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Tropes

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TOC

(alternative “search words”: Abstract Particulars; Moments; Quality Moments; Modes; ; Particular Properties; Perfect Particulars; Qualitons)

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Introduction

Trope theory is the view that the world is (wholly or partly) constituted by so-called tropes and that the tropes which thus characterize reality are *abstract particulars* or, as some say, *particular properties*. Very little is uncontroversial when it comes to tropes and the theory or theories in which tropes are taken to figure. Among other things, this means that, even to characterize the trope as an abstract particular or as a particular property may not be accepted by all trope theorists. What attracts many to the theory is that it, in occupying a sort of middle position between classical nominalism (according to which all there is is particular) and classical realism (according to which there is a separate and fundamental category of properties) appears to avoid some of the troubles befalling either of those views. By accepting the existence of entities that are, or at least, that behave like, properties, first, trope theorist avoids the charge, often made against classical nominalists, of positing entities that are somehow too unstructured to be able to fulfill all of our explanatory needs. By not accepting the existence of universals, second, she avoids having to accept the existence of a kind of entity many find mysterious, counterintuitive, and “unscientific”. Apart from its very thin core assumption – that there are tropes – different trope theories need not have very much in common. Most trope theorists (but not all) believe that *there is nothing but tropes*. Most of these one-category trope theorists (but, again, not all) hold that distinct concrete particulars (which, by most, but again, not all, are understood as bundles of tropes) *are the same* – e.g., have the same color – when (some of) the tropes that characterize them are members of the same (exact) similarity class. And most (but not all) hold that resemblance between tropes is determined by their individual, intrinsic nature, where this nature is not understood in terms of anything else but is, rather, taken as a primitive. And so on. Tropes and trope theory, at least under that name, have been debated at least since the 1950ies which makes this a comparatively “young” discussion. The literature is however growing, and growing fast. In this text, the most important texts relating to the most important debates on the topic are listed.

Textbooks

There are no textbooks exclusively on trope theory, but some sort of introduction to the theory is today given in most introductory texts in metaphysics. Loux 2006 and Tallant

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2011 provide unusually updated introductions to the subject, introduction which are suitable for undergraduate students in philosophy, but which should be of interest also to more advanced students who wish to get more acquainted with metaphysics in general, and with questions concerning properties (including tropes) in particular.

Loux, Michael J. *Metaphysics: A Contemporary Introduction*. New York: Routledge, 2006. Third edition (with major revisions). First published 1998. Introduces the student to some central issues in (analytic) metaphysics (mostly ontology). A good place to start for anyone interested in, but new to, metaphysics, the metaphysics of properties, and, more specifically, the metaphysics of tropes and trope theory.

Tallant, Jonathan. *Metaphysics: An Introduction*. New York: Continuum International Publishing Group, 2011.

An unusually updated introduction to a wide range of topics in metaphysics (mainly ontology) including the metaphysics of properties, and, in particular, the metaphysics of tropes.

General Overviews

Comprehensive introductions to contemporary debates in metaphysics (as well as in philosophy generally) can be found in various internet-encyclopedias. *The Stanford Encyclopedia of Philosophy*, first, provides excellent and for the most part very much updated in-depth overviews of almost any subject in philosophy, written by the foremost experts in their respective fields. This is always a good place to start if you are interested in the current state-of-the art of whatever area in philosophy you are for the moment involved in. *The Internet Encyclopedia of Philosophy*, second, although the overviews it offers are less ambitious and comprehensive than those provided by The Stanford Encyclopedia, nevertheless provides short and accessible introductions to almost any area in analytic philosophy, again written by professional academics. Entries in The Stanford Encyclopedia are written primarily for people with a background in (professional) philosophy. Entries in The Internet Encyclopedia, on the other hand, are for the most part more accessible, and hence suitable for a less philosophically experienced audience. Here, a selection of entries from both the Stanford and the Internet Encyclopedia, of

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relevance to anyone interested in tropes, trope theory, or, for that matter, in issues concerning the metaphysics of properties generally, is listed.

Bacon, John. "Tropes." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Winter 2011 Edition. [[*http://plato.stanford.edu/archives/win2011/entries/tropes/*](http://plato.stanford.edu/archives/win2011/entries/tropes/)]

A general introduction to most topics of relevance to the discussion concerning tropes and trope theory.

McLeod, Mary C. and Eric M. Rubenstein. "Universals." In *The Internet Encyclopedia of Philosophy*. Edited by James Fieser and Bradley Dowden. [[*http://www.iep.utm.edu/universa/*](http://www.iep.utm.edu/universa/)]

A short and very accessible introduction to the "problem of universals" as well as to the trope-theoretical solution to that problem. A good place to start for someone with no or very little knowledge of the field.

Rodriguez-Pereyra, Gonzalo. "Nominalism in Metaphysics." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Fall 2011 Edition.

[[*http://plato.stanford.edu/archives/fall2011/entries/nominalism-metaphysics/*](http://plato.stanford.edu/archives/fall2011/entries/nominalism-metaphysics/)]

Entry which nicely summarizes what reasons one might have not to accept the existence of either abstract universals or abstract objects. Explains where trope theory fits into the nominalist scheme (and how it differs from more traditional forms of that theory).

Swoyer, Chris and Francesco Orilia. "Properties." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Winter 2011 Edition.

[[*http://plato.stanford.edu/archives/win2011/entries/properties/*](http://plato.stanford.edu/archives/win2011/entries/properties/)]

A very good overview of the debates in analytic philosophy (and, in particular, in analytic metaphysics) concerning properties, including some of the debates concerning properties considered as tropes. Indispensable reading if you want to understand the theoretical background against which tropes are introduced.

Historical Background

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The first to call tropes “tropes” (a name that is still not much liked among some of the trope theorists) was D. C. Williams (see *Seminal Papers*). But Williams was in all probability not the first to posit the existence of entities belonging to this category. At least Husserl 2001 Stout 1923 and Segelberg 1999 proposed that we accept the existence of entities that look very much like Williams’ (and later trope-theorists’) “tropes”. Arguably more contentious is the claim that Locke’s 1998 modes as well as Leibniz’ 1991 monads should be likewise interpreted. It is generally agreed that “trope-like” entities were posited by quite a few of the medieval scholastics. And even though Aristotle 2002 is generally considered the universal realist par excellence, his “individual accidents” are by many considered to be clear examples of tropes. Mertz 1996 offers an instructive and informative introduction to the “tropes” of Aristotle (as well as of Plato), of some of the medievals (such as, e.g., Boethius and Avicenna), and of Leibniz.

Aristotle. *Categories*. Translated with notes and glossary by John Lloyd Ackrill. Oxford: Clarendon Press, 2002.

Published in the Clarendon Aristotle Series (General translators: John Lloyd Ackrill and Lindsay Judson). First edition published in 1963.

Husserl, Edmund. *Logical Investigations*. Edited by Dermot Moran. Translated by John Niemeyer Findlay. Foreword by Michael Dummett. London & New York: Routledge, 2001. *Logische Untersuchungen* was first published in German in 1900 (and in 1913 in slightly reworked form). See especially volume 2, part 3. According to Husserl, moments (his word for “tropes”) are essentially dependent entities which exist together in “pregnant wholes”. Besides tropes, Husserl accepts also the existence of universals.

Leibniz, Gottfried Wilhelm. *Monadology*. Edited by Nicholas Rescher. Pittsburgh: University of Pittsburgh press, 1991.

English translation of *La Monadologie*, first published in French in 1714. In the 1991 edition, Leibniz’s text is helpfully accompanied by relevant excerpts from some of his other, rather widely scattered, discussions.

Locke, John. *An Essay Concerning Human Understanding*. Edited by Roger S. Woolhouse. London: Penguin Books Ltd., 1998.

Perhaps the most influential of all of Locke’s texts. First published in 1690.

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Mertz, Donald W. *Moderate Realism and Its Logic*. New Haven and London: Yale University Press, 1996.

Gives a very good historical introduction to trope theory in chapters 3-4. The rest of the book is then devoted to setting out Mertz' own original version of the theory – what he calls a “relation instance ontology”.

Segelberg, Ivar. *Three Essays in Phenomenology and Ontology*. Translated by Herbert Hochberg and Susanne Ringström Hochberg. Stockholm: Thales, 1999.

Translation from Swedish of three essays originally published separately. See especially “Properties” (pp. 133-233) which was first published as *Begreppet egenskap – några synpunkter* in 1947. Here Segelberg defends a theory of so-called *quality moments*, entities which appears to be modeled on Husserl's moments.

Stout, George Frederick. *God and Nature*. Edited by Alan Stout. Cambridge: Cambridge University Press, 1952.

One of a series of texts in which Stout defends the existence of particular qualities (his term for “tropes”). This book was published posthumously (Stout died in 1944) and arguably offers the best, most comprehensive, guide to Stout's mature views on properties.

Contemporary Trope Theory

One could say that D. C. Williams' 1997[1953]-paper “On the Elements of Being I-II” (see *Seminal Papers*) constituted a sort of starting point for the contemporary debate on tropes (still not always so-called, of course). In this section, all monographs exclusively devoted to setting out and defending some kind of trope theory, as well as a small selection of the most influential papers written on tropes (both by their friends and by their foes), are listed. Anyone intending to engage in serious discussion of the trope theory should probably start by reading the majority of these texts.

MONOGRAPHS

There are still relatively few monographs exclusively devoted to arguing for, or at least seriously considering, adopting some version of the trope theory. By far the most

influential monograph published so far is Campbell's 1990. In this book, Campbell argues for what is now known as the "standard" view – according to which tropes are abstract, particular, and simple and according to which the nature of the trope is primitive, and resemblance between tropes is determined by this primitive nature. Other proponents of some version of the "standard" view include Bacon 1995 and Maurin, 2002. Heil 2003 argues for a slightly different version of the theory according to which the world is ultimately constituted by tropes *and* by universals. Lowe 2006 counts tropes as one of *four* fundamental categories. Denkel 1996 and Mertz 1996 both offer rather more idiosyncratic versions of the trope theory. According to Denkel, tropes (by him called "particular properties") must exist bundled, which he takes to mean that tropes cannot belong to the *ultimate* furniture of the universe but rather constitute a derived category. Perhaps the most original version of the theory is provided by Mertz. Mertz explicitly criticizes the "trope nominalists", including Campbell. Instead he proposes that the world is fundamentally constituted by unit properties (tropes), where unit properties have two "aspects", one repeatable intension and one non-repeatable linking mechanism. This means that Mertz accepts the existence of a sort of entity which arguably ignores traditional distinctions like that between universals and particulars as well as that between relation and relata. The most recent contribution to the trope literature is Ehring's 2011. In this book, Ehring formulates a version of the trope theory which is very much like the standard view, except for the fact that it treats sameness of tropes in class primitivist terms.

Bacon, John. *Universals and Property Instances: The Alphabet of Being*. Oxford: Blackwell, 1995.

Argues for a version of the standard view, but pays unusually much attention to the formal side of trope theory construction. The text is densely written and rather technical. It therefore probably requires some previous knowledge of the field as well as at least some technical (logical) training.

Campbell, Keith. *Abstract Particulars*. Oxford: Blackwell, 1990.

Probably *the* most influential and therefore most important book on tropes (this is especially true of the first half of the book). A must-read for anyone interested in tropes and the trope theory.

Denkel, Arda. *Object and Property*. Cambridge: Cambridge University Press, 1996.

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Argues for a rather idiosyncratic version of the trope theory. Includes a good discussion of how problems involving causation can be solved if one accepts (Denkel's version of) the trope theory. Rather densely written.

Ehring, Douglas. *Tropes: Properties, Objects, and Mental Causation*. Oxford: Oxford University Press, 2011.

Ehring's second monograph on tropes (his first monograph is referenced in *Tropes and Causation*). The book is rather densely written and in order to fully appreciate its many subtleties, previous knowledge of the field is probably necessary.

Heil, John. *From an Ontological Point of View*. Oxford: Oxford University Press, 2003.

Accessibly written book which succinctly discusses various issues in ontology and "meta-ontology" generally, as well as issues in the philosophy of mind as these relate to issues concerning tropes and trope theory, in particular.

Lowe, Jonathan. *The Four-Category Ontology: A Metaphysical Foundation for Natural Science*. Oxford: Oxford University Press, 2006.

Defends a theory according to which there are four fundamental categories of beings: substantial and non-substantial particulars and substantial and non-substantial universals.

Maurin, Anna-Sofia. *If Tropes*. Dordrecht: Kluwer, 2002.

Promotes a version of the standard view. See especially her discussion of the various regress problems facing trope theory (see *Tropes and the Resemblance Regress* and *Tropes and the Bradley Regress*).

Mertz, Donald W. *Moderate Realism and Its Logic*. New Haven and London: Yale University Press, 1996.

Very good historical section. Rather densely written. To fully appreciate its many subtleties, one probably needs some previous knowledge of the field.

SEMINAL PAPERS

A "seminal" paper, it is here assumed, is one that has had an unusually big impact, in the sense that it has helped shape much of the subsequent debate on tropes. Most influential of all the papers listed here is undoubtedly Williams' 1997[1953]. In this paper, Williams

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introduces the term “trope” for the first time, and sets out his version of the theory – now considered the standard view of tropes. Also very important is Campbell’s 1997[1981], a predecessor to his 1990 monograph (see *Monographs*). In this paper, most of the views he was to develop in more detail in that book are introduced for the first time. In their 1984, Mulligan, Simons, and Smith argue that modes (their name for tropes) are essentially dependent entities, the objects of perception, and the world’s basic truthmakers. In his 1994, Simons greatly contributes to the discussion on tropes and compresence (see *Tropes and Concrete Particulars*). Here Simons, besides discussing alternatives views on the matter, sets out his own “nuclear” theory of compresence, a theory that has been much discussed and debated since then. Most of the papers just mentioned have been helpfully collected in Mellor and Oliver’s 1997. This anthology is therefore another must-read for anyone interested in tropes and the trope theory.

Campbell, Keith. “The Metaphysics of Abstract Particulars.” In *Properties*. Edited by David Hugh Mellor and Alex Oliver, 125-139. Oxford: Oxford University Press, 1997.

Originally published in 1981 in *Midwest Studies in Philosophy VI: The Foundations of Analytical Philosophy*, pp. 477-488.

Mellor, David Hugh and Alex Oliver eds. *Properties*. Oxford: Oxford University Press, 1997.

Brings together a number of very important texts on properties published in the decades preceding the book’s publication. Most relevantly, the book includes Campbell’s 1997[1981], Williams 1997[1954] as well as Daly’s (trope-critical) 1997[1994] (see *Tropes and Simplicity*).

Mulligan, Kevin, Peter Simons and Barry Smith. “Truth-Makers.” *Philosophy and Phenomenological Research* 44 (1984): 287-321.

To fully grasp parts of this text, some previous training in formal philosophy may be necessary. The parts written in a non-formal language are however relatively accessible and only require little previous training in philosophy.

Simons, Peter. “Particulars in Particular Clothing: Three Trope Theories of Substance.” *Philosophy and Phenomenological Research* 54.3 (1994): 553-575.

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To be able to grasp the paper's subtler points, some previous knowledge of the field is probably necessary. For an overview of this particular problem area, this is an excellent place to start.

Williams, Donald C. "On the Elements of Being I." In *Properties*. Edited by David Hugh Mellor and Alex Oliver, 112-124. Oxford: Oxford University Press, 1997.

First published 1953 in *Review of Metaphysics* 7: 3-18. Perhaps *the* most influential text on tropes in the sense that it sparked much of the contemporary interest in the theory. Uses a very accessible language filled with adorable examples (such as that of three lollipops).

The Nature and Individuation of Tropes

All trope theorists accept the rather minimal thesis *that there are tropes*. Exactly what this thesis is supposed to entail is however open to interpretation and is a matter on which there has been some disagreement. According to the standard view, what exist when tropes exist are *abstract, particular, and simple* properties. Properties, moreover, which, because of their (primitive) nature, stand in relations of similarity, up to and including exact similarity, to each other. Whether the standard view is even coherent has however been disputed. According to its critics, irrespective of how the notions in terms of which the nature of the trope are interpreted, nothing *can* be abstract, particular, *and* simple, which means that the trope theory ought to be rejected. Not surprisingly, this conclusion has been resisted by all trope theorists. Instead, most argue, the argument leading up to it is mistaken, or, some claim, as the conclusion follows only given the standard account of the nature of tropes, this account and not the theory itself ought to be rejected and replaced. Another issue of some controversy among the trope theorists themselves concerns the trope's status as a property (but not a universal) and the, arguably related, issue of the trope's dependence (or not) on the particular to which it happens to "belong".

TROPES AND SIMPLICITY

In his 1997, Daly argues that it doesn't make any difference if tropes, understood as abstract particulars, are taken in the standard way, as ontological "rock bottom" (i.e., as

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simple in the sense of not being constituted by entities belonging to other more fundamental ontological categories) or if they are taken instead as ontologically complex (and, hence, as a secondary, derived, ontological category). Brownstein 1973, Hochberg 2002 and Armstrong 2005, among others, have then claimed that tropes *could not* be taken in the standard way, and that they, hence, *must be* understood as ontologically complex. As this would arguably mean turning the trope into a state of affairs, more or less all trope theorists (meaning the great majority of the authors listed in *Contemporary Trope theory*) forcefully disagree (for good discussions of the problem, as well as for original suggestions of how it can be solved, see especially Mertz 2001 and Ehring 2011).

Armstrong, David Malet. "Four Disputes about Properties." *Synthese* 144.3 (2005): 309-320. [doi: 10.1007/s11229-005-5852-7].

See esp. p. 310. Armstrong explicitly attributes the argument to Hochberg, but offers his own original formulation of it. This is also a good text for anyone interested in metaphysical disputes concerning properties generally. Written in a very accessible style.

Brownstein, Donald. *Aspects of the Problem of Universals*. Lawrence: University of Kansas Humanistic Studies. Volume 44, 1973.

See especially, pp. 47f. Brownstein speaks of "nominalism" instead of trope theory and of "perfect particulars" (a term he has inherited from Gustav Bergmann) instead of tropes.

Daly, Chris. "Tropes." In *Properties*. Edited by David Hugh Mellor and Alex Oliver, 140-159. Oxford: Oxford University Press, 1997.

Originally published in the *Proceedings of the Aristotelian Society* (1994: 253-61). This is a somewhat rewritten version of the original.

Ehring, Douglas. *Tropes: Properties, Objects, and Mental Causation*. Oxford: Oxford University Press, 2011.

See chapter 6. Ehring *both* promotes the objection *and* rejects its conclusion (by adopting a non-standard version of the theory according to which resemblance between distinct tropes is not grounded *in* the tropes but is instead accounted for in terms of the sets to which the tropes (primitively) belong).

Hochberg, Herbert. "Individuation and Individual Properties: A Study in Metaphysical Futility." *The Modern Schoolman* 79 (2002): 107-135.

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Published in a special issue edited by Mertz which includes a number of (trope-theoretically) relevant texts. Hochberg is one of trope theory's earliest, most severe, but also most respectful, critics. Every paper written by him on the topic deserves serious consideration by anyone interested in tropes and trope theory.

Mertz, Donald W. "Individuation and Instance Ontology." *Australasian Journal of Philosophy* 79.1 (2001): 45-61. [doi: 10.1080/713659177].

Argues that the problem is solved as soon as we realize that tropes are "relation instances" and that tropes, thus understood, can have several "aspects" without thereby being counted as internally complex.

TROPES AND (IN)DEPENDENCE

Whether or not tropes are essentially dependent beings has been much debated. Proponents of the view that tropes are independent include e.g., Campbell 1990 and Ehring 2011 (see *Monographs*) (see also Schaffer 2003). The main reason for thinking that tropes are dependent is provided by the so-called "swapping argument" according to which, if tropes do not depend for their existence on the bundle to which they belong, the trope theorist is forced to accept the (presumably) empty possibility that two exactly similar tropes could swap position. This argument was first formulated by Armstrong 1989. A strengthening of the argument was provided by Schaffer 2001. Far from everyone accepts this argument and its conclusion. Among its critics you find, e.g., Labossiere 1993, Cameron 2005 and Maurin 2010. Two further arguments in favor of the dependent nature of tropes have been formulated by Molnar 2003. The idea of non-transferable, or as he prefers to call them "bearer-unique" tropes is also discussed and problematized by Schnieder 2004.

Armstrong, David Malet. *Universals: An Opinionated Introduction*. Boulder: Westview Press, 1989.

See chapter 6, section 9. In *Universals* Armstrong sets out his views on properties in short and easily accessible terms.

Cameron, Ross. "Tropes, Necessary Connections, and Non-Transferability." *dialectica* 60.2 (2006): 99-113. [doi: 10.1111/j.1746-8361.2006.01050.x].

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Argues that there is independent reason to reject the view that tropes are essentially dependent entities, even given what is supposed to be the best version of the swapping argument. Clarifying paper that has influenced much of the subsequent debate.

LaBossiere, Michael C. "Swapped Tropes." *Pacific Philosophical Quarterly* 74 (1993): 258-264.

Argues that the swapping argument fails as the swap would not make for absolutely no difference (as must arguably be assumed for its conclusion to follow). See especially p. 262.

Maurin, Anna-Sofia. "Trope Theory and the Bradley Regress." *Synthese* 175 (2010): 311-326. [doi: 10.1007/s11229-009-9511-2].

Argues that the swapping argument does not have the force its proponents tend to assume it does. Also criticizes Molnar's arguments in favor of the dependence of tropes (in a strong sense) on the objects to which they belong. See especially 317-321.

Molnar, George. *Powers: A Study in Metaphysics*. Edited by Stephen Mumford. Oxford: Oxford University Press, 2003.

See especially p. 45f. Gives two arguments in favor of dependence ("the ownership principle" in Molnar's words). An argument from identity, and an "Ockhamist" argument.

Schaffer, Jonathan "The Individuation of Tropes." *Australasian Journal of Philosophy* 79.2 (2001): 247-257. [doi: 10.1080/713659225].

Influential paper that carefully scrutinizes and criticizes claims made in the debate on swapping (as well as on its cousin piling). Formulates a strengthening of the objection in counterpart-theoretical terms.

Schaffer, Jonathan "The Problem of Free Mass: Must Properties Cluster?" *Philosophy and Phenomenological Research* 66.1 (2003): 125-138. [doi: 10.1111/j.1933-1592.2003.tb00246.x].

Argues that virtually all plausible ontologies turn out to be committed to the existence of free masses. Therefore develops and defends the view that the clustering of properties is a mere contingent truth (on grounds that properties can be subtracted one-by-one).

Schnieder, Benjamin. "A Note on Bearer-Uniqueness and Particularized Qualities." *Ratio* 17 (2004): 218-228. [doi: 10.1111/j.1467-9329.2004.00249.x].

Argues, by way of counterexamples, that "the principle of bearer-uniqueness" (i.e., the idea that tropes have a unique bearer) appears to be flawed, but that this problem can be avoided if the ontologically interesting relation between the trope and its bearer is regarded as non-partitive.

TROPES AS PROPERTIES

Appearances perhaps to the contrary, the question whether tropes are best understood as a kind of property or as a kind of (junior) substance does not seem to have a straightforward answer. For, apart from being introduced as the particular quality of some substance, tropes are likewise introduced as "the alphabet of being" or as that from which everything else – including the "properties" things have, as well as the things having the properties – is made up. For a discussion see Chrudzimski 2002. According to Levinson 2006 tropes not only can, but in fact must be understood as a sort of substance which, he claims, is absurd. For those who suppose that tropes are a kind of property – and who do not accept the existence of universals – remains the delicate task of distinguishing between universals and particulars in a way that does not equate "being a universal" with "being a property". The trope theorist can either make that distinction in spatiotemporal terms (universals, but not particulars, can exist in more than one place in space at each moment in time) or in terms of similarity (exact similarity is sufficient for identity in the case of universals, but not in the case of particulars). The spatiotemporal view has been criticized. For, according to e.g. Ehring 2011, Simons 2004, and McDaniel 2007, it falsely rules as universals, entities that are rightly understood as particulars (such as spatially extended yet spatially partless particulars (so called extended simples) and time-travelling but temporally partless (enduring) particulars). The similarity in this sense appears more promising. It was first formulated by Williams 1986 and is thoroughly defended in somewhat modified form by Ehring 2011.

Chrudzimski, Arkadiusz. "Two Concepts of Trope." *Grazer Philosophische Studien* 64 (2002): 137-155.

Describes two intuitions underlying the concept of a trope. First, as a particularized property and second, as primitive items of which concrete individuals are composed.

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Holds that only the second conception is metaphysically interesting, while only given the first can tropes function as semantically efficient truthmakers.

Ehring, Douglas. *Tropes: Properties, Objects, and Mental Causation*. Oxford: Oxford University Press, 2011.

See especially chapter 1. A very thorough discussion of the question of how best to distinguish universals from particulars. Argues for the similarity view and criticizes the spatiotemporal view.

Levinson, Jerrold. "Why There Are No Tropes." *Philosophy* 81 (2006): 563-579. [doi: 10.1017/S0031819106318013].

Argues that tropes must be conceived of as a kind of "stuff" rather than a kind of property, but that they cannot be thus conceived, which means that there are no tropes.

McDaniel, Kris. "Extended Simples." *Philosophical Studies* 133 (2007): 131-141. [doi: 10.1007/s11098-006-9010-y].

Argues that extended simples are possible by arguing that the shape properties of material objects are extrinsic (which means that the most popular arguments against extended simples fail).

Simons, Peter. "Extended Simples: A Third Way between Atoms and Gunk." *The Monist* 87.3 (2004): 371-84.

Argues that the assumption that physically basic things are either mereologically atomic or continuous and part-less both face serious conceptual problems. Instead suggests that physically basic things are extended simples.

Williams, Donald C. "Universals and Existents." *Australasian Journal of Philosophy* 64 (1986): 1-14. [doi: 10.1080/00048408612342191].

Dates back to about 1959. Published posthumously (Williams died in 1983). Prepared for publication by the journal's editor and by Mark Johnston and David and Stephanie Lewis. Proposes that the distinction between universals and particulars should be understood in terms of similarity.

Tropes and Universals

Properties – understood as universals – were originally introduced as a solution to the so-called “problem of universals”. This is the problem of how best to account for the fact that distinct entities can nevertheless be the same. Universals provide a straightforward solution to that problem. Two things can have one thing in common, because there is *one* thing – the universal – which characterizes each of them individually. The trope theorist (at least the trope theorist who does not accept the existence of universals in addition to tropes) does not have recourse to entities that can be identical in distinct instances and must therefore come up with a slightly more complicated answer. The standard solution to the problem of universals is to say that two objects are the same if (some of) the tropes characterizing the two objects belong to the same similarity class (see e.g., Williams 1997[1953] and Campbell 1990 (referenced in *Contemporary Trope Theory*)). Critics of this solution have however argued that if the trope theorist’s standard solution is accepted, the theory ends up in vicious infinite (resemblance) regress.

TROPES AND THE RESEMBLANCE REGRESS

With reference to an argument first formulated by Russell 1956, critics of the trope theory (including e.g., Hochberg 1981 and Johansson 2009) have argued that to adopt the standard solution to the problem of universals leads to a vicious infinite regress and that the only way to avoid this consequence is if one accepts the existence of at least one universal: resemblance. This conclusion is not accepted by the majority of the trope theorists (see e.g., Campbell 1990 and Williams 1963). Instead, they argue, because resemblance is an internal relation (i.e., a relation which obtains necessarily simply given the existence of that which it relates) either the regress ought to count as benign or, more radically, resemblance ought to be viewed as a “pseudo-addition” to that which it relates, in which case its introduction does not generate an infinity of resemblances (the latter solution is criticized by Daly 1997). An alternative way out involves adopting a non-standard version of trope theory according to which tropes are not the same because their (primitive) nature makes them resemble each other to some degree. Instead, they are the same because they belong to this or that class, where class membership is not determined by the nature of the individual trope or by its resemblance to other tropes, but is, rather, primitive. A solution along these lines was first proposed by Stout 1921, and later more fully developed and defended by Ehring 2011.

Campbell, Keith. *Abstract Particulars*. Oxford: Blackwell, 1990.

See especially pp. 34-38. Argues that the regress (i) is not vicious because it “proceeds in a direction of greater formality and less substance”; (ii) is a problem (if it is a problem) also for the universal realist, and; (iii) constitutes a supervenient pseudo-addition to the original relata.

Daly, Chris. “Tropes.” In *Properties*. Edited by David Hugh Mellor and Alex Oliver, 140-159. Oxford: Oxford University Press, 1997.

See especially pp. 150-153. Criticizes all of Campbell’s 1990 responses to the regress charge.

Ehring, Douglas. *Tropes: Properties, Objects, and Mental Causation*. Oxford: Oxford University Press, 2011.

See especially part II where Ehring’s Natural Class Trope Nominalism is set out and defended.

Hochberg, Herbert. “Russell’s Proof of Realism Reproved.” *Philosophical Studies* 37.1 (1981): 37-44. [doi: 10.1007/BF00353499].

Reprinted in revised form in Hochberg’s *Russell, Moore, and Wittgenstein: The Revival of Realism*, Frankfurt: Ontos Verlag, 2001.

Johansson, Ingvar. “Proof of the Existence of Universals – and Roman Ingarden’s Ontology.” *Metaphysica* 10 (2009): 65-87. [doi: 10.1007/s12133-008-0040-0].

See especially pp. 81-82. Argues for an ontology including not only universals, but also instances of universals (i.e. tropes) as well as fictional universals.

Russell, Bertrand. “On the Relations of Universals and Particulars.” In *Logic and Knowledge*. Edited by Robert Charles Marsh, 103-124. London: George Allen & Unwin, 1956.

See especially p. 112. First published 1911-1912 in the *Proceedings of the Aristotelian Society*. The regress argument is here introduced as part of an overall argument for the claim that the distinction between universals and particulars is ultimate.

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Stout, George Frederick. "The Nature of Universals and Propositions." *Proceedings of the British Academy* 10 (1921).

Introduces the idea that tropes with the same nature are characterized by a "distributive unity" and that this sort of unity is ultimate and cannot be analyzed in terms of anything else. Stout's views are then more maturely expressed in his 1952-book (See *Monographs*).

Williams, Donald C. "Necessary Facts." *The Review of Metaphysics* 16.4 (1963): 601-626.

See especially p. 608. The main purpose of this paper is to defend the view that it is a metaphysical fact that there are necessary facts.

Tropes and Concrete Particulars

Although some versions of the trope theory accept the existence of a separate category of universals, most likely no version of the theory accepts the separate existence of (ontologically unstructured) concrete particulars. Concrete particulars must therefore be reductively accounted for. Some trope theorists (such as Martin 1980) understand concrete particulars in terms of a substrate instantiating (one or – most likely – several) tropes. The most common account of the nature of concrete particulars is however one that could be adopted by a one-category trope theorist. On this view, a concrete particular is a bundle of mutually compresent (sometimes the word used is "collocated," sometimes "combined") tropes. Proponents of this view include the majority of the trope theorists (see *Contemporary Trope Theory*). For a good overview of and introduction to the many different views according to which concrete particulars are property bundles, see Van Cleve 1985.

Martin, Charles Burton. "Substance Substantiated." *Australasian Journal of Philosophy* 58.1 (1980): 3-10. [doi: 10.1080/00048408012341001].

Argues for a substrate-attribute account of concrete particulars (where the attributes are understood as particulars, i.e., as tropes) along Lockean lines.

Van Cleve, James. "Three Versions of the Bundle Theory." *Philosophical Studies* 47 (1985): 95-107. [doi: 10.1007/BF00355089].

To appear in *Oxfordbibliographies* [http://www.oxfordbibliographies.com/browse?module_0=obo-9780195396577].

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Argues that the view that concrete particulars are bundles of properties, whether taken in a traditional or in a more sophisticated sense (à la Russell and Castañeda) is open to familiar objections.

TROPES AND THE BRADLEY REGRESS

A well-known problem for the bundle view is that it appears to lead to a vicious infinite regress of composites; the so-called “Bradley Regress” (named after a regress discussed by Bradley 1930). For a good introduction to the argument and its historical pedigree, see Gaskin 2009. Bradley’s argument has been much discussed in the literature. Some of the more recent contributions to that debate include e.g., Stock 1998, Schnieder 2004, Cameron 2008, Vallicella 2005, and Wieland & Betti 2008. It is generally agreed that this regress cannot be solved in the same straightforward way as the resemblance regress (but see Armstrong 1997 for a conflicting view). The literature is therefore ripe with attempts to solve the problem in a more substantial way, attempts that have, in turn generated much heated debate (see *Trope Solutions to the Bradley Regress*).

Armstrong, David Malet. *A World of States of Affairs*. Cambridge: Cambridge University Press, 1997.

See especially pp. 118-119. Argues that the Bradley-regress is benign because its later steps supervenes on its earlier steps. This is not the view Armstrong in the end adopts.

Bradley, Francis Herbert. *Appearance and Reality*. Oxford: Clarendon Press, 1930.

9th impression (with corrections). First published in 1893. See especially pp. 16-29. Another version of the argument can be found in his *Collected Essays* (1969: see especially pp. 628-676).

Cameron, Ross. “Turtles All the Way Down: Regress, Priority and Fundamentality.” *The Philosophical Quarterly* 58.230 (2008): 1-14. [doi: 10.1111/j.1467-9213.2007.509.x].

Discusses whether or not chains of ontological dependence must terminate, with a special focus on how the principle that they must apply to Bradley’s regress (as well as to realism about the mental, and to the cosmological argument).

Gaskin, Richard. *The Unity of the Proposition*. Oxford: Oxford University Press, 2009.

Discusses the Bradley regress in relation to questions concerning the unity of propositions. Gives a very nice introduction to the argument's historical pedigree and mentions as Bradley's "Bradleyan" predecessors, among others: Plato, Abelard, Avicenna, Scotus, Ockham, Buridan, Gregory of Rimini, Suarez, and Leibniz (see especially p. 314).

Schnieder, Benjamin. "Once More: Bradleyan Regresses." In *Relations and Predicates*. Edited by Herbert Hochberg and Kevin Mulligan, 219-256. Heusenstamm: Ontos Verlag, 2004.

Argues that the Bradley regress, however understood, is not as problematic as it is normally taken to be. The anthology in which this text occurs includes a number of texts of relevance to anyone interested in tropes and trope theory, including texts by Hochberg, Mertz and Trettin.

Stock, Guy, ed. *Appearance Versus Reality: New Essays on Bradley's Metaphysics*. Oxford: Clarendon Press, 1998.

A good collection of texts on various aspects of Bradley's philosophy, including his regress argument.

TROPE SOLUTIONS TO THE BRADLEY REGRESS

The Bradley regress has been much discussed in the literature. Solutions range from refusing to accept the existence of a regress in the first place to arguing that its dissolution requires that one makes major revisions to the theory given which the regress is generated. A good overview (as well as an original solution in terms of an "external" unifier) is given by Vallicella 2002. Several proponents of trope-like entities, including perhaps most influentially, Simons 1994 (see **Seminal Papers**) propose that the problem is solved if compresence is (always or sometimes) understood as (at least partly) a kind of internal relation. Simons' view has been adopted and further developed by Keinänen 2011. Another possibility is to follow Robb 2005 and argue that the unity of the bundle is secured provided that the properties involved in it are structural properties. Among those who argue that compresence must nevertheless be regarded as a relation, some have argued that, although adding compresence to the bundle does give rise to a regress, the regress is not – for different reasons according to different authors – vicious, and could therefore be accepted (for one suggestion along these lines see Orilia 2009).

Others, finally, have proposed – for widely different reasons – that the problem is solved if the nature of the compresence relation itself is reconsidered. Proponents of this approach include e.g., Lowe 2006, Wieland and Betti 2008, Ehring 2011, and Maurin 2011.

Ehring, Douglas. *Tropes: Properties, Objects, and Mental Causation*. Oxford: Oxford University Press, 2011.

See especially pp. 119-135. Argues that the problem is solved if compresence is understood as a “self-relating” relation (i.e., a relation which takes itself as one of its relata) in which case its addition will not generate an infinite regress.

Keinänen, Markku. “Tropes – The Basic Constituents of Powerful Particulars?” *dialectica* 65.3 (2011): 419-450. [doi: 10.1111/j.1746-8361.2011.01276.x].

Defends a version of Simons’ 1994 nuclear theory of trope bundles. Combines this view with a dispositional essentialist conception of simple substances as powerful particulars.

Lowe, E. Jonathan. *The Four-Category Ontology: A Metaphysical Foundation for Natural Science*. Oxford: Oxford University Press, 2006.

See especially pp. 167f. Defends the view that compresence is a monadic trope and that the Bradley problem is solved if concrete particulars, besides monadic tropes, contain universals.

Maurin, Anna-Sofia. “An Argument for the Existence of Tropes.” *Erkenntnis* 74 (2011): 69-79. [doi: 10.1007/s10670-010-9252-0].

Argues that the problem is solved if compresence is understood as a relation-trope, where relation tropes are taken to behave rather differently than monadic tropes. Holds that this should be taken as an argument for the existence of tropes over rival ontological posits.

Orilia, Francesco. “Bradley’s Regress and Ungrounded Dependence Chains: A Reply to Cameron.” *dialectica* 3.3 (2009): 333–41. [doi: 10.1111/j.1746-8361.2009.01189.x].

Argues for a sort of “fact infinitism” according to which the regress (understood as an “external” regress consisting of infinitely many states of affairs) does not hinder the constituents of the concrete particulars from uniting; quite the contrary, the regress is a necessary condition for unity.

Robb, David. "Qualitative Unity and the Bundle Theory." *The Monist* 88.4 (2005): 466-92.

Provides a good analytical overview of the debate. Suggests that the problem could be solved by the introduction of structural properties.

Vallicella, William F. *A Paradigm Theory of Existence – Onto-Theology Vindicated*. Dordrecht: Kluwer Academic Publishers, 2002.

Here, as well as elsewhere, Vallicella argues that the Bradley problem is solved as soon as we accept the existence of an external unifier (God). In his discussion leading up to this conclusion, Vallicella informatively sets out, and convincingly criticizes most of the alternative solutions thus far formulated.

Wieland, Jan Willem and Arianna Betti. "Relata-Specific Relations: A Response to Vallicella." *dialectica* 62.4 (2008): 509-524. [doi: 10.1111/j.1746-8361.2008.01167.x].

Discusses and rejects Vallicella's solution to the Bradley problem. Suggests that if compresence is understood as relata-specific there will be no infinite regress. Concludes that this solution can be used as a reason for holding that composition is extensional.

Tropes and Causation

Most proponents of tropes, including e.g., Campbell 1990, Williams 1953, and Bacon 1995 (see *Contemporary Trope Theory*) have at some point indicated that tropes are excellent candidates for role of the world's causal relata. Arguments defending that claim in some more detail are not as easily found, however. Denkel 1996 suggests that causation (including both the causal relata and the causal relation) is a structural trope, Molnar 2003 argues that the causal relata are particular powers. The most elaborate defense of a trope-theoretic account of causation (and of persistence) is provided by Ehring 1997. According to Ehring, tropes are not only good candidates for the role of causal relata, they are basically the only candidate. If successful, his is therefore arguably one of the more powerful (indirect) arguments for the existence of tropes so far formulated.

Denkel, Arda. *Object and Property*. Cambridge: Cambridge University Press, 1996.

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See especially pp. 228ff. Argues that causal relations (including the causal relata) are structural properties and that structural properties are particulars (i.e., a kind of trope).

Ehring, Douglas. *Causation & Persistence: A Theory of Causation*. Oxford: Oxford University Press, 1997.

Accounts for causation (both when it comes to the causal relata and when it comes to the causal relation) in terms of tropes and, more precisely, in terms of persisting (enduring not perduring) tropes. Very elaborately argued.

Molnar, George. *Powers: A Study in Metaphysics*. Edited by Stephen Mumford. Oxford: Oxford University Press, 2003.

Argues for a theory of causation in terms of real particular causal powers which could reasonably be understood as a special kind of tropes.

Tropes and the Philosophy of Mind

That tropes can play an important role for the (dis)solution of various well-known problems in the philosophy of mind has been argued at length. For a compilation of texts specifically on tropes as they relate to issues in the philosophy of mind, see Gozzano and Orilia 2008. For two informative and knowledgeable introductions to specifically ontological issues in the philosophy of mind written by (very different kinds of) trope theorists, see Heil 2004 and Lowe 2000.

Gozzano, Simone and Francesco Orilia, eds. *Tropes, Universals and the Philosophy of Mind*. Heusenstamm: Ontos Verlag, 2008.

Anthology which features texts by e.g., Heil, Lowe, and Robb (arguably the most influential and important authors on trope-theoretical issues in the philosophy of mind) as well as texts written by other trope theorists discussing the former philosophers' most important texts on this issue.

Heil, John. *Philosophy of Mind: A Contemporary Introduction*. New York: Routledge, 2004.

An introduction to primarily ontological issues in the philosophy of mind set out in a clear and accessible way. Suitable for students with no or very little background in philosophy.

Lowe, E. Jonathan. *An Introduction to the Philosophy of Mind*. Cambridge: Cambridge University Press, 2000.

Clearly written and wide-ranging introduction to the philosophy of mind. Suitable for anyone with basic training in philosophy.

TROPES AS CAUSALLY RELEVANT MENTAL PROPERTIES

Not surprisingly, those who think that tropes could play the role of causal relata in causal transactions generally (see *Tropes and Causation*) also believe that tropes could play that role in mental physical causal transactions. And even those who do not think that tropes are suitable as causal relata (either generally or for the mental physical case specifically) have argued that tropes nevertheless play an important role for our understanding of the relationship between the mental and the physical. For, only if we have recourse to tropes can we explain how specifically *mental* causes can be of relevance to the production of specifically *physical* effects in a physically closed and non-over-determined universe (which is presumably *our* universe). For (slightly different) versions of an argument to this effect, see Robb 1997, Martin and Heil 1999, Heil 2003, and Heil and Robb 2003 (for doubts about the claim that these are specifically trope-theoretical solutions, see Heil 2008). For an informative introduction to this discussion as well as an overview of the different solutions to it proposed in the literature, see ~~Bennett 2007~~ and Robb and Heil 2003. Noordhof 1998 has complained that the trope theoretical suggestion fails to respect what he calls the “bulge in the carpet constraint” in that it, rather than remove the problem merely manages to move it. Robb does not agree and argues as much in his 2001. For a more recent and very thorough overview of these and related matters, see Ehring 2011.

Ehring, Douglas. *Tropes: Properties, Objects, and Mental Causation*. Oxford: Oxford University Press, 2011.

See especially chapter five. Provides a nice summary of the trope theoretical discussion of these matters so far. Opts for a version of Robb’s view on the causal relevance of mental properties. Also holds that the causal *relata* themselves are mental and physical tropes.

Heil, John. *From an Ontological Point of View*. Oxford: Oxford University Press, 2003.

Sets out Heil's considered views on ontology (including his views on how to solve the "exclusion problem", i.e., the problem of the causal relevance of mental properties) and, equally important, on meta-ontology (i.e., on on what grounds one could or should draw this or that conclusion in ontology).

Heil, John and David Robb. "Mental Properties." *American Philosophical Quarterly* 40.3 (2003): 175-196.

Argues for the existence of tropes by arguing that tropes have a role to play in relation to at least two problems in the philosophy of mind, including the problem of the causal relevance of mental properties.

Heil, John. "Modes and Mind." In *Tropes, Universals and the Philosophy of Mind*. Edited by Simone Gozzano and Francesco Orilia, 13-130. Heusenstamm: Ontos Verlag, 2008.

Here Heil seemingly changes his mind and argues that, although there are good reasons to think that properties are modes (i.e., tropes) and not universals, whether or not they are is largely irrelevant for our chances of solving the problem of the causal relevance of mental properties.

Noordhof, Paul. "Do Tropes Resolve the Problem of Mental Causation?" *Philosophical Quarterly* 48.191 (1998): 221-226. [doi: 10.1111/1467-9213.00097].

Criticizes Robb 1997 by claiming that Robb's solution raises new problems just as intractable as the original one.

Robb, David. "The Properties of Mental Causation." *The Philosophical Quarterly* 47.187 (1997): 178-194. [doi: 10.1111/1467-9213.00054].

Argues that mental properties can be causally relevant in spite of the fact that we live in a causally closed non-over-determined universe, because although mental *types* (i.e., equivalence classes of functionally similar tropes) are distinct from physical types, every mental trope is nevertheless identical to a physical trope.

Robb, David. "Reply to Noordhof on Mental Causation." *Philosophical Quarterly* 51.202 (2001): 90-94. [doi: 10.1111/1467-9213.00217].

Argues that some of Noordhof's 1998 criticisms of Robb's 1997 are based on misunderstandings and that Noordhof's main point misses its mark as it depends on the

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assumption that properties can have properties and because it insists that the trope solution must provide a criterion of trope identity.

Robb, David and John Heil. "Mental Causation" *Stanford Encyclopedia of Philosophy* Winter 2003 edition. Edited by Edward Norton Zalta. [[*http://plato.stanford.edu/entries/mental-causation/](http://plato.stanford.edu/entries/mental-causation/)]

A very instructive overview of the different problems involving mental causation and the causal relevance of mental properties as well as the many different solutions these problems have been given in the literature. Important background reading for anyone working on issues related to these debates.

TROPES AND PERCEPTION

One important reason for thinking that tropes exist, at least according to some proponents of the trope theory, is the role they supposedly play in perception. A direct realist about perception with recourse to tropes, first, could claim that what we perceive (the object of perception) are the particular qualities of the thing (its tropes) rather than the thing itself, in which case some of the most notorious difficulties for that view would arguably disappear. That what we perceive is tropes is argued by e.g., Lowe 1998 and 2008 (criticized by Levinson 2006). Similar views have been formulated by e.g. Mulligan, Simons, and Smith 1984 and by Mulligan 1999. According to Nanay 2012, moreover, also representationalists about perception have reason to be trope theorists. For, with recourse to tropes, he claims, the representationalist will have the resources necessary to deal with at least two important challenges often put to her view on perception.

Levinson, Jerrold. "Why there are No Tropes." *Philosophy* 81 (2006): 563-580. [doi: 10.1017/S0031819106318013].

See especially pp. 576ff. Criticizes an argument by Lowe 1998 according to which what we perceive are tropes.

Lowe, E. Jonathan. *The Possibility of Metaphysics: Substance, Identity, and Time: Substance, Identity, and Time*. Oxford: Clarendon Press, 1998.

See especially pp. 204-205. Argues from "the phenomenology of object perception" against an ontology of substances that does not include modes (i.e., tropes).

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Please note that this is the pre-final-revision version of the paper. Therefore: Please **DO NOT QUOTE!**

Lowe, E. Jonathan. "Tropes and Perception." In *Tropes, Universals, and the Philosophy of Mind – Essays at the Boundary of Ontology and Philosophical Psychology*. Edited by Simone Gozzano and Francesco Orilia, 175-192. Heusenstamm: Ontos Verlag, 2008.

Responds to Levinson's 2006 criticism of Lowe's 1998 argument for modes (i.e., tropes) from the phenomenon of object perception.

Mulligan, Kevin, Peter Simons and Barry Smith. "Truth-Makers." *Philosophy and Phenomenological Research* 44 (1984): 287-321.

See especially pp. 299-301. Argues that tropes are the objects of perception. This view is traced back to Husserl.

Mulligan, Kevin. "Perception, Particulars and Predicates." In *Consciousness and Intentionality: Models and Modalities of Attribution*. Edited by Denis Fisette, 163-194. Dordrecht: Kluwer, 1999.

Argues, among other things, that perception is of particulars only and that indirect perceptual reports are made true by direct perceptual relations between subjects and particulars, including modes (i.e., tropes).

Nanay, Bence. "Perceiving Tropes." *Erkenntnis* 77.1 (2012): 1-14. [doi: 10.1007/s10670-011-9282-2].

Argues that the least problematic version of the representational view of perception (one that manages to preserve the most important considerations in favor of direct realism) is one according to which the properties represented in perception are tropes.

Tropes and Semantics

Taking Simons, Mulligan and Smith's 1984 (see *Seminal Papers*) as her point of departure, Moltmann has repeatedly argued that natural language contains a number of phenomena whose semantic treatment is best spelled out in terms of an ontology that includes tropes. More precisely she has argued that nominalizations (2007), quantifiers (2003), bare demonstratives (2011), and comparatives (2009), are all linguistic phenomena which give us reason to adopt the trope theoretical framework.

Moltmann, Friederike. "Nominalizing Quantifiers." *Journal of Philosophical Logic* 32 (2003): 445-481. [doi: 10.1023/A:1025649423579].

Argues that a special class of quantifiers – including “something,” “nothing,” and, “several” – sometimes act as nominalizations that introduce a new domain of objects that would otherwise be absent, objects which are best understood as tropes.

Moltmann, Friederike. "Events, Tropes, and Truthmaking." *Philosophical Studies* 134 (2007): 263-403. [doi: 10.1007/s11098-005-0898-4].

Argues that nominalizations which introduce new objects but only partially characterize them refer to tropes. For, these sorts of nominalizations typically allow for a wide range of adjectival modifiers, modifiers which only tropes can be the recipients of. To Moltmann this constitutes strong *empirical* evidence for the existence of tropes.

Moltmann, Friederike. "Degree Structure as Trope Structure: A Trope-Based Analysis of Positive and Comparative Adjectives." *Linguistics and Philosophy*. 32 (2009): 51-94. [doi: 10.1007/s10988-009-9054-5].

Argues that adjectives in comparatives are better understood with reference to tropes than with reference to abstract objects that form a total ordering (so-called degrees).

Moltmann, Friederike. "Tropes, Bare Demonstratives, and Apparent Statements of Identity." *Noûs* online first (2011): 1-28. [doi: 10.1111/j.1468-0068.2011.00844.x].

Argues that the semantics of bare demonstratives – like “this” or “that” – especially as they appear in so-called identificational sentences, give us reason to accept the existence of tropes.

More Trope Applications

Besides texts spelling out and defending (or criticizing) the most fundamental tenets of trope theory, there is an ever-increasing body of literature where tropes are proposed as solutions to various philosophical problems. Explicitly or implicitly, these texts can be seen as “indirect” arguments for the existence of tropes.

TROPES IN SCIENCE

Allusions to the scientific usefulness of tropes can be found scattered in the literature. One example is Harré's (critical) 2009 discussion of tropes in relation to chemistry. Another is Nanay's 2010 attempt to supplant and thereby improve upon Ernst Mayr's "population thinking" in biology with a trope nominalism. Most discussions of tropes in a scientific context have however been devoted to relating trope theory to physics in general, and to quantum physics in particular. Most influential has been Campbell's "field-theory" developed in his 1990 (see **Contemporary Trope Theory**, see also Von Wachter 2000). According to Campbell, all basic tropes are space-filling fields which distribute some quantity, in perhaps varying intensity, across all of space-time. According to e.g., Schneider 2006, however, Campbell's view fails because its notion of a field is not mathematically rigorous (for attempts to develop a mathematically rigorous framework for trope theory – besides that sketched by Schneider herself, see the sheaf theoretic framework proposed by Mormann 1995 or the algebraic framework suggested by Fuhrmann 1991). Another attempt to make tentative scientific use of tropes in a quantum mechanical framework is Simons' atomistic "nuclear" theory of tropes proposed in his 1994 (See **Seminal Papers**, see also Wayne 2008 and Morganti 2009).

Fuhrmann, André. "Tropes and Laws." *Philosophical Studies* 63.1 (1991): 57-82. [doi: 10.1007/BF00375997].

See especially pp. 63f. Outlines a kind of "particularism" (i.e., a kind of trope theory) and proposes a theory of the laws of nature based on it. Uses an algebraic framework for spelling out a theory of trope composition.

Harré, Rom. "Trope Theory and the Ontology of Chemistry." *Foundations of Chemistry* 11.2 (2009): 93-103. [doi: 10.1007/s10698-008-9052-7].

Argues that while trope theory may seem as an attractive alternative to the sort of substance/attribute ontology traditionally adopted in chemistry, close inspection shows that it is beset with difficulties that are more problematic than those that face a more dynamic alternative based on casual powers, dispositions and affordances.

Morganti, Matteo. "Tropes and Physics." *Grazer Philosophische Studien* 78 (2009): 185-205.

Looks at quantum theory and the Standard Model of elementary particles with a view to suggesting a detailed empirical implementation of trope ontology (in Simons' sense) in

harmony with our best physics. Critically examines the proposition that tropes are fields as formulated by Campbell and Von Wachter.

Mormann, Thomas. "Trope Sheaves: A Topological Ontology of Tropes." *Logic and Logical Philosophy* 3 (1995): 129-150.

Proposes a topological ontology of tropes in response to the question of what kinds of structures are necessary to make trope theory work. Requires some previous acquaintance with formalized philosophy in general and probably also with topological thinking in particular.

Nanay, Bence. "Population Thinking as Trope Nominalism." *Synthese* 177 (2010): 91-109. [doi: 10.1007/s11229-009-9641-6].

Argues that, properly conceived, Mayr's population thinking is a version of trope nominalism and that, if this proposition is accepted then, as Mayr originally claimed, population thinking rules out any version of essentialism about biological kinds.

Schneider, Christina. "Towards a Field Ontology." *dialectica* 60.1 (2006): 5-27. [doi: 10.1111/j.1746-8361.2005.01019.x].

Argues that Campbell's notion of a field is not mathematically rigorous and then tries to formulate one that is. Argues that a mathematically rigorous notion of a field is not a trope-theoretical notion.

Von Wachter, Daniel. "A World of Fields." In *Things, Facts, and Events*. Edited by Jan Faye, Uwe Scheffler and Max Urschs, 305-325. Rodopi: Amsterdam, 2000.

Revisits an argument from Campbell according to which tropes do not have determinate boundaries and argues that if tropes are fields this fact can be explained. Tries to show how this sort of field ontology can tackle the problem of determinable properties and the problem of the completeness of things.

Wayne, Andrew. "A Trope-Bundle Ontology for Field Theory." In *The Ontology of Spacetime II*. Edited by Dennis Dieks, 1-15. Amsterdam: Elsevier, 2008.

Criticizes the Campbellian view of tropes as fields and adopts instead a view, based on Simons' nuclear theory of trope bundles, according to which fields are bundles of tropes.

TROPES AND MORAL PHILOSOPHY

Relatively little has so far been written on the topic of tropes and trope theory as it relates to issues in moral philosophy and value theory. Two things have however been argued in this connection. First, that tropes (and not, as is more commonly supposed, objects or persons or states of affairs) are the bearers of final value, and, second, that the moral non naturalist who holds that moral facts are fundamentally autonomous from natural, or scientific, facts must regard properties as tropes or fail to account for the fact that, though distinct, the moral nevertheless supervenes on the natural. That tropes could serve as the bearers of value is mentioned in passing by e.g., Bacon 1995, Campbell, 1997, and Williams 1953 (see *Contemporary Trope Theory*). The matter is then more thoroughly investigated, by Rabinowicz and Rønnow-Rasmussen 2003 and by Olson 2003. That tropes play an indispensable role for the moral non-naturalist has been argued by Shafer Landau 2003 (at least as interpreted by Ridge 2010 and 2007).

Olson, Jonas. "Revisiting the Tropic of Value: Reply to Rabinowicz and Rønnow-Rasmussen." *Philosophy and Phenomenological Research* 67.2 (2003): 412-422. [doi: 10.1111/j.1933-1592.2003.tb00297.x].

Defends the view that the value of concrete objects and persons is reducible to the final value of tropes against objections put to this thesis by Rabinowicz and Rønnow-Rasmussen 2003.

Rabinowicz, Włodzimierz and Toni Rønnow-Rasmussen "Tropic of Value." *Philosophy and Phenomenological Research* 66.2 (2003): 389-403. [doi: 10.1111/j.1933-1592.2003.tb00267.x].

Argues that although tropes can be the bearers of final value, the final value of concrete objects should not be reduced to the final value of tropes.

Ridge, Michael. "Moral Non-Naturalism." In *The Stanford Encyclopedia of Philosophy*. Edited by Edward N. Zalta. Spring 2010 Edition.

Introduces the reader to so-called moral non-naturalism as well as to some of its problems (including the problem of supervenience, and the question whether tropes can be used to solve that problem).

Ridge, Michael. "Anti-Reductionism and Supervenience." *Journal of Moral Philosophy* 4.3 (2007): 330-348. [doi: 10.1177/1740468107083248].

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Argues that Shafer-Landau's 2003 attempt to explain supervenience fails. Points out that a solution to a deceptively similar problem in the philosophy of mind proposed by Robb 1997 (see *Tropes as Causally Relevant Mental Properties*) arguably works but that the two cases are too dissimilar to be comparable.

Shafer-Landau, Russ. *Moral Realism: A Defence*. Oxford: Oxford University Press, 2003.

Argues that the supervenience of the moral on the natural can be explained in terms of the constitution of moral property instantiations by natural property instantiations. Nowhere explicitly mentions tropes or trope theory (that his proposition ought to be understood in such terms is however strongly suggested by Ridge 2007).