

# Study Guide for Formal and Descriptive Ontology

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## INTRODUCTION

*A few data about contemporary formal ontologists* - by Roberto Poli (Trento University)

"A small dictionary of philosophers who have explicitly dealt with formal ontology would be useful. Two observations are important: (1) in this section the expression "formal ontology" will be used in the broad sense to refer to both the formal ontology and the formalized ontology described in the previous section; (2) the qualification "explicitly" is crucial. In effect, the range of formal ontology (in the sense given sub (1) above) is so broad and so ramified that it is difficult to say who has not dealt with it. But if we employ as our criterion the use of the expression "formal ontology" (or something similar) in a sense consistent with the one specified, we find that the list of authors diminishes considerably.

The point of departure is obviously [Husserl's \*Logical Investigations\*](#). The author who more than anyone else has developed the categorial analysis of ontology is [Nicolai Hartmann](#). As regards phenomenologists, the Husserlian who has paid closest attention to the theme is [Roman Ingarden](#), especially in his monumental work *Der Streit um die Existenz der Welt*. Formal domain ontologies have been developed by Ingarden himself (the domain of artistic phenomena with particular regard to literary works and the domain of values), Hartmann (natural world, social world, art, values), Scheler (values), [Reinach](#) (law), Stein (the concept of person), and Plessner (the social world).

Among analytic philosophers, we find a constant interest in the relationships between the dimensions of the formal and of ontology from Carnap onwards. Authors who warrant at least brief mention are certainly Goodman, Prior and Quine. More difficult to classify for various reasons are the theories of [Bunge](#) and [Sommers](#).

Johansson has developed an innovative categorial approach which reveals the influence of the Brentanian tradition (Husserl and Marty in particular) as well as the Marxian tradition, especially in his analysis of social action.

[Nino Cocchiarella](#), [Kit Fine](#) and [Jerzy Perzanowski](#) are perhaps the most notable of philosophers currently conducting explicitly formal analysis. Cocchiarella has worked in particular on problems of predication and nominalization (issues explicitly analyzed by Husserl), systematically reconstructing so-called theories of universals (nominalism, conceptualism and realism, the latter two with important variants) in a formally homogeneous environment. Of Fine's many works, particular mention should be made of those which

formally reconstruct various fundamental concepts of the philosophical tradition (the concept of substance among others), often starting from their Aristotelian bases. Perzanowski has developed an innovative account of ontology within a Leibnizian framework. From a formal point of view, a distinctive feature of his position is the idea that there are formal structures which precede the distinction between the propositional and the predicative levels and require particular algebraic codification (Perzanowski, *The Way of Truth*, in: Roberto Poli & Peter Simons (eds.) - *Formal Ontology* Dordrecht, Kluwer, 1996). One aspect to be noted is that all three of these philosophers work in explicitly formal terms while simultaneously paying close attention to Husserlian matters (Cocchiarella has analysed the already mentioned problems of predication and nominalization; Fine has developed a sophisticated algebraic reconstruction of the third *Logical Investigation*; Perzanowski was one of Ingarden's pupils).

In the past twenty years, a group of mainly (but not exclusively) analytic philosophers have drawn on the work of one of Brentano's pupils to develop new formal tools. I am obviously referring to so-called Meinongian semantics, the history of which divides into two main periods. The first was during the mid-1980s and is particularly closely associated with Lambert, Parsons, Rapaport, Sylvan and Zalta.

These are authors whose names establish further connections with free logics, relevant logics and paraconsistent logics. The second, more recent, period is associated especially with the names of Jacquette and Pasniczek.

One author who has engaged in dialogue with those just mentioned, although he developed his own and original point of view, was Hector-Neri Castañeda, whose guise theory proposes a wide series of predicative structures both ontological and cognitive. Castañeda's premature death prevented further development of his theory and it remains incomplete.

Also to be mentioned is a minor, mainly American philosophical tradition which although it lies outside the analytic tradition has nevertheless made a major contribution to formal ontology. I refer to the tradition of "dynamic ontology" developed by Peirce, Whitehead, Buchler and Hartshorne and which a fine book by Rescher has recently revitalized (cfr. Rescher, *Process Metaphysics*, Albany, State University of New York Press, 1996). Also linked with this tradition is the interesting school of "process theology".

Despite its apparent diversity, the "dynamic" tradition in the English-speaking countries has taken up positions which come significantly close to those developed by the German-speaking sister tradition associated with the names of Brentano, Husserl, Meinong and Hartmann. Thorough comparison between the two traditions has yet to be made (worth mentioning among the few that I know is Mohanty *Nicolai Hartmann and Alfred Whitehead, A study in recent Platonism*, Calcutta, Progressive Publishers, 1957).

Other areas of inquiry are Perry and Barwise's situation semantics and Suszko's non-Fregean logics. While the work of the former two authors is so well known that it requires no introduction, Suszko's deserves closer analysis. This I shall provide below when discussing the problem of the identity connective.

Lying midway between the analytic and phenomenological traditions are the studies of Barry Smith and Peter Simons, who deal in particular with the theory of parts and the development of a general mereology which, according to Smith, constitutes the fundamental instrument of ontology.

Studies which find inspiration in phenomenology and draw their tools from algebraic topology has been developed by Jean Petitot, who studied under René Thom and has continued his catastrophe theory.

Finally, my own work seeks to overcome the limitations of the two schools of dynamic philosophy (the German "camp" of Brentano and his followers, and the American "camp" of Peirce and Whitehead) by developing a dynamic theory of substances which comprises various interacting sub-theories, principally those of particulars, of the levels of reality, and of wholes (Poli *Alwys. Ontology for knowledge engineers*, Ph. D. thesis, Utrecht, 2001).

These, therefore, are names of the philosophers currently at the forefront of work in ontology." pp. 186-188.

From: Roberto Poli - Descriptive, formal and formalized ontologies (PDF), in: Denis Fisette (ed.), *Husserl's Logical Investigations reconsidered*, Dordrecht, Kluwer, 2003 pp. 183-210.

## SUGGESTED READINGS FOR A FIRST APPROACH TO ONTOLOGICAL PROBLEMS

1. Jacqueline Dale. *Ontology*. Montreal & Kingston: McGill-Queen's University Press 2002.  
Content: Preface XI; Acknowledgements XV; Introduction: Being as such 1; First Part: Pure philosophical ontology. 1. What is to be (on Heidegger) 12; 2. Combinatorial ontology 42; 3. Why there is something rather than nothing 89; 4. Why there is only one logically contingent actual world 109; 5. Concepts of existence in philosophical logic and the analysis of being *qua* being 134; Second Part: Applied ontology and the metaphysics of science. 6. Ontological commitment (on Quine) 156; 7. Appearance, reality, substance, transcendence 182; 8. Physical entities: space, time, matter and causation, physical states of affair and events, natural laws 193; 9. Abstract entities, particular and universal: numbers, sets, properties, qualities, relations, propositions, and possibilities, logical, mathematical and metaphysical laws 206; 10. Subjectivity of mind in the world of objective physical facts 233; 11. God, a divine supernatural mind? 253; 12. Ontology of culture: language, arts and artefacts 265; Conclusion: scientific-philosophical ontology 275; Notes 281; Bibliography 309; Index 329-348.

"This book investigates and proposes a theory to solve the most fundamental problems of being. I know how that sounds. But trying to understand the meaning, the undeniable but non-self-explanatory fact and nature of existence, is indispensable to philosophy. Accordingly, we must not shrink from the task, whatever difficulties are entailed. I distinguish between pure philosophical and applied scientific ontology. Pure philosophical ontology deals with such questions as what is meant by the concept of being, why there exists something rather than nothing, and why there exists exactly one logically contingent actual world. Applied scientific ontology advances a preferred existence domain consisting of three categories of existent entities, including existent (we can also say actual) objects, existent states of affairs, and the actual world. The actual world is itself an entity, one that contains all other entities; it contains all and only actual states of affairs, involving all and only existent objects. The entities included in a theoretical ontology are those minimally required for an adequate philosophical semantics, the things to which we must be able to refer in order to make sense of meaningful thought and discourse, especially in the sciences. These are the objects that we say exist, to which we are ontologically committed.

(...)

Pure philosophical ontology, indispensable as groundwork, is only the first major step toward a complete fully integrated ontology. When we know what it means for something to exist, we can then proceed to the details of applied scientific ontology, defending the choice of a particular domain of existent entities. It is in this branch of ontology that we explain the concepts and clarify the existence conditions of physical entities and declare ourselves in favour of or opposed to the existence of numbers, sets, universals, relations, propositions, and abstract objects generally, minds and persons, God as a divine supernatural mind, language, art and other cultural artefacts. The traditional controversies of descriptive and speculative metaphysics are located here, where the stakes are higher than in pure philosophical ontology, in arguments for the existence or nonexistence of specific contested entities.

The two components, pure philosophical and applied scientific ontology, complement one another. No metaphysics of being can claim to be complete if it does not keep each separate and in its proper place while providing satisfactory answers to both specialized sets of problems. It is as much a mistake to investigate only the more tractable problems of applied scientific ontology, say, of whether or not numbers or universals exist, while giving up on pure philosophical ontology, as it would be to devote attention exclusively to the fundamental problems of pure philosophical ontology to the neglect of making substantive commitments to the existence of real entities in applied scientific ontology. We should not try to establish a domain of existent entities that is not guided by a prior clarification of the concept of being; but having addressed the problems of pure

philosophical ontology, we must then move on to fill in the details of a preferred existence domain as a contribution to applied scientific ontology." (from the Preface).

2. Campbell Keith. *Metaphysics. An Introduction*. Encino: Dickenson 1976.

Contents: Preface: III-IV; Part I. Metaphysics. Its program and problems. 1. A sketch of the background 1; 2. Metaphysics in recent years 13; Part II. One branch of cosmology. The philosophy of matter; 3. The framework of concrete particularism 25; 4. Classical atomism 44; 5. Primary and secondary qualities 59; 6. Alternative particularist systems 75; 7. Atomism and modern physics 95; Part III. A first survey of ontology; 8. The tasks of ontology 107; 9. Quine's canonical notation 125; 10. Regimentation or paraphrase 137; 11. Constructions which have non paraphrase 162; 12. Ontic commitment and reduction to a minimum domain 174; 13. Events and sets 194; 14. Universals and Tropes 206; Glossary 220; Bibliography 235; Index 243-248.

"This book is a text, not a treatise; it is distinctive in its selection and arrangement, rather than the novelty of its material. It is designed for students taking their first courses in metaphysics, and one year in philosophy together with some acquaintance with logic should be sufficient preparation. The work is in three parts. The first is an introductory section in which the aims, methods, and vicissitudes of Western metaphysics are briefly set forth. This part is included to give students a grasp of what metaphysical thinking is, and more confidence that they know where they are and where they can expect to be going. I hope it will reduce the bewilderment which philosophy so easily engenders in those who approach it. This section is swift and summary. It is not an impartial review, but a broad-stroke sketch of how one man sees the subject. I make no effort to conceal my own opinions here or elsewhere, for in my estimation a bland neutrality serves only to mask the interest, conviction, and even passion in the real life of metaphysics. Those with different views will be able to take steps to correct my exaggerations, misrepresentations, and omissions.

In part II, one branch of cosmology, the philosophy of matter, is treated through a study of atomism as a specimen of theories based on concrete particulars. My approach is quasi-historical; the career of atomism from Newton's time to its contemporary demise is used to illustrate the variety of ways in which cosmologies are vulnerable and resilient. This example provides opportunities for discussion of the relations between science and metaphysics, problems of deduction, and doctrines of primary and secondary qualities. The alternative cosmologies of Spinoza, Leibniz, and Boscovich are introduced by way of contrast. Although there is no attempt at a scholarly treatment, this section does aim to provide some understanding, which every educated person ought to have, of the development of one set of ideas crucial in modern thought.

Part III concerns ontology and is contemporary in theme. It deals with the problems of establishing an inventory of categories of being-in the sense in which concrete particulars constitute one category, and events, sets, or universals are other candidates. Quine's doctrines of canonical notation and ontic commitment are expounded and are then used in a discussion of various candidate categories which introduces the work of Davidson, Goodman, Putnam, and D.C. Williams. I have endeavored to make this abstract material sufficiently comprehensible to allow its inclusion in undergraduate courses at an earlier stage than is at present possible. In the final chapter I try to stimulate further investigation of Williams' doctrine of tropes, or property instances, as a basic category.

Parts II and III are substantially independent, each containing material for a course of about thirty lectures or their equivalent. Although the ontology of part III comes earlier in the order of reason and is more nearly a first philosophy, I recommend that where both parts are being treated, they be tackled in the order in which they are printed. Part II is less formidably abstract and, being concerned with the character of the material world, lies closer to people's natural concerns and curiosities.

For a course in which part II is given the chief place, the works of Spinoza, Leibniz, and Boscovich, all available in paperback, offer suitable further reading. R. Harré's *Matter and Method* handles some of the same themes, and for a course with more emphasis on philosophy of science, J. J. C. Smart's *Between Science and Philosophy* or *Philosophy and Scientific Realism* would be a suitable companion. Work centered on part III calls for study of Quine's *Word and Object* or *Ways of Paradox*. The Bibliography furnishes further suggestions and information. *Metaphysics* abounds, to the confusion of the beginner, in technical terms and jargon titles for doctrines. In keeping with the

book's purpose as a text, a Glossary has been appended, giving explanations of all such expressions used.

Metaphysics has a rich and many-stranded history, and no one book in this field can hope to be comprehensive. Of the several traditions in formulating and addressing metaphysical issues, this text stays most closely with that branch of empiricism which takes metaphysical problems to rise from, and stand under the judgment of, the more concrete knowledge of the sciences. And within this manner of approach, there are further limitations. The reader is warned that he will find no attempt at even superficial treatment of the philosophy of necessity, or of mind, or of philosophical theology. Nor is there any attack on the metaphysical problems generated by epistemology-the character of sense data, for example-or on those which arise in moral philosophy, such as the reality of free will or the ontological status of values." (from the Preface).

3. Grossmann Reinhardt. *The Existence of the World. An Introduction to Ontology*. London, New York: Routledge 1992.

Contents: I. The Discovery of the World: Timeless Being 1; II. The Battle Over the World: Universals 14; III. The Structure of the World: The Categories 46; IV. The Substratum of the World: Existence 91; V. The Enigma of the World: Negation 120; Bibliography 134; Index 137-139.

"*The nature of classification.*

Ontology asks and tries to answer two related questions. What are the *categories* of the world? And what are the *laws* that govern these categories? In chemistry, for comparison, we search for the chemical elements and the laws of chemistry; in physics, for elementary particles and their laws. Categories are for ontology what these basic building blocks of the universe are for the natural sciences. But ontology is not a science among sciences. Its scope is vastly larger than that of any science. And its point of view is totally different from that of the sciences. To see how ontology differs from science, we must first of all understand the notion of a category. Our first question therefore is: what is a category?

(...)

The *principle* of the classification of the elements, however, is the same as at Empedocles's time: *Things are distinguished from each other by means of the properties which they have*. Let us call this 'the principle of classification'.

(...)

Someone must have realized that the foundation of all classifications of individual things, namely, the distinction between these things and their properties, is itself a classification. But it is a classification, not of *individual things* - individual amounts of water or earth, or individual bits of gold or iron, or individual whales or carps - but of *entities* in general. It is a classification of *any kind* of existent. It divides up everything there is into two large groups of existents, namely, into individual things, on the one hand, and their properties, on the other. Every 'ordinary' classification rests on this most fundamental classification of things into individuals and their properties. In order to distinguish this classification from all others, we shall speak of a 'categorization'. *Entities*, we shall say, *are categorized*. The kinds of thing which the categorization distinguishes are then called 'categories'. We know that there are at least two categories, that is, two kinds of entity (existent), namely, *individual things* and *properties* of individual things." (pp. 1-3).

4. Butcharov Panayot. *Being qua Being. A Theory of Identity, Existence, and Predication*. Bloomington: Indiana University Press 1979.

Contents: Acknowledgments IX; Introduction 1; 1. The apparent distinctness of identicals 9; 2. Objects and entities 39; 3. Indiscernibility 64; 4. Existence 82; 5. Essence 122; 6. Substances 154; 7. Qualities 184; 8. Accidental connections 212; Appendix A. Relations 239; Appendix B. Idealism 248; Notes 256; Index 267-274.

"The inquiry into being qua being has been identified with metaphysics. But it would be better to use the term 'metaphysics' more broadly, namely, for the branch of philosophy that has as its subject matter the nature of the world, or of reality, rather than the nature of our knowledge, or of our language, or of our sciences about the world. We may then distinguish several levels of metaphysical inquiry. On the least fundamental level metaphysics is concerned with the most general description of the actual world, with the most general kinds of things there are and with the way they fit together. It asks such questions as whether God exists, whether there are both minds

and bodies or only minds or only bodies, and if there are both minds and bodies, how they are related. On this level it is closely connected with epistemology, since the main philosophical difficulties such questions pose for us are epistemological in character.

On a more fundamental level, presupposed by the first, metaphysics inquires into the nature of all possible, or at least all conceivable, comprehensible worlds, and thus only indirectly into the nature of the actual world. Can there be a world that consists only of individuals and not also of properties and relations? Or a world that consists only of properties and relations? Can there be nonidentical but indiscernible things? Questions related to those on the previous level can now be asked in complete independence from the usual epistemological considerations. Can there be a world unless there is God? Can there be a world without bodies? Without minds? On this level metaphysics is closely connected with logic. (Immediately following his introduction of the notion of a science of being qua being Aristotle offers a defense of the laws of noncontradiction and excluded middle.) But this connection is no more limited to formal logic than the notion of necessary truth is limited to the truths of formal logic. The criterion of possibility on which it would rely can hardly be mere formal consistency; it must be conceivability or comprehensibility (not of propositions, but of what propositions purport to describe), for, whether we like it or not, we have no other general and ultimate criterion of possibility.

This is why, on this level, metaphysics is also connected with phenomenology, i.e., with the philosophical description of the most general character of the objects of consciousness qua objects of consciousness.

On the third and most fundamental level metaphysics is concerned with the concepts and principles on the basis of which the questions belonging to the other two levels, i.e., the questions about what things there are or at least there can be, must be answered. Instead of these questions, it asks, what is it for something to be in a world, or for something to be a world? It is on this level, I suggest, that metaphysics is best described as the inquiry into being qua being, or, we might also say, as protometaphysics. Any conception of a world presupposes the conception of what it is for something to exist in that world. Any conception of a thing presupposes the conception of what it is for it to be the subject of predication, both accidental and essential. Any conception of a thing presupposes the conception of what it is for it to be identifiable, not in the sense of being merely singled out but also in the sense of being singled out again or in a different way, of being recognized, of being the subject of a true informative identity judgment.

It follows that the concepts of existence, identity, essential predication, and accidental predication cannot be understood as standing for constituents of the world, presumably for certain properties or relations. They are the concepts in terms of which we must understand what it is for something to be in the world, what it is for something to have a property or be related to another thing, and what it is for something to be a property or a relation. Yet they apply to any possible world; indeed nothing would be a world were it not for their applicability to it. We may call such concepts, which apply without standing for anything, transcendental. The inquiry into being qua being, or protometaphysics, may then be called a transcendental inquiry." (from the Introduction).

5. Bar-On Abraham Zvie. *Ontological Analysis. The Classical Model*. Lanham: University Press of America 1996.

Translated from the Hebrew by Lenn J. Schramm.

Contents: Preface XI; 1. The framework of the discussion 1; 2. Ontological reasoning in ancient thought 35; The entity whose existence is supposed to be necessary 83; 4. The ontological status of the Self 129; 5. Necessity, possibility, and freedom in human affairs 165; Notes 209; Bibliography 219; Index 227.

"The idea behind this volume is that the best way to study ontology is through a close critical analysis of the major ontological problems the 'historical' ones-that is, the problems that gave birth to this field and continue to engage thinkers and scholars to this very day. The totality of Being of Parmenides and the principle of the oneness of being, thought, and language; the debate between idealism and materialism, as illuminated by Plato; the Aristotelian categories and the relationship between the individuum and the collective, or the species and the genus; Anselm's fascinating attempt to prove necessary existence-and that of God, no less-through purely conceptual means; the ontological status of the 'I'; the antinomy of necessity and freedom: these are the issues addressed in

this volume. They also demarcate the horizon of present-day ontological discussion." (from the Preface).

#### "The Subdivisions of Philosophy

By way of introduction to this volume, which aims to explore the classical model of ontological analysis, I shall try to elucidate the concept of ontology that underlies the chapters to follow. It is customary today to apply the term 'ontology' to one of the main branches or subdivisions of philosophical inquiry, alongside epistemology, logic, ethics, aesthetics, and so on. Although this terminology of philosophical branches or subdisciplines is common parlance, among philosophers and laymen alike, it is not unambiguous. Its first and clearest use is practical and methodological: the concept of subdisciplines helps us organize the study of philosophy in schools and universities and label the field of specialization of advanced students, allows us to apply sophisticated analytical tools to one phase or segment of philosophical inquiry and discussion, even when other phases or segments are not yet ready for this application, and the like.

On the other hand, the concept of subdisciplines, in the sense alluded to above, harbors the danger of fragmenting philosophy, whose broad overview-its synopsis-is, according to many philosophers throughout the ages, part of its very essence. This fragmentation might lead to philosophy's disappearance from the world or from the map of man's intellectual occupations.

One way to ward off the danger inherent in the division into subdisciplines is to provide a systematic delineation of their boundaries. The first step in such a demarcation is to discern the unique elements of each subdiscipline, that is, to differentiate among them. Yet we cannot get to the bottom of these differences without comprehending -- in advance or as part of this demarcation -- the common element that underlies the various subdisciplines. In this way, drawing the boundaries of the different branches of philosophical thought may lead us to a new and more profound awareness of the common stem of this field of intellectual endeavor.

One of the practical advantages of dividing philosophy into subdisciplines is the fact, encouraging in and of itself, that those who immerse themselves for a time in philosophy, with the proper approach, find themselves at home with these divisions. When they encounter some philosophical argument, problem, or theory, they have no trouble allocating it to one of the recognized subdisciplines (except for a small number of borderline cases that belong simultaneously to more than one subdiscipline).

But even veteran philosophers would be hard put to set forth clear reasons for their attribution in every case. They would find it even more difficult to give a general characterization of the subdiscipline to which they had allocated the argument, problem, or theory. There is no royal road to such characterizations. Every serious attempt to provide them will inevitably turn into a complex and wearisome intellectual exercise.

The attempt made below to give a general characterization of ontology consists of two steps: (1) a description and analysis of various approaches -- both historical and contemporary -- towards ontological questions, as regards their identification, interpretation, and treatment; and (2) a clarification of several basic ontological distinctions." (pp. 1-2).

6. Quinton Anthony. *The Nature of Things*. London: Routledge & Kegan Paul 1973.
7. Peacocke Christopher. *A Study of Concepts*. Cambridge: MIT University Press 1992.
8. Williams Christopher John Fards. *Being, Identity, and Truth*. New York : Oxford University Press 1992.
9. Loux Michael J. *Substance and Attribute. A Study in Ontology*. Dordrecht: Kluwer 1978.
10. Hawley Katherine. *How Things Persist*. New York: Oxford University Press 2001.
11. Peterson Philip L. *Fact Proposition Event*. Dordrecht: Kluwer 1997.
12. Rundle Bede. *Why there is Something rather than Nothing*. New York: Oxford University Press 2004.

## MORE SPECIALIZED WORKS

1. Bergmann Gustav. *New Foundations of Ontology*. Madison: University of Wisconsin Press 1992. Edited by William Heald.  
Contents: Foreword by Edwin B. Allaire IX-XII; Editor's Note XIII-XX; Editor's introduction 3; 1. Simples and canons 43; 2. Facts and modes 61; 3. Diversity and order 101; 4. Functions and

analiticity 134; 5. Thought and language 201; 6. Classes 239; 7. The Linguistic Turn contained 317; Glossary 357; Index 369-372.

"During the last two decades of his life—from the publication of *Realism* in 1967 until his death in 1987 - Gustav Bergmann published only five essays. One, 'Diversity,' his presidential address to the Western Division of the American Philosophical Association, appeared in 1968; the other four, between 1977 and 1981.

In those decades Bergmann worked as hard and as steadily as he ever had; and he was a hard worker indeed. In the twenty-five years prior to *Realism*, Bergmann published over a hundred essays, many of which are contained in four essay collections, and *Philosophy of Science*.

In his presidential address Bergmann made known his dissatisfaction with certain aspects of his ontology, in particular his assays of the facts expressed by universal and existential statements. (See 'Generality and Existence,' *Theoria*, 28, 1962.) He thus set about to rethink his system. *New Foundations of Ontology* is the result.

The manuscript seems to have been begun sometime in 1974 and completed in late 1975. Bergmann decided to delay its publication: he had reservations about the penultimate chapter, which deals with classes and arithmetic. He never returned to the manuscript per se. Instead, he led himself into the depths of set theory, a subject he had once known well. (Bergmann earned a PhD in mathematics and from 1928 to 1935 published eight papers in mathematics proper.) " (from the Foreword).

2. Cocchiarella Nino. *Formal Ontology and Conceptual Realism*. New York : Springer 2007.

"Theories about the ontological structure of the world have generally been described in informal, intuitive terms, and the arguments for and against them, including their consistency and adequacy as explanatory frameworks, have generally been given in even more informal terms. The goal of formal ontology is to correct for these deficiencies. By formally reconstructing an intuitive, informal ontological scheme as a formal ontology we can better determine the consistency and adequacy of that scheme; and then by comparing different reconstructed schemes with one another we can better evaluate the arguments for and against them and come to a decision as to which system it is best to adopt.

This book is divided into two parts. The first part is on formal ontology and how different informal ontological systems can be formally developed and compared with one another. The main point is that a formal ontology connects logical categories -- especially the categories involved in predication -- with ontological categories.

The second part of this book is on the formal construction and defense of a particular formal ontology called conceptual realism, which is based on a unified account of general and singular reference in a conceptualist theory of predication. An intensional logic based on deactivated (nominalized) referential and predicable concepts is part of this ontology as well as an analysis of plural reference and predication in terms of a logic of classes as many. A natural realism and an Aristotelian essentialism based on a logic of natural kinds is also part of the framework, which is put forward here as the best formal ontology to adopt."

3. Correia Fabrice. *Existential Dependence and Cognate Notions*. München: Philosophia Verlag 2005.

"This is a work in analytic metaphysics. Its main purpose is to clarify a notion of central importance in metaphysics since Aristotle, to wit the notion of existential dependence. All currently available analyses of the notion are examined and then rejected, and a new account is defended. This work is the first comprehensive one on the topic. The first chapter is devoted to introducing and explaining some notions which are crucial for the central parts of the work, namely the notions of existence, necessity, (individual and plural) quantification and essence. In chapters 2 and 4 focus is made on the relation of " simple" existential dependence, the relation which holds between two objects when the first cannot exist without the other. Three accounts of simple dependence - each endorsed by some contemporary philosophers, among them Kit Fine, E. Jonathan Lowe, Kevin Mulligan, Peter Simons and Barry Smith - are presented and then rejected. A new account, inspired by suggestions by Fine and Lowe, is defended. According to that account - the " foundational" account - simple dependence is to be defined in terms of a relation called *grounding*, which is presented in chapter 3. Chapters 5 and 6 deal with relations belonging to the family of simple dependence, among others (i) generic dependence, (ii) various forms of temporal dependence, and (iii) supervenience, a complex dependence relation largely invoked in current debates on the philosophy of mind. It is shown that

foundationalist accounts of these notions - i.e. accounts framed in terms of grounding - are superior to other existing accounts. These chapters also contain some applications of the foundational conception of dependence, in particular a characterization of substances and a formulation of the distinction between two well known conceptions of universals, the Aristotelian and the Platonician conception. The last part of the work is a technical appendix where one can find, among other things, a system for the logic of essence, which is proved to be sound and complete with respect to a possible world semantics."

4. Hirsch Eli. *Quantifier Variance and Realism. Essays in Metaontology*. New York: Oxford University Press 2011.
5. Horgan Terence E. and Potrc Matjaz. *Austere Realism. Contextual Semantics Meets Minimal Ontology*. Cambridge: MIT Press 2008.
6. Inwagen Peter Van. *Material Beings*. Ithaca: Cornell University Press 1990.
7. Jubien Michael. *Ontology, Modality, and the Fallacy of Reference*. Cambridge: Cambridge University Press 1993. pp.
8. Millikan Ruth. *Language, Thought and Other Biological Categories. New Foundations for Realism*. Cambridge: MIT University Press 1984.
9. Oderberg David S. *Real Essentialism*. New York: Routledge 2007.
10. Simons Peter. *Parts. A Study in Ontology*. New York: Oxford University Press 1987.
11. Vallicella William. *A Paradigm Theory of Existence. Onto-Theology Vindicated*. Dordrecht: Kluwer Academic Publishers 2002.

Contents: Preface XI-XII; 1. The idea of a paradigm theory of existence 1; 2. Is existence a first-level property? 37; 3. The 'no difference' theory 67; 4. Is existence a property of properties? 93; 5. Mondial attribute theories 127; 6. The ontology of the contingent existent 159; 7. The ground of the contingent existent 195; 8. The paradigm existent 249; References 273; Index 279-281.

"The heart of philosophy is metaphysics, and at the heart of the heart lie two questions about existence. What is it for any contingent thing to exist? Why does any contingent thing exist? Call these the *nature* question and the *ground* question, respectively. The first concerns the nature of the existence of the contingent existent; the second concerns the ground of the contingent existent. Both questions are ancient, and yet perennial in their appeal; both have presided over the burial of so many of their would-be undertakers that it is a good induction that they will continue to do so. For some time now, the preferred style in addressing such questions has been deflationary when it has not been eliminativist. Ask Willard Quine what existence is, and you will hear that 'Existence is what existential quantification expresses.'(1) Ask Bertrand Russell what it is for an individual to exist, and he will tell you that an individual can no more exist than it can be numerous: there just is no such thing as the existence of individuals.(2) And of course Russell's eliminativist answer implies that one cannot even ask, on pain of succumbing to the fallacy of complex question, why any contingent individual exists: if no individual exists, there can be no question why any individual exists. Not to mention Russell's modal corollary: 'contingent' and 'necessary' can only be said *de dicto* (of propositions) and not *de re* (of things). At the source of the Russellian-Quinean stream stands the imposing figure of Frege, perhaps the greatest of logicians, and certainly the greatest since Aristotle. But logic is not metaphysics, and we shall see that existence cannot come into focus through the lenses of logic alone. It is, as Santayana once said, 'odious to the logician.' (3) This is part of its charm, as the resolute reader will no doubt come to appreciate.

The *critical* task of this book is to put paid to deflationary and eliminativist accounts, thereby restoring existence to its rightful place as one of the deep topics in philosophy, if not the deepest. The *constructive* task is to defend the thesis that the nature and ground questions admit of a unified answer, and that this answer takes the form of what I call a paradigm theory of existence. The central idea of the paradigm theory is that existence itself is nothing abstract (hence not a property or a concept or a quantifier or anything merely logical or linguistic or representational) but is instead a paradigmatically existent concrete individual. The idea is not merely that existence itself exists -- which would be true if one said that existence is a property and one held a realist theory of properties -- but that existence exists in a plenary concrete sense that it cannot be the business of a preface to explain. But the idea may be limned as follows. Existence itself exists of absolute metaphysical necessity and the contingent existent exists in virtue of its dependence on self-existent

existence. I submit that this robust theory of existence can be as rigorously defended as any deflationary theory." (from the Preface)

- (1) W. V. Quine, "Existence and quantification" in *Ontological relativity and other essays* New York: Columbia University Press, 1969) p. 97
- (2) Bertrand Russell, "The philosophy of Logical Atomism" in *Logic and knowledge*, ed. R. C. Marsh (New York, G. P. Putnam's Sons, 1956), pp. 232 ff.
- (3) George Santayana, *Scepticism and animal faith* (New York: Dover Publications, Inc. 1955) p. 48.
12. Van Inwagen Peter. *Ontology, Identity, and Modality. Essays in Metaphysics*. Cambridge: Cambridge University Press 2001.
13. Wilson Fred. *Acquaintance, Ontology, and Knowledge. Collected Essays in Ontology*. Frankfurt: Ontos Verlag 2007.

## DICTIONARIES OF ONTOLOGY

1. *Handbook of Metaphysics and Ontology*. Edited by Burkhardt Hans and Smith Barry. Munich: Philosophia Verlag 1991.  
 "The present work seeks to document the most important traditional and contemporary streams in the two overlapping fields of metaphysics and ontology. Both disciplines were, even just a few years ago, seen by many of negligible contemporary interest. The editors, neither of whom had shared this general opinion, were none the less surprised to see how much valuable work had been achieved in these areas not only in the past but also in our own century. The intensity of contemporary work in metaphysics and ontology points indeed to a healthy renewal of these disciplines, the like of which has not been seen, perhaps, since the 13th century" (...)
 

Of the two editors of this Handbook -- who bear equal responsibility for all its parts and moments -- one is and admirer of Leibniz and the 17th-century rationalists and thus finds himself strongly allied to certain modern deductive trends. The other feels more at home in the 13th or 14th centuries and is accordingly critical of the over-enthusiastic and often over-simplistic use of formal logical techniques in contemporary metaphysics. The editors are however equally convinced that it is precisely the tension between the deductive and descriptive approaches to the problems of metaphysics and ontology which will be responsible for the future creative advances in these fields. And they are convinced also that such advances can be furthered by an understanding of the history of metaphysics and ontology., an understanding -- guided by the most sophisticated modern research and by the use of the most sophisticated modern techniques -- of the sort this Handbook has been designed to facilitate." (from the Introduction)

## COLLECTION OF ESSAYS

1. *How Things Are. Studies in Predication and the History of Philosophy and Science*. Edited by Bogen James and McGuire James E. Dordrecht: Reidel 1985.  
 Contents: Acknowledgements IX; James Bogen: Introduction 1; Robert G. Turnbull: Zeno's Stricture and Predication in Plato, Aristotle, and Plotinus 21; Frank A. Lewis: Form and Predication in Aristotle's Metaphysics 59; Deborah K. Modrak: Forms and Compounds 85; Alan Code: On the Origins of Some Aristotelian Theses About Predication 101; Frank A. Lewis: Plato's Third Man Argument and the 'Platonism' of Aristotle 133; Marilyn McCord Adams: Things versus 'flows', or Ockham on Predication and Ontology 175; Calvin G. Normore: Buridan's Ontology 189; James E. McGuire: Phenomenalism, Relations, and Monadic Representation: Leibniz on Predicate Levels 205; Robert M. Adams: Predication, Truth, and Transworld Identity in Leibniz 235; Wilfrid Sellars: Towards a Theory of Predication 285; Alan Code: On the Origins of Some Aristotelian Theses

About Predication: Appendix on 'The Third Man Argument' 323; Notes on the Contributors 327; Bibliography 329; Index of Labeled expressions 337; Name index 339; Subject Index 343-345.

2. *The Logic of Being. Historical Studies*. Edited by Knuuttila Simo and Hintikka Jaakko. Dordrecht: Reidel 1986.

Contents: Acknowledgments VII; Introduction by Knuuttila and Hintikka: IX-XVI; Charles H. Kahn: Retrospect on the verb 'To Be?' and the concept of Being 1; Benson Mates: identity and predication in Plato 29; Russell M. Dancy: Aristotle and existence 49; Jaakko Hintikka: The varieties of Being in Aristotle 81; Sten Ebbesen: The Chimera's Diary 115; Klaus Jacobi: Peter Abelard's investigations into the meaning and functions of the speech sign 'Est' 145; Hermann Weidemann: The logic of Being in Thomas Aquinas 181; Simo Knuuttila: Being *qua* Being in Thomas Aquinas and John Duns Scotus 201; Lilli Alanen: On Descartes's argument for Dualism and the distinction between different kinds of Beings 223; Jaakko Hintikka: Kant on existence, predication, and the Ontological Argument 249; Leila Haaparanta: On Frege's concept of Being 269; Index of names 291; Index of subjects 297-300.

"The last twenty years have seen remarkable developments in our understanding of how the ancient Greek thinkers handled the general concept of being and its several varieties. The most general examination of the meaning of the Greek verb '*esti*' '*einai*' 'on' both in common usage and in the philosophical literature has been presented by Charles H. Kahn, most extensively in his 1973 book *The Verb 'Be' in Ancient Greek*. These discussions are summarized in Kahn's contribution to this volume. By and large, they show that conceptual schemes by means of which philosophers have recently approached Greek thought have not been very well suited to the way the concept of being was actually used by the ancients. For one thing, being in the sense of existence played a very small role in Greek thinking according to Kahn.

Even more importantly, Kahn has argued that Frege and Russell's thesis that verbs for being, such as '*esti*', are multiply ambiguous is ill suited for the purpose of appreciating the actual conceptual assumptions of the Greek thinkers. Frege and Russell claimed that a verb like 'is' or '*esti*' is ambiguous between the 'is' of identity, the 'is' of existence, the copulative 'is', and the generic 'is' (the 'is' of class-inclusion). At least a couple of generations of scholars have relied on this thesis and frequently criticized sundry ancients for confusing these different senses of '*esti*' with each other. Others have found the distinction between the different Fregean senses in this or that major Greek philosopher, or otherwise used the distinction as an integral part of their interpretative framework. Kahn's results show that all these lines of argument are highly suspect.

Independently of Kahn, Michael Frede (in his *Habilitationsschrift* published in 1967 under the title *Prädikation and Existenzaussage*) reached the conclusion that Plato did not - at least not in the *Sophist* - accept anything like the Frege-Russell distinction, thus striking another blow against the received views. We hoped to include excerpts of Frede's little classic here. Unfortunately, for reasons beyond our help this turned out to be impossible." p. IX

(...)

"All these different investigations naturally raise the question: What is the origin of the Frege-Russell distinction? What is its background? In her paper, 'On Frege's Concept of Being', Leila Haaparanta discusses Frege's treatment of being in its historical setting. One of the crucial ingredients in Frege's treatment of being is his idea that existence is a second-level concept (property of a concept). Haaparanta sees the foundation of this assumption in Frege's ideas about the identification (individuality) and existence of individuals (objects), incorporated in Frege's treatment of the senses by means of which we can grasp an individual object. These were according to her inspired by Kant's ideas, especially by Kant's distinction between the predicative and existential uses of 'is'. Even though Kant did not subscribe to or even anticipate the Frege-Russell distinction, he thus seems to have inspired it." (pp. XV-XVI).

3. Coffa Alberto J. *The Semantic Tradition from Kant to Carnap to the Vienna Station*. New York: Cambridge University Press 1991.
4. Dejnozka Jan. *The Ontology of the Analytic Tradition and Its Origins. Realism and Identity in Frege, Russell, Wittgenstein, and Quine*. Lanham: Littlefield Adams Books 1996. Paperback edition reprinted with corrections, 2002; reprinted with further corrections, 2003. Contents: Preface XI, 1. Introduction 1; 2. Is Frege a radical relativist? 3. Frege: existence defined

as identifiability 103; 4. Russell's robust sense of reality 123; 5. Russell's forty-four 'No-entity without identity theories 149; 6. The ancient realist basis of conceptual relativity 215; 7. The ontology of the analytic tradition 233; Notes 273; Bibliography 305; Index of names 327; Index of subjects 333; About the author 337.

"The recent renaissance in Frege-Russell studies, though including some excellent work, has confined its quest for the origins of analytic philosophy to the nineteenth century. My book goes well beyond Frege-Husserl comparisons and historical studies of Russell's idealistic upbringing to give a philosophical evaluation of what the analytic movement really amounts to. My thesis is that a single *kind* of ontology, 'no entity without identity' ontology, is fundamental to all of Russell's major works from 1900 to 1948, to the work of Frege, Wittgenstein, and Quine -- and also to substance metaphysics, its origin over two thousand years ago. Thus my aim is to show that the analysts, far from ending traditional ontology, at bottom continued and even developed it. I cannot see how our understanding of the pluralistic, diverse analytic movement, not to mention the pluralistic, diverse history of Western philosophy, could be more deeply transformed or unified, if I am right.

My methodology was to read the major books of the analysts, many of their lesser works, and a great deal of the secondary literature, gleaning like Rachel in the field of wheat for anything I could find on 'no entity without identity', then to create from scratch new portraits of Frege and Russell as the true analytic progenitors of this kind of ontology.

The specific thesis of my book is that there is a general kind of ontology, modified realism, which the great analysts share not only with each other, but with most great Western philosophers.

Modified realism is the view that in some sense there are both real and rational (or linguistic) identities. In more familiar language, it is roughly the view that there are both real distinctions and distinctions in reason (or in language). More precisely, it is the view that there is *at least one* real being which is the basis for accommodating possibly huge amounts of conceptual relativity, or objectual identities' "shifting" as sortal concepts or sortal terms 'shift.' Therefore I hold that on the fundamental *level* of ontology, the linguistic turn was not a radical break from traditional substance metaphysics. I also hold that the seeming conflict in the analysts between private language arguments, which imply various sorts of realism, and the conceptual 'shiftability' of objects, which suggests a deep ontological relativity, is best resolved by, and is in fact implicitly resolved by, their respective kinds of modified realism. There are many different sorts of modified realism, but all of them share a common general form." (from the Preface).

5. Hill Claire Ortiz. *Word and Object in Husserl, Frege, and Russell. The Roots of Twentieth-Century Philosophy*. Athens, Ohio: Ohio University Press 1991.

Reprinted 2001.

Contents: Abbreviations IX; Preliminary terminological comments XI; Glossary XIII;

Acknowledgments XIV; Introduction 1; Part One: Logic, realism and the foundations of arithmetic;

1. The argument that Frege influenced Husserl 7; 2. Husserl, Frege, and psychologism 13; 3. Sense, meaning, and noema; 4. Husserl's 1891 critique of Frege 43; 5. Frege's review and the development of Husserl's thought 57; Conclusion: analyticity 91; Part Two: Conceptual clarity. Introduction 99; 6. Intensions and extensions 103; 7. Presentation and ideas 125; 8. Function and concept 137; 9. On denoting 147; Conclusion: The way *things* are 163; Notes 175; Bibliography 191; Index 215.

"As a book by the founder of phenomenology that examines Frege's ideas from Brentano's empirical standpoint, Husserl's *Philosophy of Arithmetic* is both an early work of phenomenology and of logical empiricism. In it Husserl predicted the failure of Frege's attempt to logicize arithmetic and to mathematize logic two years before the publication of the *Basic Laws of Arithmetic* in 1893. I hope to show that Husserl did so in terms that would prefigure both the account Frege would give of his error after Russell encountered the paradoxes ten years later and the discussions of *Principia Mathematica*. Moreover, in locating the source of Frege's difficulties in the ambiguous theory of identity, meaning, and denotation that forms the basis of Frege's logical project and generates Russell's contradictions, Husserl's discussions indicate that these contradictions may have as serious consequences for twentieth century philosophy of language as they have had for the philosophy of mathematics.

This book is about these Austro-German roots of twentieth century philosophy. It is mainly about the origins of analytic philosophy, about the transmission of Frege's thought to the English speaking

world, and about the relevance of Husserl's early criticism of Frege's *Foundations of Arithmetic* to some contemporary issues in philosophy. It is more about Husserl the philosopher of logic and mathematics than it is about Husserl the phenomenologist, and it is principally addressed to those members of the philosophical community who, via Russell, have been affected by Frege's logic. This makes it very different from work on Husserl and Frege that has focused on the importance of Frege's criticism of Husserl's *Philosophy of Arithmetic* and attendant issues. The goal of this book is quite the opposite. It studies the shortcomings in Frege's thought that Husserl flagged and Russell endeavored to overcome. One possible sequel to this book would be a thorough study of Husserl's successes and failures in remedying the philosophical ills he perceived all about him, but that goes beyond the scope of this work, which follows the issues discussed into the work of Russell and his successors." (pp. 3-4)

6. Hill Claire Ortiz. *Rethinking Identity and Metaphysics*. New Haven, London: Yale University Press 1997.

7. Hochberg Herbert. *Thought, Fact and Reference. The Origins and Ontology of Logical Atomism*. Minneapolis: University of Minnesota Press 1978.

Contents: Preface VII; Introduction IX; I. The analysis of perception 3; II. Idealism, realism and common sense 30; III. Thought and belief 53; IV. Moore and Bradley on particulars, predicates and predication 87; V. Names, individual concepts, and ontological reduction 122; VI. Frege's account of reference and thought 147; VII: Russell's critique of Frege and the origins of the theory of descriptions 170; VIII. Descriptions, substitution, and intentional contexts 198; IX. Existence, predicates and properties 231; X. Facts and possibilities 271; XI: Russell's theory of judgment and Sellars' critique of it 309; XII: The structure of thought: Part I 347; XIII: The structure of thought: Part II 380; XIV. Logic fact and belief; XV. Difference, existence and universality 444; Notes 457; Name index 485; Subject index 487-489.

"As with the idealists Moore and Russell opposed, facts have once again become unpopular. In defending the atomist's correspondence theory of truth, I shall consider Frege's early attack on that theory as well as recent criticisms that reproduce, wittingly or unwittingly, the familiar idealistic patterns. In returning to the idealist's arguments, some 'analytic' philosophers echo themes revived by Sartre, without providing the detailed argument of the latter. By contrast, Sellars attacks atomism at a seemingly vulnerable point. He argues that the atomists did not and cannot resolve Bradley's puzzles about predication. This is a dominant theme behind his attempt to defend the current revival of nominalism—a gambit he shares with Quine. It also reveals a link between the new nominalism and the revival of idealism. Bradley's views thus affect a number of issues discussed, including the connection of Russell's theory of descriptions with questions about concepts, particulars, predication, and judgment. This theory, in turn, provides an obvious link with Russell's critique of Frege, which is explicated and defended. One of the surprising features of recent philosophy has been the unfair, unfounded, and often abusive commentary on Russell's early work and, in particular, his criticism of Frege. Unfortunately, the prevalent assumption that Russell both misunderstood Frege and was guilty of elementary errors has prevented an adequate understanding of the origin of his theory of descriptions and his analysis of judgment. The early critique of Frege helps to clarify basic features of Russell's philosophy and reveals further connections with the views of Bradley and Moore. It is also crucial for the comprehension of Russell's views about names, reference, existence, and truth. These are important for the analysis of intentional contexts presented in this book. The examination of such fundamental aspects of Russell's philosophy naturally involves a consideration of recent criticisms of Russellian themes by Strawson, Sellars, Carnap, Quine, and others.

What is attempted is the resolution of some issues that preoccupied Russell, Wittgenstein, Moore, and their successors, as well as an explication of some links between Logical Atomism and Moore's early assault on idealism. The book is thus a partial study of the ontology and the history of Logical Atomism." (from the Introduction).

8. *Essays in Ontology*. Edited by Allaire Edwin B. The Hague: Martinus Nijhoff 1963.

Contents: Editor's Preface V; Authors' Note IX; Introduction XI; PROBLEMS. I. Edwin B. Allaire: Existence, Independence, and Universals 3; II. Edwin B. Allaire: Bare Particulars 14; III. Herbert Hochberg: Elementarism, Independence, and Ontology 22; IV. Reinhardt Grossmann: Particulars

and Time 30;

V. Reinhardt Grossmann: Conceptualism 40; VI. Reinhardt Grossmann: Sensory Intuition and the Dogma of Localization 50; VII. Reinhardt Grossmann: Common Names 64; SYSTEMS. VIII. Robert G. Turnbull: Ockham's Nominalistic Logic: Some Twentieth Century Reflections 79; IX. Edwin B. Allaire: Berkeley's Idealism 92; X. Reinhardt Grossmann: Frege's Ontology 106; XI. Herbert Hochberg: Moore's Ontology and Non-Natural Properties 121; XII. Edwin B. Allaire: The "Tractatus": Nominalistic or Realistic? Allaire 148; XIII. Herbert Hochberg: Of Mind and Myth 166; XIV. May Brodbeck: The Philosophy of John Dewey 188; Index 216.

AUTHORS' NOTE. Essays IV, VII, XII have not been previously published. The others appeared originally as follows: I. "Existence, Independence, and Universals" in *The Philosophical Review*, 69, 1960, 485-496; II. "Bare Particulars" in *Philosophical Studies*, hi, 1963, 1-8; III. "Elementarism, Independence, and Universals" in *Philosophical Studies*, 12, 1961, 36-43; V. "Conceptualism" in *The Review of Metaphysics*, 14, 1960, 243-254; VI. "Sensory Intuition and the Dogma of Localization" in *Inquiry*, 5, 1962, 238-251; VIII. "Ockham's Nominalistic Logic: Some Twentieth Century Reflections" in *The New Scholasticism*, 36, 1962, 313-329; IX. "Berkeley's Idealism" in *Theoria*, 29, 1963; X. "Frege's Ontology" in *The Philosophical Review*, 70, 1961, 23-40; XI. "Moore's Ontology and Non-Natural Properties" in *The Review of Metaphysics*, 15, 1962, 365-395; XIII. "Of Mind and Myth" in *Methodos*, 11, 1959, 123-145; XIV. "The Philosophy of John Dewey" in *The Indian Journal of Philosophy*, 3, 1961, 69-101.

"Certain words are crucial in ontological discourse. 'Exist', 'individual', 'particular', 'universal', 'simple', and 'independent' are obvious examples. These essays examine how philosophers have used some of those words. The purpose of the examination is to make sense out of the ontological doctrines in which the crucial words occur as well as out of the arguments that have been made for and against the doctrines. This common purpose is one good reason for bringing the essays together. Nor is it the only one. The several essays share an awareness of the dialectical connections among the several issues with which they deal. Also, the realism-nominalism issue is the central one; and the essays are all realistic. That is another good reason for bringing them together.

The authors believe that they share a method. If they are right, then there is a third good reason for bringing them together. But it seems pointless to attempt here a statement of the method. A method is best judged by watching it in operation.

Even though the essays are all realistic, their defense of realism is both varied and complex. For this there are three reasons. First, none of the essays defends uncritically any traditional position.

Rather, each defends some proposition or propositions which by the method may be shown to be connected with some traditional position. Second, they all put less weight on the proposition itself than on the intellectual motives which have led philosophers to propound it and on the arguments by which they support it. Third, they all make a special point of exploring the dialectical ramifications of the realism-nominalism issue. That is why the common purpose will be best served by allowing each essay to speak for itself." (Introduction)

9. *Logic and Ontology*. Edited by Munitz Milton K. New York: New York University Press 1973. Contents: Milton K. Munitz: Foreword V; Charles H. Kahn: On the theory of the verb 'To be' 1; Joseph Owens: The content of existence 21; Jaakko Hintikka: Quantifiers, language-games and transcendental arguments 37; Alex Orenstein: On explicating existence in terms of quantification 59; Milton K. Munitz: Existence and presupposition 85; Bas . Van Fraassen: extension, intension, and comprehension 101; Nino B. Cocchiarella: Whither Russell's paradox of predication? 133; Fred Sommers: Existence and predication 159; Henry Hiz: On assertions of existence 175; Alvin Plantinga: Transworld identity or worldbound individuals? 193; Nicholas Rescher: The ontology of the possible 213; Stephan Körner: Individuals in possible worlds 229; Hugues Leblanc: On dispensing with things and worlds 241; Richmond H. Thomason: Perception and individuation 261; Peter T. Geach: ontological relativity and relative identity 287-302.

"The following essays represent the contributions to a seminar on ontology held under the auspices of the New York University Institute of Philosophy for the year 1970-1971.

The possibility of establishing fruitful links between logic and ontology had already been made evident in earlier work by Frege, Lesniewski, Russell, Quine, and Goodman. More recent investigations have sought to expand and deepen these studies, although by no means always

through adhering to paths previously established. Developments in modal logic, model theory, and presupposition-free logics have brought to the fore the need to deal with such central concepts as 'existence,' 'possibility,' 'individuation,' 'identity,' and 'necessity,' among others. The studies here included, by some of the leading investigators in the field, are typical of the most promising and exciting research of recent analytic philosophy. Along with those papers whose orientation to ontology is derived primarily from the preoccupations of logicians, a number of additional studies are included that give testimony to the lively and creative resurgence of interest in ontology in contemporary philosophy." (Foreword).

10. *Ontology and Logic / Ontologie und Logik*. Edited by Morscher Edgar and Weingartner Paul. Berlin: Duncker & Humblot 1979.  
Proceedings of an International Colloquium (Salzburg, 21-24 September 1976).
11. *Parts and Moments. Studies in Logic and Formal Ontology*. Edited by Smith Barry. Munich: Philosophia Verlag 1982.  
Reprinted 2001.
12. *Logical Form Predication and Ontology*. Edited by Sen Pranab Kumar. Delhi: Macmillan India 1983.
13. *Language, Truth and Ontology*. Edited by Mulligan Kevin. Dordrecht: Kluwer 1992.
14. *Formal Ontology*. Edited by Poli Roberto and Simons Peter. Dordrecht: Kluwer 1996.  
Contents: Foreword VII; Roberto Poli: Res, Ens and Aliquid 1; Nino B. Cocchiarella - Conceptual Realism as a Formal Ontology 27; Jerzy Perzanowski: The Way of Truth 61; Fred Sommers: Existence and Correspondence-to-Fact 131; David M. Armstrong: A World of States of Affairs 159; Mieczyslaw Omyla: A Formal Ontology of Situations 173; Karel Lambert: Attributives, their First Denotative Correlates, Complex Predicates and Free Logics 189; Liliana Albertazzi: Formal and Material Ontology 199; Jean Petitot and Barry Smith: Physics and the Phenomenal World 233; Peter M. Simons and Charles W. Dement: Aspects of the Mereology of Artifacts 255; Ingvar Johansson - Physical Addition 277; Index of names 289.
15. *Language, Mind, and Ontology. Philosophical Perspectives 12 1998*.  
Edited by James E. Tomberlin  
Contents: Part I: The Sixth Philosophical Perspectives Lecture. Tyler Burge: Computer Proof, Apriori Knowledge, and Other Minds 1; Part II: Intensionality and Intentionality. Joseph Almog: The Subject Verb Object Class I 39; Joseph Almog: The Subject Verb Object Class II 77; Akeel Bilgrami: Why Holism is Harmless and Necessary 105; Robert Brandom: Actions, Norms, and Practical Reasoning 127; Kirk Ludwig and Greg Ray: Semantics for Opaque Contexts 141; Matthew McGrath: Proportionality and Mental Causation: A Fit? 167; Part III: Language, Ontology and Truth. Harry Deutsch: Identity and General Similarity 177; Frank Jackson: Reference and Description Revisited 201; Mark Norris Lance: Some Reflections on the Sport of Language 219; Huw Price: Three Norms of Assertibility, or How the MOA Became Extinct 241; Mark Richard: Commitment 255; Part IV: Rule-Following. C. B. Martin and John Neil: Rule and Powers 283; Scott Soames: Facts, Truth Conditions, and the Skeptical Solution to the Rule-Following Paradox 313; Part V: The Nature of the Mental. John O'Leary-Hawthorne and Jeffrey K. McDonough: Numbers, Minds, and Bodies: A Fresh Look at Mind-Body Dualism 349; David Papineau: Mind the Gap 373; Timothy Williamson: The Broadness of the Mental: Some Logical Considerations 389; Part VI: Consciousness and Qualia: A Symposium. Karen Neander: The Division of Phenomenal Labor: A Problem for Representational Theories of Consciousness 411; Georges Rey: A Narrow Representationalist Account of Qualitative Experience 435; Michael Tye: Inverted Earth, Swampman, and Representationism 459; William G. Lycan: In Defense of the Representational Theory of Qualia (Replies to Neander, Rey, and Tye) 479; Part VII: Naturalism and Actualism: An Exchange. James E. Tomberlin: Naturalism, Actualism, and Ontology 489; Michael Devitt: Putting Metaphysics First: A Response to James Tomberlin 499; Terence Horgan: Actualism, Quantification, and Contextual Semantics 503-509.
16. *Things, Facts and Events*. Edited by Faye Jan, Scheffler Uwe, and Urchs Max. Amsterdam: Rodopi 2000.
17. *Individuals, Essence, and Identity. Themes of Analytic Metaphysics*. Edited by Bottani Andrea, Carrara Massimiliano, and Giaretta Pierdaniele. Dordrecht: Kluwer 2002.

18. *Relations and Predicates*. Edited by Hochberg Herbert and Mulligan Kevin. Frankfurt: Ontos Verlag 2004.
19. *Modes of Existence. Papers in Ontology and Philosophical Logic*. Edited by Bottani Andrea and Davies Richard. Frankfurt: Ontos Verlag 2006.
20. *Essays in Logic and Ontology*. Edited by Malinowski Jacek and Pietruszczak Andrzej. Amsterdam: Rodopi 2006.
21. *Propositions. Semantic and Ontological Issues*. Edited by Carrara Massimiliano and Sacchi Elisabetta. Amsterdam: Rodopi 2006.
22. *Topics on General and Formal Ontology*. Edited by Valore Paolo. Milano: Polimetrica 2006.
23. *Ontolinguistics. How Ontological Status Shapes the Linguistic Coding of Concepts*. Edited by Schalley Andrea C. and Zaefferer Dietmar. Berlin Mouton de Gruyter: 2007.
24. *Applied Ontology. An Introduction*. Edited by Munn Katherine and Smith Barry. Frankfurt: Ontos Verlag 2008.
25. *Being. Developments in Contemporary Metaphysics*. Edited by Le Poidevin Robin. Cambridge: Cambridge University Press 2008.
26. *Metametaphysics. New Essays on the Foundations of Ontology*. Edited by Chalmers David, Manley David, and Wasserman Ryan. Oxford: Clarendon Press 2009.
27. *Values and Ontology. Problems and Perspectives*. Edited by Centi Beatrice and Huemer Wolfgang. Frankfurt: Ontos Verlag 2009.
28. *Theory and Applications of Ontology*. Edited by Poli Roberto and Seibt Johanna. Dordrecht: Springer 2010.  
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