Brentano (1838-1917), according to which every intentional state has an intentional object (that is what the intentional state is about).
[2] In the terminology adopted by Sainsbury, this is an example of non-sentential attribution. A sentential attribution would be something like "Mark thinks that unicorns ...".
[3] More precisely, the intensionality of attitude attributions.

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same referent, replacing one concept by a co-referential one within an attribution may lead from truth to falsehood, since the subject might have exercised the former but not the latter concept. Moreover, concepts without referents can be different—just like ZEUS and PEGASUS—because they are not individuated by their extension but by their *origin*.[4] After all, (attributing) thinking about Zeus is different from (attributing) thinking about Pegasus.

Secondly, *strong* exportation may fail to preserve truth in intensional contexts: it can be inferred that there is something I am thinking about from "I am thinking about unicorns", but not that there are some unicorns I am thinking about. Sainsbury argues that this phenomenon occurs because strong exportation involves moving a concept from a position in which it is merely displayed to one in which it is used in the normal way. Something similar holds with regard to indefinite concepts, like A BEER: it can be inferred that there is something I want from "I want a beer", but not that there is a (particular) beer I want. This happens because indefinite concepts can be displayed in attributing non-specific mental states without requiring that they have a (particular) satisfier.

Now, as we already noticed, intentional states involve concepts but these are not what the states are about: at least in typical cases, people use concepts as representational vehicles in order to think about what the relevant concept is about. Nevertheless, representations (or concepts) may be empty, and thus non-relational (take for instance a picture of Pegasus, or the concept PEGASUS, and compare it with a picture of Napoleon). Therefore, we are able to distinguish two senses in which an intentional state can be said to be *relational*. There is a sense in which intentional states are always relational: in compliance with Sainsbury's representational framework, they are always relations between subjects and their (structures of) concepts. Furthermore, if there exist something to which the relevant concept refers, then the intentional state is relational also in a second sense: it is related both to its representation and to the object of its representation. But, as we noticed before, it is not always the case that such a condition obtains; an intentional state "about" Pegasus—i.e., one in which the concept PEGASUS is displayed—is relational only in the first sense, and we do not need to posit any nonexistent object in order to address it satisfactorily. At this point, however, someone may still object as follows: even if there seems to be no Pegasus out there, there is definitely *something* I am thinking about when I think about Pegasus—as I am doing right now. But what is this thing? Is it not an intentional (and nonexistent) object, after all?

There is something very intriguing that Sainsbury has to say about "something". In Chapter 2, he argues that "something", as used in natural language, is not necessarily equivalent to the existential quantifier of First-Order Logic. In other words, this means that "Something..." cannot be always interpreted as "There exists an entity such that...". In order to develop this kind of view, we need an intuitive notion of ontological commitment which allows us to distinguish between committing and non-committing sentences (32). Sentences dominated by "something" are never committing in themselves, since they just reflect the commitments of non-quantified sentences that entail them. Let us consider an example: (i) "Something barks", which is entailed by (ii) "Fido barks". The

[4] This is the main thesis of the originalist account of concepts, developed by Sainsbury, M., & Tye, M., *Seven Puzzles of Thought and How to Solve Them: An Originalist Theory of Concepts*, Oxford: Oxford University Press.

ontological commitment of (ii) to at least one barker is transferred to (i) by entailment; Sainsbury calls (ii) a *vindicating instance* of (i). Of course, vindicating instances do not always carry ontological commitment: e.g., (iii) "I was thinking about Pegasus" does not, because "Pegasus" occurs within an intensional context—and then "There is something I was thinking about", as entailed by (iii), does not either. In general, if the vindicating instance is not ontologically committing, its quantification cannot be either. Indeed, Sainsbury proposes to treat "something" as a *substitutional* quantifier, which in fact quantifies both into referential and non-referential positions.

In conclusion, Sainsbury offers an account of intentionality alternative to both neo-Meinongian and not neo-Meinongian contemporary approaches—like those proposed, for instance, by Crane (2013) and Azzouni (2010), respectively—along the lines suggested by Wright (2007), Rayo and Yablo (2001).[5] Moreover, I think that the point of view developed in this book has the main advantage of undermining the (allegedly?) intuitive appeal of Meinong-style analyses of natural language: "To parody Meinong, there are some things […] which are not *objects* or *entities* at all" (51). *Thinking About Things* is therefore a fundamental reading for anyone interested in the present debate about intentionality and the problem of nonexistence, broadly conceived.

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[5] Crane, T. 2013, *The Objects of Thought*, Oxford: Oxford University Press; Azzouni, J. 2010, *Talking About Nothing: Numbers, Hallucinations, and Fictions*, New York: Oxford University Press; Wright, C. 2007, "On Quantifying Into Predicate Position: Towards A New(tralist) Perspective", in Leng, M., Pasneau, A., & Potter, M. (eds.), *Mathematical Knowledge*, Oxford: Oxford University Press, 150-74; Rayo, A., & Yablo, S. 2001, "Nominalism Through De-Nominalization", *Noûs*, 35, 74-92.

Bertini, D. and Migliorini, D. (eds.), *Relations: Ontology and Philosophy of Religion*.
Fano: Mimesis International, 2018, pp. 300.

This edited volume opens with an epigraph from Bertrand Russell: "the question of relations is one of the most important that arise in philosophy" (15). What was true one hundred years ago is still true today: the nature of relations is one of the most pressing topics in contemporary analytic metaphysics.

Why relations? And why relations today? Back in Russell's day, the topic of relations had long been neglected in philosophical thinking. The main philosophical challenge is encapsulated in the question of whether relations are substances. The distinction between essential and accidental *properties* was a keystone of traditional metaphysics. Substances were identified by the essential properties that they necessarily possess. Relations, however, were not regarded as essential to a substance, but rather as *secondary* qualities or properties. But what if some or even all relations (or relational properties) are essential to a substance? What if two things are *essentially* related? These speculative questions prompt the following objection, which was presumably one of the reasons for neglecting the category of relations: the fact that two things are necessarily relat-

ed means that they are parts of one single thing, and the way these two parts are related constitutes a property of the whole thing. What appear to be essential relations are in fact properties of wholes. Essential relations would thus be reducible to essential properties.[1] In response to this objection, *relational thinking* would have to account for two claims: first, there are necessary relations. Second, the numerical identity of their relata must be preserved (i.e. the relata are distinct entities). As the editors put it in the introduction: "placing "relation" on the same ontological level as "substance" would allow us to understand it as *dynamic* and in perpetual movement" (19).

The book consists of seventeen chapters (plus the editors' introduction), divided into four parts: 'History of Philosophy of Relations', "Analytic Ontology of Relations", "Relations in Philosophy of Religion" and "The Use of Relations in Religious Thought". The boundaries between the first and second parts and between the third and fourth are not sharply drawn, meaning that the main topics of the volume can be boiled down to the ontology of relations and the use of relations in religious thinking.

I shall now turn to consider the structure of the book and specific chapters in closer detail. Part one, "History of Philosophy of Relations", comprises four chapters, respectively looking at the topic in relation to British idealism, the work of Bertrand Russell, Whitehead's process philosophy and Karl Löwith's *Mitanthropologie*. In the first essay, "Relations in British Idealism", Guido Bonino discusses ontology and the logic of relations in the work of Thomas H. Green and Francis Bradley. Bonino claims that the problem of explaining relational complexes is a special case of the more general problem of the unity of complexes. Relations perform a unifying function: but whereas for Green they metaphysically hold the world together, and relations are thus substances, for Bradley the ultimate reality (of immediate feeling and of the Absolute) is non-relational.

Federico Perelda, in "Russell and the Question of Relations", examines Russell's arguments against the axiom of internal relations and Bradley's monism and for the axiom of external relations. He discusses several variants of monism and of the two axioms, and concludes that Russell's arguments in favour of the axiom of external relations are, to say the least, incomplete. However, as Perelda argues, this failure is due to Russell's "farsightedness", as all other available solutions (most notably those provided by Frege and Wittgenstein) implicitly entail the axiom of internal relations.[2]

In "Relation and Process in Process Philosophy", Sofia Vescovelli argues that Whitehead's and Hartshorne's process philosophy relies on interrelationality as its fundamental ontological principle (not dissimilar to the axiom of internal relations discussed in the preceding chapters), and thus abandons an ontology of substance in favour of an ontology of relations. In the fourth chapter, Agostino Cera examines Karl Löwith's *Mitanthropologie* and its principle of disappointability, which is a variant of the axiom of internal relations applied to the domain of interpersonal relations.

[1] For a seminal presentation of this argument, see Moore, G.E. 1903, *Principia Ethica*, Cambridge: Cambridge University Press, §22.

[2] See my Mácha, J. 2015, *Wittgenstein on Internal and External Relations: Tracing All the Connections*, London: Bloomsbury, for a detailed argument that Wittgenstein's philosophy (early and late) has close affinities with Bradley's account of relations.

The chapters in the second part of the volume address the topic of relations from a variety of perspectives, some highly systematic in nature and others less so. The contribution by Jani Hakkarainen, Markku Keinänen and Antti Keskinen, "Taxonomy of Relations: Internal and External", provides exactly what its title announces: the authors set out two taxonomies, a taxonomy of internal relations and a taxonomy of external relations. These are based on several distinctions. Internal relations are either basic or derived, either proto-internal or not, either formal ontological or material ontological. External relations are either universals or particulars, either rigidly dependent on their relata or not. The authors conclude that these new taxonomies may help to meet the challenges posed by Bradley's regress arguments.

Michele Paolini Paoletti's chapter "Bradley's Regress: A Matter of Parsimony" begins with a survey of contemporary solutions to Bradley's regress challenges. Paolini Paoletti maintains that these challenges chiefly centre on how to explain the relation of exemplification between properties and their bearers. He then presents his own solution based on the notion of a *mode*, i.e. a particular property ontologically dependent on its bearer. This solution to the regress problem turns out to be based on relata-specific relations, as predicted in the previous chapter. Finally, Paolini Paoletti argues that his solution meets the requirements of ontological parsimony and fares better than the other solutions.

The seventh chapter, "On Quantum Physics, Metaphysics, and Theism" by Paolo Di Sia, provides an overview of quantum physics, its basic notions and the most important interpretations of it. Several metaphysical issues are then raised, notably the question of whether quantum states represent anything in physical reality. Finally, Di Sia discusses some theological implications of quantum physics. The topic of relations is touched on only tangentially.

Daniele Bertini, in "Social Worlds Are Relational", adopts Kevin Mulligan's seminal distinction between thin and thick relations, and makes a complex argument for the existence of thick relations. Utilising many examples from philosophy of mind and from works of fiction, he argues that social relations are natural candidates for thick relations that are not reducible to thin ones (following G. E. Moore, but contra Mulligan).

This brings us to part three, entitled "Relations in Philosophy of Religion". In chapter nine, "Radical Divine Alterity and the God-World Relationship", Mario Micheletti addresses the topic of "the asymmetric relationship of *existential and causal dependency* of finite beings upon God" (157). Unlike most of the other chapters, this chapter is about a specific relation, not the concept of relation in general. The same is true of chapter ten, "Beyond the Transcendence: The Feminist Critique of the Concept of God", in which Vera Tripodi investigates the relation of divine transcendence from the perspective of Whitehead's process philosophy and relational ontology.

Damiano Migliorini, in his "Troubles with Trinitarian (Relational) Theism: Trinity and Gunk", advances a complex critique of the relational account of the Trinity. Within relational Trinitarian ontology, God is conceived as the eternal act of creation, i.e. a relational event. But Migliorini maintains that relational ontology inspired by process theology fails to preserve a pluralist worldview and consequently, as per Bradley's regress arguments, entails the unreality of relations and monism. He then discusses several variants of and responses to Bradley's arguments, and concludes that "relationalism is not a good perspective: in order to describe the Trinity, we need to maintain *pluralism*" (191). Migliorini's

own response is an "event-infinite ontology" based on the notion of gunk—an infinitely divisible particle, a kind of dynamic substance.

In chapter twelve, "Constituent vs Relational Ontologies: What about Their Availability for Natural Theology?", Marco Damonte focuses on the debate between constituent (i.e. substantial) and relational ontologies and their implications for the nature of God. Damonte adopts a radical stance: the distinction between constituent and relational ontologies is entirely irrelevant to natural theology. Chapter thirteen, "God and the Flow of Time" by Ciro De Florio and Aldo Frigerio, is devoted to the relationship between God and the temporal world. First, the authors provide an overview and classification of contemporary metaphysical views of time, based on McTaggart's distinction between A-theories and B-theories. Building on this distinction, they differentiate between a static universe and a dynamic one, in either of which God can be conceived as temporal or as timeless.

The main topic of the fourth and final part is the use of relations in specific religious traditions: in Viśiṣṭādvaita Vedānta, in Jainism, in the Old Testament and in late Byzantine Triadology. In chapter fourteen, "God Not Without Qualities: The Unavoidable Relation Between God and His Qualities in Viśiṣṭādvaita Vedānta", Elisa Freschi employs the distinction between a substance ontology and a relational ontology. She maintains that several historical schools of Asian thought upheld a substance ontology (Nyāya and Vaiśeṣika), others were closer to absolute monism (Advaita Vedānta) and some advanced a relational ontology (Viśiṣṭādvaita Vedānta). Jeffery D. Long, in "Anekāntavāda: The Jain Ontology of Complexity and Relationality and Its Implications for the Philosophy of Religions", emphasises the fundamentally relational nature of Jain ontology, "not unlike Alfred North Whitehead's relational ontology" (252).

In chapter sixteen, entitled "The Folk-Metaphysics of Relations in Old Testament Extensions of Generic Divinity", Jaco Gericke takes "God" (Elohim) to be a generic concept, and investigates relations among its sub-concepts. Rather than considering formal philosophical arguments, Gericke focuses on implicit philosophical assumptions in the language of the Old Testament. In order to do so, he employs philosophical analyses of the concept of relation from the ancient Aristotelian tradition, from medieval philosophy and finally from contemporary analytic philosophy of religion, especially the distinction between internal and external relations and Bradley's regress arguments. In conclusion, he makes the very radical claim that the concept of relation is essentially contested.

The final chapter, "A Logical Scheme and Paraconsistent Topological Separation in Byzantium: Inter-Trinitarian Relations According to Hieromonk Hierotheos and Joseph Bryennios" by Basil Lourié, focuses on inter-Trinitarian relations, employing the framework of paraconsistent (and paracomplete) logic. Inter-Trinitarian relations as conceived by Hierotheos and Bryennios are non-reflexive. Lourié also discusses and comments on logical schemes that resemble Venn diagrams, but can express non-reflexivity and non-extensionality.

Due to space constraints, it is impossible to evaluate individual chapters in detail. I shall instead comment on two interrelated issues pertaining to the volume as a whole: first, do all the chapters actually deal with the topic of relations? Second, are there any illuminating interrelations or cross-references between the different chapters? As regards the first point: many of the chapters do indeed make contributions to contemporary debates on relations, most notably those concerning Bradley's regress, internal and external relations, and substan-

tial and relational ontologies. Some chapters, however, mostly from the third and the fourth parts, only look at one specific relation. The justification for these chapters' inclusion in the volume is that an analysis of a particular relation depends on general views about the nature of relations. The editors express this precise point in their introduction: "defining the existence and ontological status of relations is essential to any philosophical speculation about the divine" (18). Most of the chapters follow this logic, but there are several cases that raise some doubts. Chapter seven is a survey of quantum mechanics, which outlines some philosophical and theological implications. The topic of relations is not explicitly raised in the chapter, and neither the author nor the editors make any effort to draw a connection to the main topic or to other chapters. Chapter nine addresses the God-world relationship, but does not make reference to any theory of the nature of relations. Chapter thirteen is about contemporary views on the category of time and their implications for views about the nature of God; this essay would be better suited to a volume on the concept of time than one on relations, since no general theory of relations is employed. Clearly, a *philosophical* collection on relations cannot include just any paper on a topic involving relations, because that is true of all topics. For instance, an article focusing primarily on the relation between Donald Trump and his current wife Melanie belongs in gossip magazines, not in works of philosophy. However, as Bertini's chapter shows, family relations can be used as examples of social relations and illustrate an important point about relations in general.

The second point is more crucial, for it raises the question of what added value this volume has over a mere collection of papers sharing more or less the same topic. In other words, are there any substantial interrelations between the chapters of this volume? There are only two explicit cross-references, which is a very low number given the potential of the topic and the chosen structure, with a first half examining the ontological status of relations and a second half looking at applications of these ideas in religious thinking. Several chapters from the third and fourth parts explicitly address topics from the first and second parts (internal and external relations, Bradley's regress, process philosophy, social relations). Here are some suggestions for possible cross-references: Migliorini, in his analysis of Trinitarian theism, might have incorporated some of the general reflections on Bradley's regress from chapter six. Both Damonte's discussion of relational and substantial ontologies and Tripodi's analysis of transcendence might have benefited from Vescovelli's treatment of process philosophy. Freschi's chapter on Byzantine Trinitarian thought could in turn have drawn on Damonte's discussion. Gericke's discussion of relations in the Old Testament might have utilised the fine-grained classification of relations from chapter five. All these are missed opportunities to strengthen the internal coherence of the volume and make it more than the sum of its parts.

In conclusion: these doubts and objections do not diminish the significance of the collection. Many of the essays are without doubt valuable additions to the literature. What I am criticising is the lack of any unifying approach. The editors seem to be aware of this fact when they write: "The concept of "relation" raises huge questions today, and, by the end of the volume, the reader may feel the need for some kind of synthesis—even a critical one—in order to delineate the possible developments of this investigation in connection with other disciplines' (20-21). This is indeed exactly what the reader might feel. We could, however, perhaps regard this volume as a necessary step towards a more unified perspec-

tive on relations in metaphysics and religious thought, which may be what the editors and the authors were aiming to achieve. If so, they have succeeded.

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Lando, G., *Mereology: A Philosophical Introduction*.
London and New York: Bloomsbury Publishing, 2017, pp. 237.

Nowadays, mereology represents a considerable research topic for many philosophers. Due to the increasing number of investigations, it has become a quite broad and sometimes unspecified topic. Here is where Giorgio Lando's book *Mereology: A Philosophical Introduction* makes its first contribution. In the introduction, he distinguishes three different meanings of the word 'mereology' to have a more perspicuous discussion. First, we have mereology as a discipline (mereology_{dis}), which is "simply the study of the relation of parthood and of strictly related topics" (3). We are dealing with mereology_{dis} whenever we try to delineate a specific domain of parts and wholes, such as parts and wholes in mathematics or physics. A second meaning of 'mereology' is mereology_{theo}: "a theory that characterizes parthood and other connected relations (such as composition) in a certain way. This characterization is provided by some axioms, formulated within a given logical framework. These axioms imply some theorems: these theorems are the content of a certain mereology_{theo}" (4). Third, mereology can be understood as a philosophical thesis (mereology_{phi}). It states that Classical Extensional Mereology (CEM) is "the unique, general, and exhaustive theory of parthood and composition" (4).

Given such a distinction, the book aims "to present and defend mereology_{phi}" (5), also known as *mereological monism* (Fine 1994).[1] In spite of the fact that mereological monism was embraced by many scholars of the past,[2] *Mereology* is the first book-length study which upholds the validity of this philosophical thesis.

Besides introduction, the book is divided into three parts and an appendix. Part One further develops the previous assumptions explaining what mereology_{dis} is about, and it specifies some basic features of the parthood relation. According to the author, *spatial* parthood can be regarded as the paradigmatic case for the genuine meaning of parthood. Then, we can use it to discriminate the *literal* occurrences from the *metaphorical* ones, and to identify the formal features of parthood in general: *reflexivity*, *antisymmetry* and *transitivity*.

Since the main purpose of *Mereology* is to defend mereological monism, CEM is extensively presented and discussed in the book. The presentation is

[1] Fine, K. 1994, "Compounds and Aggregates", *Noûs*, 28, 137-58.
[2] For example, Tarski, A.1927, "Foundations of the Geometry of Solids", in *Logics, Semantics, Metamathematics. Papers from 1923 to 1938*, Tarski, A. (ed.), Eng. trans. J.H. Woodger, Oxford: Clarendon Press, 24-29; Goodman, N. 1956, "A World of Individuals", in *The Problem of Universals. A Symposium*, Goodman, N., Bochenski, J.M. & Church, A. (eds.), Notre Dame: University of Notre Dame Press, 13-31; Quine, W.V.O. 1981, *Theories and Things*, Cambridge, MA: Harvard University Press; Lewis, D. 1991, *Parts of Classes*, Oxford: Blackwell.

given *from above*, where "a presentation from above typically consists of a compact list of axioms, which can be accepted or rejected as a single package" (35). Instead, "a presentation from below typically consists of a longer list of axioms of increasing force. It is possible to reject some of the stronger axioms in a presentation from below, while accepting the weaker ones" (35).

The axioms of CEM are *Transitivity*, *Uniqueness of Composition* and *Unrestricted Composition*. Transitivity is the least controversial one, and it is quite easy to show that the alleged counter-arguments against its validity are not compelling. They mainly concern selective parthood and other cases (e.g. membership relation), which were already put aside by the previous considerations about the literal meaning of parthood. Reflexivity and Antisymmetry are introduced as theorems of CEM, together with three notions related to parthood: *proper parthood*, *overlap* and *fusion* (in the book, 'fusion' is used as a coreferential of 'composition'). Uniqueness of Composition and Unrestricted Composition are about fusion. The first one makes fusion an *operation*, that is, a specific kind of *n*-place relation where the first *n* - 1 *relata* determine the last *relatum*. The second one warrants that this operation is *always defined*, that is, given any *n* - 1 *relata* there is always a *relatum* which is related to them.

Part Two is about Uniqueness of Composition and *Extensionalism*. Uniqueness of Composition states that, given some things, they have no more than one fusion. Extensionalism is the idea that "there cannot be two distinct things with the same parts" (67). It represents the core of mereological monism, and it is worth examining in detail.

First, Uniqueness of Composition and Extensionalism are not equivalent. The former is about fusion and warrants that it is an operation, while the latter provides an identity criterion for complex entities: given two complex entities, they are identical if and only if they have the same proper parts. Then, Uniqueness of Composition implies Extensionalism, but not *vice versa*.

Second, Extensionalism would be driven by *nominalism about structures*, that is the claim that the structure does not exist. Again, however, Extensionalism is not equivalent to this form of nominalism. In fact, let us consider a structure as "the way in which pieces of something are arranged (that is ordered, repeated or stratified)" (70). What Extensionalism claims is that CEM does not require a commitment to structures, but it does not mean that the structure does not exist.

Third, the arguments against Extensionalism are rebutted. Most are focused on the right-to-left direction of the first biconditional of its formal definition.[3] This direction states that to have the same proper parts is a sufficient condition for complex entities to be identical. The alleged counterexamples to Extensionalism can be divided into two categories. On the one hand, some of them concern entities whose existence and involvement in parthood is not controversial, e.g. the whole range of concrete entities. Most involve an artifact and the colocated portion of matter. The idea is basically that an artifact and its colocated matter have the same proper parts, but since they instantiate different properties, they are not identical. Lando's answer is that (as shown by Varzi 2008)[4] an

[3] $\forall x \forall y ((\exists z (zPPx) \vee \exists z (zPPy)) \rightarrow (x = y \leftrightarrow \forall z (zPPx \leftrightarrow zPPy)))$, where *PP* is the proper part relation.

[4] Varzi, A. 2008, "The Extensionality of Parthood and Composition", *The Philosophical Quarterly*, 58, 108-33.

artifact and its colocated portion of matter do not have the same proper parts and so they are not identical. On the other hand, there are some counterexamples concerning entities whose existence and involvement in parthood relations is highly controversial. This is the case of facts. However, since there is no conclusive reason for introducing such entities in our ontology, this second group of potential counterexamples can be discharged.

Part Three of *Mereology* is about Unrestricted Composition. It states that given some things, no matter how many and how disparate they are, their fusion exists. Lando argues that plural quantification is the best tool we have for formulating this principle. Fusion is a multigrade predicate, which means that there is no right number of argument places for it. Indeed, we may fuse from one to an infinite number of parts. Then, a unique symbol to talk collectively about these variably numerous entities would be useful—plural quantification. Moreover, whether plural quantification is a logic tool or not, it would not be a problem for mereology. The reason is that the non-logicality of plural quantification would be problematic only if CEM were a logic. However, since CEM is not a logic but a formal metaphysical doctrine, no problem would arise in the case at issue.

In the second part of Part Three, Lando faces the most common claim against Unrestricted Composition. It is said to be counterintuitive, because it forces us to accept the existence of many strange entities. For example, does a fusion between a chair and the Statue of Liberty really exist? According to our intuition, it does not, whereas according to Unrestricted Composition, it does. Lando makes clear that Unrestricted Composition "says that for any things (plural quantification), there is their mereological fusion, but does not say which things there are" (170). Hence, instead of denying Unrestricted Composition, one could agree that the fusions at stake do not exist because the allegedly fused entities do not exist either.

The Lewis-Sider argument plays a very important role in the above discussion and Lando gives a detailed report of it. Here, I limit myself to a brief sketch. It is based on the standard Quinean notion of existence, roughly stated by his slogan: "To be is to be the value of a bound variable". As a consequence, existence is not a predicate and it cannot be vague. A restrictionsist—someone who rejects Unrestricted Composition—argues that fusion is restricted by some conditions. However, if this claim was true, in some cases—for example, the one concerning a PhD dissertation[5]—these conditions would have to be necessarily vague. Consequently, there should be something vague inside the vocabulary we use to formalise these conditions. Is that possible? The answer would be that it is not. The only two plausible candidates are the relational predicate '*P*' for parthood and the relational predicate 'is one of' ($\prec$), which is characteristic of plural logic. However, $\prec$ cannot be vague because it is strictly connected to

[5] "On my desk there is a PhD dissertation, printed on unstapled sheets. Since I am in the process of reading it, it actually consists of two heaps of sheets: one with the sheets I have already read, and another with the sheets still to be read. Within each heap, the sheets are very close, one on top of another. By contrast, the two heaps are at a certain distance from one another, about 7 centimeters. Is there any reason to think that both the sheets already read and those yet to be read have a fusion, while the two heaps (or—equivalently—all the sheets) do not? Is there a *threshold* of distance within which there is a fusion, and beyond which there is no fusion? It would seem outrageously arbitrary to fix such a threshold" (177).

identity, which is not vague. Instead, *P* could be vague—for example, for a water molecule to be part of a cloud—but the cloud-like scenarios can be explained using a preferable alternative: vagueness may concern the reference of the expression 'the cloud' instead of parthood. In any case, according to Lando there is a more general reason to ensure vagueness cannot affect fusion. Since everything is a fusion of itself, the domain of what exists coincides with the domain of what is the fusion of something. Because the domain of existence is not vague, neither can the domain of fusion be. This would prove that fusion cannot be restricted. For this reason, Unrestricted Composition would be a strong and stable principle.

Finally, in the appendix, Lando discusses the highly controversial thesis of Composition as Identity. In its strong version, it basically states that Identity and Composition are the same relation: to be identical is to be composed by the same proper parts. Many philosophers argued that upholders of mereological monism are obliged to defend (strong) Composition as Identity. In contrast, Lando argues that, while Composition as Identity implies Uniqueness of Composition, "there is no convincing route from mereological monism to Composition as Identity" (207). Thus, mereological monism would be independent from Composition as Identity, and there is no reason why a mereological monist should endorse such a controversial thesis.

Mereology: A Philosophical Introduction is an excellent book. It is certainly useful for experts who aim to deeply explore the philosophical thesis of mereological monism. But it is also very accessible for a non-expert reader who is looking for a clear and accurate philosophical analysis of classical extensional mereology. In line with the philosophical approach of the book, Lando does not prove any theorem or spend much time in the analysis of technicalities. The discussion is vivid and gives the reader an idea of how much philosophy there is on such a technical topic. Moreover, a further virtue of the book is the continuous dialogue the author holds with other philosophers working in mereology. For this reason, *Mereology* can be legitimately considered the most complete and up-to-date piece of work today available about mereological monism.

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