LanCog Lectures in Metaphysics 2013

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Founded in 1996, Disputatio was published by the Portuguese Philosophy Society until 2002. From 2002, it is published by the Philosophy Centre of the University of Lisbon. Disputatio is a non-profit publishing venture. From 2013, Disputatio is published only online, as an open access journal.
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Published by Centro de Filosofia da Universidade de Lisboa
ISSN: 0873 626X — Depósito legal n.º 106 333/96
Modes of Being and Quantification

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If Pegasus existed, he would indeed be in space and time, but only because the word 'Pegasus' has spatio-temporal connotations, and not because 'exists' has spatio-temporal connotations. If spatio-temporal reference is lacking when we affirm the existence of the cube root of 27, that is simply because a cube root is not a spatio-temporal kind of thing.

W. V. Quine, “On What There Is”

Many philosophers have held that being comes in various kinds or sorts or “modes”. One thinks of Meinong’s Existenz and Bestand, of Russell’s existence and subsistence, of Sartre’s être-en-soi and être-pour-soi, and of Heidegger’s Vorhandenheit, Zuhandenhheit, and Existenz. But if there is more than one mode of being, what is the relation between the several modes of being and the existential quantifier? Does not the fact that there is a single existential quantifier strongly suggest that there is a single mode of being — or, perhaps better, that the concept “mode” has no application to being? I will put the idea that underlies this question in the form of an argument for the conclusion that there cannot be two or more modes of being.

Suppose we add to the language of first-order logic with identity a property abstraction operator, ‘Π’. This operator takes a variable and a sentence and makes a term in which that variable is not free. If the abstraction operator is applied to a variable α and a sentence in which α alone is free, the result is a closed term that denotes the property or attribute or quality expressed by that open sentence: the expression ‘Πα x is wise’ (“The property of being an x such that x is wise”) denotes wisdom, and ‘Πz z is brave’ denotes bravery or cour-

1 This paper is the text of the first of two LanCog Lectures in Metaphysics, which were presented at the University of Lisbon on 12 and 14 June, 2013.

Disputatio, Vol. VI, No. 38, May 2014
Received: 15/10/2013 Accepted: 15/10/2013
age — and so on. It seems to me that my description of this operator is unproblematical — provided at least that we do not insist that the terms it forms always have referents. 2 (One would not want to suppose that there was such a property as $\Pi x x$ is a property and it is not the case that $x$ has $x$.) I will suppose, however, that any such term that is formed from a meaningful and unambiguous open sentence denotes a property unless that term’s denoting a property implies a contradiction. 3 That may not be a very satisfactory “comprehension principle”, but, really, no one knows what to do with Russell’s Paradox.

Now consider the property $\Pi x \exists y y = x$ — the property of being an $x$ is such that there is or exists a $y$ such that $y$ is identical with $x$, or the property of being a thing such that there is or exists something that is that thing. 4 If we use the word ‘being’ as a noun or substantive, and as a mass term rather than a count-noun — as the English equivalent of Sein or être (mass term, not count noun) — then (surely?) what this word denotes is nothing other than that property. At any rate, I don’t see what else its referent could be — just as I don’t see the referent of ‘wisdom’ could be if not $\Pi x x$ is wise. And if that is so, then there cannot be multiple modes of being, owing simply to the fact that open sentences like $\exists y y = x$’ and ‘something is $x$’ express — if Kant and Frege will forgive me — a single, perfectly determinate property, a property had by — if Meinong will forgive me — everything.

This argument seems to me to be unanswerable — provided that there is a unique existential quantifier. But suppose that what we have learned to call “the” existential quantifier is not unique. Suppose that there is indeed more than one mode of being, and that each

2 And provided we recognize that quantification into such terms (e.g., ‘$\exists x \exists y x$ has $\Pi x y$ is larger than $z$’) is quantification into an intensional context.

3 This does not rule out such properties as $\Pi x x \neq x$ and $\Pi x x$ is a cubical ball. There is no contradiction in the existence of such properties — the contradiction would be in their instantiation.

4 It is, to say the least, implausible to suppose that the existence of this property entails a contradiction. For one thing, free logics aside, ‘$\exists y y = x$’ is equivalent to ‘$x \equiv x$’, and the existence of the property self-identity can hardly be supposed to entail a contradiction.
modes of being has, so to speak, its own existential quantifier.

It will be convenient, when we are supposing that there is more than one mode of being, also to suppose that we have an actual specification of these modes. I will suppose that there are exactly two. I will call them ‘existenz’ and ‘subsistence’. (Note that the former word has the German spelling.) Existenz, I stipulate, is the mode of being of concrete objects, and subsistence is the mode of being of abstract objects (whatever that distinction may come to). Everything I say will apply, with only trivial modifications, to any “list” of the modes of being you may care to put forward — Sartre’s or Heidegger’s for example.

Suppose, then, that a philosopher who holds that these are the two modes of being, existenz and subsistence, replies to the above argument by contending that there is a primitive and irreducible quantificational apparatus specific to existenz and a primitive and irreducible quantificational apparatus specific to subsistence. This is precisely the position of a certain fictional philosopher I’ll call “McHeidegger” — a personification of the interpretation of Heidegger’s philosophy of being that Kris McDaniel has presented in his well-known essay, “Ways of Being.” My examination of the relation between quantification and modes of being will take the form of a critique of McHeidegger’s philosophy — the only philosophy I know of that addresses this issue. I will not consider the question whether Heidegger accepted all or any of the theses of the meta-ontology ascribed to him in McDaniel’s essay. I shall be concerned, rather, with some questions about that meta-ontology itself, that meta-ontology considered as a philosophical position, whoever may have accepted it. (McDaniel himself either accepts it or comes very close to accept-


\[\text{4. I use this word in the sense it has in current analytical metaphysics. It is not meant to be a translation of Heidegger’s ‘\textquote{Metontologie}’.}\]

\[\text{5. And I will not be concerned with the point that existenz and subsistence do not even remotely resemble the modes of being that actually figure in Heidegger’s Seinsphilosophie. (My “existenz” is of course not Heidegger’s \textquote{Existenz}. My “existenz” is, however, very like Meinong’s \textquote{Existenz}.)}\]
These questions have primarily to do with the implications of the meta-ontology for the logical validity of inferences involving particularity and universality.

This was prologue. Now the play. (Some of the ideas sketched in the prologue will be re-stated in the play — but in considerably more detail.)

1

Let us suppose that, in addition to the familiar “generic” quantifiers (the particular quantifier $\exists$ and its dual, the universal quantifier $\forall$), there are two pairs of “specific” quantifiers, each member of one of the pairs being the dual of the other. And let us suppose that the two pairs are:

The concrete quantifiers       The abstract quantifiers
E   the existenzial quantifier   $\lor$   the subsistential quantifier
A   the general quantifier      $\land$   the inclusive quantifier.

The motive for this supposition is to be found in the thesis that there are two modes of being and that each of them is in some sense so fundamental a feature of reality that it requires its own quantificational apparatus. The existenzial quantifier (we suppose) expresses existenz (the verb is ‘exizt’), the mode of being enjoyed by concrete

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8 I refrain from calling this operator by its customary name in order to avoid begging any questions — and also to avoid giving it a name that might be confused with the name given to one of the specific quantifiers.

9 I follow the usage of Donald Kalish and Richard Montague: the symbols ‘$\exists$’ and ‘$\forall$’ are called quantifiers and expressions like ‘$\exists x$’ and ‘$\forall y$’ are called quantifier phrases. (Other writers call ‘$\exists x$’ and ‘$\forall y$’ quantifiers.)

10 McDaniel’s terms are ‘unrestricted quantifier’ and ‘restricted quantifier’. (He does, however, speak of the generic and specific senses of ‘being’ and does sometimes apply these terms to the quantifiers that “express” those senses.) He recognizes (303) that his terminology is not entirely satisfactory, since “there is a sense in which any semantically primitive quantifier is an unrestricted quantifier.”
particulars or reale Gegenstände (pick some term that you favor; a precise statement of the mode of being expressed by ‘E’ is not important for our purposes; what matters is that this operator should express one of two modes of being). And the subsistential quantifier (we further suppose) expresses subsistence or Bestand, the mode of being enjoyed by abstract objects or ideale Gegenstände (or what you will). So an existenzial quantification on a predicate is true just in the case that some “exiztent” satisfies that predicate, and a general quantification on a predicate is true just in the case that all exiztents satisfy that predicate. And so for the subsistential and inclusive quantifiers, mutatis mutandis. And, finally, the particular quantifier expresses “generic being” — the “common element” of existenz and subsistence; that commonality in virtue of which both modes of being are modes of being, and the domain of the universal quantifier comprises everything that participates in either mode of being.

According to McHeidegger, the specific quantifiers are the fundamental and semantically primitive quantifiers, and the generic quantifiers are disjunctive and derived. (I don’t mean to imply that McDaniel supposes that existenz and subsistence are the modes of being recognized by the real philosopher named ‘Martin Heidegger’.)

Let us say that a formal mixed inference is an inference or argument whose constituent sentences (that is, its premises and its conclusion) contain quantifiers drawn from at least two of the three pairs $\exists/\forall$, $E/A$, and $\lor/\land$. And let us say that an informal mixed inference is an inference or argument expressed in natural language that those who

11 ‘Disjunctive’ has to be understood with some care. McDaniel says (306), “Heidegger recognizes a generic sense of ‘being’ that . . . represents something akin to a mere disjunction of the metaphysically basic ways of being.” (Italics in original.) But he had earlier (304) said, “. . . Heidegger does not seem to think that the generic sense of ‘being’ is merely the disjunction of the various specific senses of ‘being.’” I take it that the position McDaniel ascribes to Heidegger is something like this (assuming for the sake of the example that subsistence and existenz are the modes of being): ‘exists-generic’ does not mean ‘either subsists or exizts’; but the meaning of ‘exists-generic’ is such that ‘it exists-generic’ can properly be said of things that subsist and can, with equal propriety, be said of things that exizt.
affirm the reality of existenz and subsistence as distinct modes of being and who insist that each mode be supplied with “its own” pair of specific quantifiers would find it natural to represent formally as a formal mixed inference.

I begin by presenting an argument that certainly seems to be an informal mixed inference by the terms of this definition — owing to the fact that it involves quantification (the quantificational apparatus is informal: the quantificational apparatus of ordinary English) over both mathematicians and mathematical problems, and (given that there are such modes of being as existenz and subsistence) one must suppose that mathematicians exist and mathematical problems subsist.

The Informal Mixed Argument

There is a problem in algebraic topology that I. M. James is unable to solve.

I. M. James is an algebraic topologist.

Every algebraic topologist is able to solve any problem in algebraic topology that any algebraic topologist is able to solve.

If there is a problem in algebraic topology that no algebraic topologist is able to solve, then no mathematician is able to solve that problem.

Every problem in algebraic topology is a mathematical problem.

hence,

There is a mathematical problem that no mathematician is able to solve.

And the Informal Argument certainly seems to be valid. After all, if it were presented as a “translation exercise” in a logic course, the instructor would certainly regard the following argument as a correct representation of the Informal Argument in (as Quine calls it), the canonical language of first-order logic:
The Generic Formal Argument

\[ \exists x (x \text{ is a problem in algebraic topology} \& \sim \text{I. M. James is able to solve } x) \]

I. M. James is an algebraic topologist

\[ \forall x \forall y \forall z (x \text{ is an algebraic topologist} \& y \text{ is an algebraic topologist} \& z \text{ is a problem in algebraic topology} \rightarrow x \text{ is able to solve } z \leftrightarrow y \text{ is able to solve } z) \]

\[ \forall x (x \text{ is a problem in algebraic topology} \& \sim \exists y (y \text{ is an algebraic topologist} \& y \text{ is able to solve } x) \rightarrow \sim \exists y (y \text{ is a mathematician} \& y \text{ is able to solve } x)) \]

\[ \forall x (x \text{ is a problem in algebraic topology} \rightarrow x \text{ is a mathematical problem}) \]

hence,

\[ \exists x (x \text{ is a mathematical problem} \& \sim \exists y (y \text{ is a mathematician} \& y \text{ is able to solve } x)). \]

And it would be easy to show that the Generic Formal Argument was valid by the methods set out in whatever the textbook in the course happened to be (the methods that one of my teachers liked to refer to collectively as “quantifier dropping and horseshoe pushing”).

3

Suppose, however, that the only quantifiers we had at our disposal were the four specific quantifiers mentioned in section 1 — the concrete quantifiers and the abstract quantifiers. Then (owing to the distinct modes of being enjoyed by mathematicians, on the one hand, and mathematical problems, on the other) if we wished to translate the Informal Argument into the quantifier-variable idiom, we should have to replace each generic quantifier in the Generic Formal Argument with the appropriate specific quantifier — thus producing the following argument (a “formal mixed inference”):
The Specific Formal Argument

\forall x (x \text{ is a problem in algebraic topology } \& \sim I. M. James is able to solve x)

I. M. James is an algebraic topologist

\forall x \forall y \forall z (x \text{ is an algebraic topologist } \& y \text{ is an algebraic topologist } \& z \text{ is a problem in algebraic topology } \rightarrow \rightarrow x \text{ is able to solve } z \leftrightarrow y \text{ is able to solve } z)

\forall x (x \text{ is a problem in algebraic topology } \& \sim \forall y \forall z (y \text{ is an algebraic topologist } \& y \text{ is able to solve } x) \rightarrow \sim \forall y \forall z \rightarrow (y \text{ is a mathematician } \& y \text{ is able to solve } x))

\forall x (x \text{ is a problem in algebraic topology } \rightarrow x \text{ is a mathematical problem})

hence,

\forall x (x \text{ is a mathematical problem } \& \sim \forall y \forall z (y \text{ is a mathematician } \& y \text{ is able to solve } x)).

And what rules shall we consult if we wish to determine whether this argument is valid? Or, more generally, what rules shall we consult if we wish to determine whether any given formal mixed inference is valid?

I will consider two ways to approach these questions. I’ll call them the Deep Approach and the Shallow Approach.

Advocates of the Deep Approach will dispute my statement that the Specific Formal Argument is a correct formal representation of the Informal Argument. They will insist that all the terms (all the variables and all the singular terms) that appear in a correct formal representation of that argument must be “sorted”. (Singular terms must be of two “sorts”: terms of one sort denote existents and only existents and terms of the other denote subsistents and only subsistents. And variables, too, must be sorted: into a “sort” bound by and only
by the concrete quantifiers and a sort bound by and only by the abstract quantifiers). Let us accede to their demand; let the “concrete” variables be ‘x’, ‘y’, ‘z’ . . . , and let the “abstract” variables be ‘X’, ‘Y’, ‘Z’ . . . . And let us distinguish “concrete” and “abstract” singular terms by a similar notational device.

A correct formal representation of the Informal Argument should, as the Deep Approachers see matters, look something like this:

The Specific Formal Argument (Sorted)
\[ \forall x \ (x \text{ is a problem in algebraic topology} \land \neg I. M. James \text{ is able to solve } x) \]

I. M. James is an algebraic topologist

\[ \forall x \ \forall y \ \forall z \ (x \text{ is an algebraic topologist} \land y \text{ is an algebraic topologist} \land z \text{ is a problem in algebraic topology} \cdot \rightarrow \cdot y \text{ is able to solve } z) \]

\[ \forall x \ (x \text{ is a problem in algebraic topology} \land \neg \exists y \ (y \text{ is an algebraic topologist} \land y \text{ is able to solve } x) \cdot \rightarrow \cdot \neg \exists y \ (y \text{ is a mathematician} \land y \text{ is able to solve } x)) \]

\[ \forall x \ (x \text{ is a problem in algebraic topology} \rightarrow x \text{ is a mathematical problem}) \]

hence,

\[ \forall x \ (x \text{ is a mathematical problem} \land \neg \exists y \ (y \text{ is a mathematician} \land y \text{ is able to solve } x)). \]

Is this argument formally valid? The question is easily answered: it is. It is at any rate formally valid according to the treatments of “many-sorted logic” that are available in the literature.\(^{12}\) And I have no doubt

\(^{12}\) See Herbert B. Enderton *A Mathematical Introduction to Logic*, 2nd Edn (Harcourt/Academic Press, 2001), Section 4.3 (pp. 295-299), “Many-sorted Logic.” (I am grateful to Hannes Leitgeb and Chris Menzel for calling my attention to Enderton’s treatment of many-sorted logic.) Actually, despite my knowing reference to “the treatments of ‘many-sorted logic’ available in the literature,” this is the only such treatment I know of. But if there are others, I am confident that...
that, if an informal mixed inference is intuitively equivalent to a specific formal argument with sorted variables, the informal inference will be intuitively logically valid if and only if the specific formal argument is formally valid.

Is the Deep Approach to the problem of mixed inferences therefore satisfactory? That will depend on whether the Deep Approachers recognize, in addition to the four specific quantifiers and the sorted variables they bind, the generic quantifiers and unsorted variables. If they do not recognize generic quantifiers and unsorted variables, they will have adopted a language of insufficient expressive power; that is, there will be things that can be said that they cannot say — general statements that can be expressed in English (and presumably in any natural language with an appropriate lexicon) that cannot be said in a formal language without generic quantification. The most important of these are certain “cross-modal generalizations” — generalizations over objects some of which exist and some of which subsist. For example:

Everything either exists or subsists

Another cross-modal generalization that it may be impossible to express without generic quantification is:

Nothing both exists and subsists.

I say that it may be impossible to express this statement without generic quantification because one might try to express it like this:

\[ \neg \exists x \forall y (x = y). \]

(Or reverse the order of the existenzial and the subsistential quantifier-phrases.) Whether this device “works”, however, depends on they are equivalent to Enderton’s. As Enderton says (p. 295), “As might be expected, nothing is drastically different from the usual one-sorted situation. None of the results of this section are at all deep, and most of the proofs are omitted.” The generalization of one-sorted logic that Enderton presents is so simple and natural that there doesn’t seem to be any possibility of a rival, non-equivalent development of many-sorted logic (other than those that correspond to rival, non-equivalent “developments” of ordinary one-sorted logic: a many-sorted free logic, for example).

13 As McDaniel says (297), “The generic concept of being is indispensable.”
whether the logical vocabulary of our hypothetical language without generic quantification contains a generic or “unsorted” identity-sign, an identity-sign an occurrence of which can be flanked by terms of different sorts.\footnote{Note that the following truth is also inexpressible in a language without generic identity: I. M. James is not identical with the Kervaire Invariant 1 Problem.} Enderton’s many-sorted logic (see note 11) does not have such a sign (in his logic, each sort of term has its “own” identity-sign), but I should think that it would be easy enough to add one. Models for many-sorted logic associate non-overlapping universes of discourse with terms of different sorts, and, therefore, the obvious adaptation of the usual model-theoretic treatment of ‘=’ will have the consequence that sentences formed by flanking the generic identity sign with singular terms of different sorts will “automatically” be false, and sentences like ‘z = y’ and ‘x = I. M. James’ will automatically be unsatisfiable. (But I speak under correction. I am no logician — and, as my colleague of beloved memory, the late Ralph McInerny, once said in a very similar context, that is no idle boast.) However this may be, it is impossible to express the proposition that everything either exists or subsists without the use of the universal quantifier. (And those who believe that existenz and subsistenz are distinct modes of being will regard this as an important thesis — even those of them who think that it is false.)

McDaniel will, however, point out that McHeidegger is not unable to express such important metaphysical theses as “Everything either exists or subsists” and “Nothing both exists and subsists”. He will remind us that McHeidegger affirms the existence (or perhaps we should say the subsistence) of the generic sense of ‘exist’ (albeit he does not regard it as fundamental or primitive) and thus rejects the thesis that the only quantifiers we have at our disposal are the specific quantifiers. If McHeidegger is right, we also have the generic quantifiers, the particular quantifier and the universal quantifier, “at our disposal”. To revert to the case of subsistenz and existenz, we may express the proposition that everything either subsists or exists in either of the following ways:
∀x (∀y y = x · v Ey y = x)

∀x (∀y y = x · v Ey y = x).

(In the first if the specific quantifiers can bind unsorted variables; in the second if the specific quantifiers can bind only sorted variables. I will assume in the sequel that the concrete quantifiers bind only “existent” variables and that the abstract quantifiers bind only “subsistence” variables.) Of course, both expressions require the generic identity-sign, but, as we have seen, there seems to be no obstacle to adding the generic identity-sign to a many-sorted language.

But more must be said to enable the MeHeiddegerian to deal with the problem of mixed inferences. There is still the problem of the validity of those arguments whose constituent sentences contain both generic and specific quantifiers. This argument, for example:

∀x (∀y y = x · v Ey y = x)

¬∃x ∀y (x = y)

hence,

∀x Ey y = x.

( Everything is either subsistent or existent; Nothing is subsistent; hence, Everything is existent.) Or this argument:

∃x∀y (the mode of being of x is not the mode of being of y)

∀x∀y (the mode of being of x is not the mode of being of y → · (Ex y = x · & Ez y = z) v (Ex y = y · & Ez x = z))

hence,

∃x Ey x = y · & ∃x ∀y x = y.

(There are things that participate in different modes of being; If two things participate in different modes of being, one of them is existent and the other is subsistent; hence, Something is existent and something is subsistent.)

Now there is an obvious and easy general solution to the problem

15 Or as the perhaps harder-to-parse ‘∀x (∀x x = x · v Ex x = x)’.
of determining the validity of formal mixed inferences — general in
that it applies to all mixed arguments, both those that contain only
specific quantifiers and those that contain both generic and specific
quantifiers. (It will also apply to arguments that contain only con-
crete quantifiers and arguments that contain only abstract quantifi-
cers.) At the end of section 3, I said, “There are two ways to approach
these questions. I’ll call them the Deep Approach and the Shallow
Approach”. The Shallow Approach and “the obvious and easy solu-
tion to the problem” are one and the same device — to wit, sys-
tematically to replace all the specific quantifiers in the inference we
are testing for validity with appropriately restricted generic quanti-
fiers (“for purposes of determining validity”, as one might say). We
might, for example, introduce a predicate ‘Z’ to express existenz,
and a predicate ‘S’ to express subsistence. (That is, ‘Zx’ abbreviates
‘x exists’ and ‘Sy’ abbreviates ‘y subsists’ and so on.) So, for example,
replacing the specific quantifiers in the following two sentences with
appropriately restricted generic quantifiers (binding generic vari-
bles):

\[ \forall x (\forall y \ y = x \cdot \exists y \ y = x) \]

\[ A x \land \forall x \ x \neq x \]
yield, respectively,

\[ \forall x (\exists y (Z y \ & \ y = x) \lor \exists y (S y \ & \ y = x)) \]

and

\[ \forall \forall y (Z x \ & \ S y \cdot \rightarrow x \neq y). \]
Let us call the sentence obtained by so replacing all the specific quan-
tifiers in a sentence with restricted generic quantifiers the “generic
representation” of that sentence. And we may say that an inference or
argument is the “generic representation” of a “specific” inference or
argument (an inference or argument containing specific quantifiers)
if it is the result of replacing each of its constituent sentences with its
generic representation. We now consider
The Generic-representation Criterion of Formal Validity (sc. of specific arguments)

A specific argument is formally valid if and only if its generic representation is formally valid (i.e., valid in ordinary quantifier logic).

(All formal mixed inferences are specific arguments, but arguments containing only concrete quantifiers and arguments containing only abstract quantifiers are specific arguments and are not formal mixed inferences.) The section of Enderton’s A Mathematical Introduction to Logic (note 11) that is devoted to many-sorted logic has a sub-section called “Reduction to One-Sorted Logic”. The results presented in that sub-section imply that a specific argument that contains no generic quantifiers is valid in many-sorted logic if and only if it is valid according to the Generic-representation Criterion. It obviously follows that the same holds for specific arguments that do contain generic quantifiers.

There is a sense in which the Generic-representation Criterion treats ‘Z’ and ‘S’ as “logically inert”, since they are not mentioned in the rules that one would consult to determine whether the generic representation of a formal mixed inference was valid — that is, the inference rules of ordinary (i.e., generic) quantifier logic. One who is applying the Generic-representation Criterion will treat, e.g., ‘Zx’ and ‘Sy’ as “just two more open sentences”, sentences that have no more logical significance than ‘x is a mathematician’ and ‘y is a mathematical problem’.

We need not, in fact, have introduced ‘Z’ and ‘S’ by stipulating that ‘Zx’ was to abbreviate ‘x exizts’ and that ‘Sy’ was to abbreviate ‘y subsists’ (and so on). We could instead have introduced, e.g., ‘Zx’ and ‘Sy’ as abbreviations for, respectively, ‘Ex x = x’ and ‘\(\forall x x \neq y\)’. On that reading of ‘Z’ and ‘S’, the sentence

\[ \forall x (\exists y (Zy \& y = x) \lor \exists y (Sy \& y = x)) \]

is an abbreviation of:

\[ \forall x (\exists y (Ey y = y \& y = x) \lor \exists y (\forall y y = y \& y = x)). \]

On that understanding of ‘Z’ and ‘S’, those symbols can be regarded as devices for “isolating” the all the occurrences of the specific quan-
tifiers in a specific argument inside “logically inert” predicates. And we could say that, e.g., the argument
\[ \forall x (E x x = x \rightarrow (x \text{ is a mathematician } \rightarrow \exists y (\forall x x = y \cdot \& y \text{ is a mathematical problem } \& \sim x \text{ is able to solve } y))]. \]
\[ \exists x (E x x = x \cdot \& x \text{ is a mathematician}) \]
hence,
\[ \exists x (\forall x x = x \cdot \& x \text{ is a mathematical problem}) \]
was the “specifically isolated generic representation” of the argument
\[ Ax (x \text{ is a mathematician } \rightarrow \forall x (x \text{ is a mathematical problem } \& \sim x \text{ is able to solve } x)) \]
\[ E x x \text{ is a mathematician} \]
hence,
\[ \forall x x \text{ is a mathematical problem.} \]
And we could then state the Generic-representation Criterion this way:

A specific argument is formally valid if and only if its specifically isolated generic representation is formally valid.

One might wonder whether McHeidegger would be willing to accept the Generic-representation Criterion as not only a true statement but as a complete and satisfactory account of the validity of specific inferences. If he were indeed willing to solve the problem of mixed inferences in that way, it would be interesting to hear his response to the questions posed at the end of the following rather lengthy speech:

If, as you say, the specific quantifiers are the fundamental quantifiers, the semantically primitive quantifiers, and if, as you say, the generic quantifiers are non-fundamental, semantically derived, and disjunctive, the criterion of formal validity for arguments couched in the quantifier-variable idiom amounts to this:

To determine whether an argument involving quantifiers is
formally valid, replace each occurrence of a fundamental, semantically primitive quantifier in the argument with an occurrence of its non-fundamental, semantically derived, and disjunctive counterpart (restricted by the apposite placement of a suitable “logically inert” open sentence like ‘\(Zy\)’ or ‘\(\forall x \, x = x\)’); then test the resulting argument for validity by applying the rules set out in your favorite logic textbook to the occurrences of the non-fundamental, semantically derived, and disjunctive quantifiers it contains. If, therefore, one wishes to determine whether an argument involving quantifiers is formally valid, in the final analysis, the only inference-rules one will attend to are those that govern the non-fundamental, semantically derived, and disjunctive quantifiers. There is no need even to bother to formulate inference-rules that govern the fundamental, semantically primitive quantifiers, since, to test an argument for validity, one must first eliminate the fundamental, semantically primitive quantifiers; or at any rate one must permit the fundamental quantifiers to occur only in expressions like ‘\(\exists x \, x = z\)’ and ‘\(\forall x \, x = y\)’ — expressions which have no more significance in the matter of determining inferential validity than (respectively) such significance as is contained in the descriptions “a sentence in which ‘\(z\)’ is free (and no other variable is free)” and “a sentence in which ‘\(y\)’ is free (and no other variable is free)”.

Is that not a rather strange criterion of validity? Is it plausible to suppose that a linguistic item — in any syntactical category — that is non-fundamental, semantically derived, and disjunctive plays an essential role in the criterion for determining whether an inference is formally valid? Is it plausible to suppose that quantifiers that are fundamental and semantically primitive have no role to play in the criterion for deciding the validity of arguments whose logical structures obviously depend on the way in which occurrences of quantifiers and of the variables they bind are distributed in their constituent sentences?

If McHeidegger refuses to regard the Generic-representation Criterion as the key to the solution of the problem of mixed inferences
— if he rejects the Shallow Approach to this problem —, he will probably wish to propose an alternative solution. Might he propose the following solution?

The solution to the problem of mixed inferences is to “paraphrase away” all the non-fundamental and semantically derived quantifiers (that is, all the generic quantifiers) that occur in any mixed inference we propose to test for validity — systematically to rewrite the sentences in which they occur as sentences containing only fundamental and underived quantifiers. Consider first the particular quantifier. We eliminate occurrences of the particular quantifier by “disjunctive paraphrase” (working “from the inside out”, as they say, starting with those generic quantifiers such that no generic quantifier occurs within their scope). For example, the sentence

\[ x \text{ is a mathematical problem } \& \sim \exists y (y \text{ is a mathematician } \& y \text{ is able to solve } x) \]

is paraphrased as

\[ Ex (x \text{ is a mathematical problem } \& \sim [Ey (y \text{ is a mathematician } \& y \text{ is able to solve } x) v \forall y (y \text{ is a mathematician } \& y \text{ is able to solve } x)] \]

\[ v \]

\[ \forall x (x \text{ is a mathematical problem } \& \sim [Ey (y \text{ is a mathematician } \& y \text{ is able to solve } x) v \forall y (y \text{ is a mathematician } \& y \text{ is able to solve } x)]. \]

(The paraphrase displays clearly the “disjunctive” character of the particular quantifier.)

Consider now the universal quantifier. (This example will be simpler than the previous example in that it will not involve a generic quantifier that occurs within the scope of a generic quantifier.) The sentence

\[ \exists x (x \text{ is a mathematical problem } \& \sim \exists y (y \text{ is a mathematician } \& y \text{ is able to solve } x) \]

is paraphrased as

\[ Ex (x \text{ is a mathematical problem } \& \sim [Ey (y \text{ is a mathematician } \& y \text{ is able to solve } x) v \exists y (y \text{ is a mathematician } \& y \text{ is able to solve } x)] \]

\[ v \]

\[ \forall x (x \text{ is a mathematical problem } \& \sim [Ey (y \text{ is a mathematician } \& y \text{ is able to solve } x) v \forall y (y \text{ is a mathematician } \& y \text{ is able to solve } x)]. \]
∀x (x is a problem in algebraic topology → x is a mathematical problem)

is paraphrased as

Ax (x is a problem in algebraic topology → x is a mathematical problem)

&

∧X (X is a problem in algebraic topology → X is a mathematical problem).

(Strictly speaking, it is only the particular quantifier that is — in any sense — disjunctive. The universal quantifier, since it is the dual of the particular quantifier, is “conjunctive”.) After all the generic quantifiers that occur in the constituent sentences of an argument have been eliminated by paraphrase, the resulting “purely specific” argument may be tested for validity by applying the rules of many-sorted logic.

But this proposal is unsatisfactory for a reason closely connected with our earlier observation that some “cross-modal generalizations” cannot be expressed without the use of the generic quantifiers. Consider the following cross-modal generalization:

∀x (∀y y = x ⋅ v E y y = x).

(Everything either subsists or exists.) The method of paraphrase illustrated above yields, when applied to this sentence,

∧x (∀y y = x ⋅ v E y y = x)

&

Ax (∀y y = x ⋅ v E y y = x).

Formally speaking, this sentence is simply a theorem of many-sorted logic. If the quantifiers have their intended meanings, it says (more or less) that everything subsistent is either subsistent or existent and everything existent is either subsistent or existent. The proposal is
unsatisfactory because the paraphrases on which it relies reduce substantive meta-ontological theses to logical trivialities.

Here is a second solution to the problem of mixed inferences that a McHeideggerian might propose — and it is the only other proposal that occurs to me:

Use the Generic-representation Criterion, yes, but only to determine the validity of formal mixed inferences whose constituent sentences contain the generic quantifiers — the non-fundamental and semantically derived quantifiers. But to determine the validity of formal mixed inferences whose constituent sentences contain only fundamental and semantically primitive quantifiers, use the techniques of many-sorted logic.

As we have observed, however, an argument that contains specific quantifiers but no generic quantifiers is valid according to the rules of many-sorted logic if and only if it is valid according to the Generic-representation Criterion. (And, as we have noted, this is no deep result of mathematical logic.) This observation convinces me that a sentence containing specific quantifiers and sorted terms and its generic/unsorted “counterpart” are nothing more than notational variants. I will try to make this conviction of mine at least plausible (to anyone who does not already find it plausible) by means of a parable.

McHeidegger Triumphant Confronts the Martians: A Parable

By the end of the twenty-first century, McHeidegger and his disciples had triumphed. The McHeideggerian meta-ontology was taught in every university, and students of formal logic were taught many-sorted logic. They were also taught unsorted or generic logic, but were strictly enjoined to use this logic only in very special cases — namely, when engaged in reasoning from premises some of which could be expressed only by the use of the generic quantifiers.

One of the many shocks that followed the discovery in 2102 of the ancient hidden Martian civilization (the Martians dwelt in vast
cities far beneath the surface of their planet) occurred when it transpired that the Martians were not McHeideggerians. The Martians were excellent logicians, and, in metaphysics, many of them were platonists. But they perversely insisted on employing only one particular/general quantifier-pair in all their reasoning — in their reasoning about every subject-matter and every kind of object. That is to say, their only quantifiers were the generic quantifiers. And, when they had learned Terrestrial languages and the human *Principia*-derived logical notation, they compounded their logical perversity by insisting that they could understand the so-called specific quantifiers only as restricted generic quantifiers. Indeed, when their logic texts began to incorporate material on Terrestrial logic, they went so far as to suggest that the specific quantification of Terrestrial logic was nothing more than a *notational variant* on appropriately restricted generic quantification. Their textbooks included what they were pleased to call *translation algorithms*, algorithms based on tables of schemata like this one:

\[
\begin{align*}
\text{Ex} (\ldots x \ldots) & \quad \exists x (Zx \& (\ldots x \ldots)) \\
\text{Ax} (\ldots x \ldots) & \quad \forall x (Zx \rightarrow (\ldots x \ldots)) \\
\forall x (\ldots x \ldots) & \quad \exists x (Sx \& (\ldots x \ldots)) \\
\forall x (\ldots x \ldots) & \quad \forall x (Sx \rightarrow (\ldots x \ldots)).
\end{align*}
\]

Martian students were actually taught to think of the schemata displayed in the left-hand column of this table as *abbreviations* of their counterparts in the right-hand column!

Such perversity led to much head-shaking among Terrestrial metaphysicians and logicians over the philosophical limitations of the Martian mind. Fortunately, however, it had no untoward practical consequences, since the Martians and the Terrestrials always agreed about which arguments expressed in the specific-quantifier notation were valid. (The Martians aggravated the effects of their perversity by pointing out that while they were able to get along without the specific quantifiers, Terrestrials were unable to get along without the generic quantifiers. They sometimes suggested that it was hard to see why the semantically fundamental quantifiers should be “option-
al” and the derived quantifiers “required”. That was just plain rude, when you think about it. And that was not the end of their rudeness, for it was not uncommon to hear Martian logicians say things like, “You Terrestrials at least see how we Martians claim to derive the specific quantifiers from the generic quantifiers — even if you insist that what we call a derivation is not properly so called. But could you just fill me in on how you Terrestrials derive the generic quantifiers from the specific quantifiers? — for I suppose that, by calling the generic quantifiers ‘derived’, you are claiming to have constructed such a derivation. I ask because I don’t think I’ve ever seen the derivation actually written down anywhere”. That was really rude.)

Here endeth the parable.

7

I have to say that I’m a Martian — by philosophical conviction if not by biological ancestry. And I have to say that I don’t see what it could be that the Terrestrials (in the parable) know or are aware of or appreciate that the Martians don’t know or aren’t aware of or don’t appreciate.

“Well, they don’t know about, aren’t aware of, and don’t appreciate, the fact that there are two modes of being; and, further, they don’t know (etc.) that existenz and subsistence are so different that each requires its own pair of specific quantifiers; and, further still, they don’t know (etc.) that the generic quantifiers are not semantically fundamental but derived — semantically parasitic on the specific quantifiers, as it were.”

To me, however, the fact that the Martians get along perfectly well without the specific quantifiers (as indeed Terrestrials did before the advent of McHeidegger), strongly suggests that there’s just nothing to this idea of modes of being. (And let us not forget the fact that the Terrestrials, for their part, are not capable of getting along without the generic quantifiers.) It suggests to me that the so-called specific quantifiers are a manifestation of a fundamental meta-ontological error that I, a proponent of the “thin conception of being, have more than once contended is the foundation of the idea (endemic among the proponents of “thick” conceptions of being) that there are distinct and irreducible modes of being; the error of ascrib-
ing to the *being* of a thing a feature that properly belongs to its *nature*.
If I may quote myself (I was speaking of Sartre’s distinction between *être-pour-soi* and *être-en-soi*, but the point I was making was a general one and applies to the position of any philosopher who postulates distinct modes of being):

There is, of course, a vast difference between free, conscious agents like ourselves and mere inanimate objects. I believe this quite as firmly as Sartre does. But to insist, as I do, that this difference does not consist in the one sort of thing’s having a different sort of being from the other’s is not to depreciate it. The vast difference between me and a table does not consist in our having vastly different sorts of being (*Dasein, dass sein, “that it is”*); it consists rather in our having vastly different sorts of *nature* (*Wesen, was sein, “what it is”*). If you prefer, what the table and I are like is vastly different. This is a perfectly trivial thing to say: that a vast difference between A and B must consist in a vast difference in their natures. But if a distinction can be made between a thing’s being and its nature, this trivial truth is in competition with a certain statable falsehood. And if one denies the trivial at the outset of one’s investigations, there is no hope for one later on.\(^{16}\)

My choice of Sartre as an example of a philosopher whose philosophy exhibits the “fundamental meta-ontological error” whose character I am attempting to describe should not be taken to imply that I suppose that the error has been confined to Sartre’s side of the English Channel. That is by no means the case. Bertrand Russell, for example, has written,\(^ {17}\)

> At the end of the preceding chapter, we saw that such entities as relations appear to have a being which is in some way different from that of physical objects, and also different from that of minds or sense-data. In the present chapter we have to consider what is the nature of this kind of being, and also what objects there are that have this kind of being.

> We shall find it convenient only to speak of things *existing* when they are in space and time . . . Thus thoughts and feelings, minds and physical objects *exist*. But universals do not exist in this sense; we shall say that they *subsist* or *have being*,\(^ {18}\) where ‘being’ is opposed to ‘existence’ as being timeless.

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17. The first quoted passage contains the opening words of Chapter IX of *The Problems of Philosophy*; the second occurs near the end of that chapter.

18. Russell’s ‘existence’/‘subsistence’ distinction seems to be taken from Meinong; if so he has reproduced it imperfectly, particularly in the second passage.
I have no real argument against the meta-ontological position presented in these two quotations. They do, however, tempt me to rant for a bit. I will allow myself to succumb to temptation. Here, in lieu of an argument, is my rant.

No, Russell, no! Relations are vastly different from tables, yes, but that’s just to say that the members of one of those two classes of objects have vastly different natures from the members of the other — that the properties of relations are vastly different from the properties of tables. For example relations are, as you say, not in space and time and tables are in space and time. There. When you’ve said that, that’s what you’ve said. Relations lack the property spatio-temporality and tables have it. That’s an enormous difference between relations and tables, all right. (And of course, there are other things you might say: that things stand in relations and things don’t — in that sense, at any rate — stand in tables, or that relations exist necessarily and tables contingently; one could go on and on.) But when you’ve described the radically different properties that relations and tables have, you have not only done everything that is needed to describe the vast difference between relations and tables, you have done everything that can be done to describe it. That’s what describing a vast difference is. Stop trying to do something more when there’s nothing more to be done: stop trying to express the vastness of the difference between relations and tables by saying that they have different kinds of being.¹⁹

¹⁹ For Meinong, Existenz and Bestand are the two modes of Sein; he would certainly not have used ’Bestand’ and ’Sein’ interchangeably. And one does see his point: Would Russell really have been willing to say that Trinity College did not have being? He is truer to Meinong in the first passage, where he speaks of relations as having a different kind of being from “that of”, e.g., physical objects.

¹⁹ I thank Hannes Leitgeb and Chris Menzel for extremely helpful comments on a draft of this essay (comments that have led to extensive revisions). I also thank Daniel Durante for extensive correspondence on many of the matters raised in this paper, correspondence from which I learned a great deal, even though his arguments failed to convince me that his central thesis was correct — to wit, that it is wrong to suppose that there is such a thing as “the” existential or particular quantifier and such a thing as “the” universal quantifier. (His position is that “classical” logic has its own pair of quantifiers, and intuitionistic logic has its own pair of quantifiers — and so for paraconsistent logic, free logic, fuzzy logic, and many other “logics.” Despite his very able defense of this thesis, I remain unconvinced.) Finally, I wish to thank Kris McDaniel for his insightful comments on an earlier
version of this paper. I am sorry to say that, insightful as they were, they did not
convince me that there is any flaw in the case I have presented against the idea of
modes of being.
Dispensing with Ontological Levels: an Illustration

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Does metaphysics, or does it not, need ontological levels? Should metaphysics endorse the thesis that things of some kinds are ontologically more fundamental than things of some other kinds? Must it be a datum of metaphysics that entities of certain kinds are ontologically grounded in entities of certain other kinds? Must it be a feature of any adequate metaphysical theory that it awards a special ontological status to entities of certain kinds and denies this special status to entities of other kinds?

There are two ways to approach these questions (or this question — for the four questions I have asked are essentially the same question). I’ll call them, tendentiously perhaps, the Bad Way and the Good Way. This is the Bad Way:

Begin by giving examples of pairs of things that supposedly occupy different ontological levels (or one of which is ontologically more fundamental than the other or one of which is ontologically grounded in the other or one of which enjoys a special ontological status denied to the other). Proceed to use these examples as intuition pumps in the service of an affirmative answer to our question. Alternatively, play the other side of the game: insist that the default answer to our question is No, and dispute the examples that your opponents say support an affirmative answer — deny the existence of some of the entities that figure in the examples, or deny that there is any reason to suppose that the members of any of the pairs do occupy different ontological levels. (And similarly for the other formulations of the question.)

1 This paper is the text of the second of two LanCog Lectures in Metaphysics, which were presented at the University of Lisbon on 12 and 14 June, 2013.

Disputatio, Vol. VI, No. 38, May 2014
Received: 15/10/2013 Accepted: 15/10/2013
And this is the Good Way:

Let metaphysicians who accept the idea of ontological levels construct theories that incorporate that idea. Let metaphysicians who reject the idea of ontological levels construct theories that do not incorporate that idea. Once these things have been done — of course they will be done only if they are possible, only if it is possible to construct theories of both sorts — compare all the theories that our metaphysicians have constructed and determine which is the best. (I say ‘is’ for the sake of simplicity; in this paper, I’ll use ‘metaphysical theory’ to mean something fairly comprehensive, something like a metaphysical system — something sufficiently comprehensive that any two “metaphysical theories” will be incompatible with each other. Thus, platonist realism and presentism are not metaphysical theories in the present comprehensive sense; but any metaphysical theory must in some way incorporate a theory of universals and a theory of time.) And — again, for no better reason than my desire to keep the sentences I have to write as simple as possible — I’ll ignore the possibility of two metaphysical theories tying for first place in the goodness sweepstakes.) And, finally, affirm the reality of ontological levels only if ontological levels figure in the best metaphysical theory. (And similarly for the other formulations of the question.)

Granted, to become a follower of the Good Way is to commit oneself to finding a way to decide which metaphysical theory is the best one. But that would seem to be a problem that we metaphysicians are going to have somehow to deal with simply in virtue of being metaphysicians. (At the very least, most metaphysicians will concede that there are in metaphysics positions worthy of being called theories, and most metaphysicians will regard some of these theories as being in some sense better than some of the others.)

And, of course, we do know of some ways to compare the strengths and drawbacks of at least some pairs of metaphysical theories. I’ll give an example of the kind of thing I mean. I intend in this paper to present parts of a metaphysical theory (not to defend it; rather it will serve as an illustration of a theory that, as my title implies, dispenses with ontological levels). Suppose that I were to set out to compare this metaphysical theory with some theory of the gen-
eral kind endorsed by Jonathan Schaffer in his important recent paper “On What Grounds What.” I find it easy to predict the items that would figure in a debate between Schaffer and me about the relative merits of the two theories. For his part, he would say that my theory rests on an unworkable conception of metaphysics and that it contains a disguised but essential appeal to grounding. And I would give reasons in support of my conviction that his theory is vitiated by its failure to distinguish between sentences and propositions (a distinction that is pedantic in many philosophical contexts, but crucial in the context that Schaffer’s subject-matter has placed him in). I would give reasons in support of my conviction that his theory — the parts of it that have any meaning at all — incorporates, explicitly or tacitly, various theses that are simply false. For example — this is one of his tacit theses —, the thesis that the existence questions that are commonly disputed in metaphysics are best understood as questions about whether certain proper and common nouns that have a firm place in our everyday or scientific or philosophical discourse — ‘God’, ‘Sherlock Holmes’, ‘property’, ‘number’, ‘mereological sum’ — have (whichever is appropriate) referents or non-empty extensions.

It will, of course, be controversial whether any given theory really does have any of the features that I have imagined Shaffer and me ascribing to each other’s theories, but I doubt whether there are many philosophers who would deny that the following features constitute defects in such theories as may have them: resting on an unworkable conception of metaphysics; making a disguised but essential appeal to a thesis such that the inventors of the theory formulated it with the specific intention that it should not commit its adherents to that thesis; failure to observe a crucial distinction; depending essentially on vocabulary that means nothing at all; incorporating false theses. So — the Good Way tells us — to determine whether metaphysics needs ontological levels, examine proposed theories, not supposed cases: examine (on the one hand) theories that imply that there are indeed things that occupy distinct ontological levels, and (on the other) theories that imply either that the very concept of an ontological

level is in some way defective or that there is only one ontological
level. Compare these theories in respect of matters like the incorpo-
ration of meaningless or false statements, having unnoticed entail-
ments that demonstrably unfit them for the metaphysical work their
authors intended them to do, and so on. (One will of course want to
consider the virtues as well as the vices of the theories in question —
but I refrain from naming any theoretical virtues because it is hard,
very hard indeed, to find plausible and non-trivial examples of theo-
retical virtues that can be described in the brief compass appropriate
to an illustrative example.) The Good Way tells us that the only real
argument for the existence of pairs of things that occupy distinct on-
tological levels, the only argument worth paying attention to, is this:
a theory according to which there are such pairs emerges from this
dialectic as clearly superior to all theories according to which there
are not. And, of course, the Good Way tells us the same thing, mu-
tatis mutandis, about arguments for the non-existence of such pairs.

You have no doubt inferred, and inferred correctly, that my ad-
vice to those who try to answer the “levels” question is to follow the
Good Way. If you are comfortable with the idea of metaphysical in-
tuitions (I’m not, not really, but you may be), my advice could be put
like this: Apply your metaphysical intuitions to carefully stated and
well-worked-out and very general theories, not to particular exam-
pies or individual cases. Examples can, of course, figure in the com-
parison of theories: one can compare the ways in which rival theories
deal with particular examples. But don’t first — before considering
any theory — decide what to think about some range of examples,
and then use the set of conclusions you have reached by considering
each case individually as a fixed store of data to draw on when you
are evaluating competing metaphysical theories.

My purpose in this paper is simply to give an outline of the meta-
physical theory I favor — or, at any rate, of the part of this theory
that is particularly relevant to the question of ontological levels: the
ontology I favor. It will emerge that there is no place in this ontology
for the concept of ontological levels or for the designation of certain
entities as ontologically fundamental or for ontological grounding or
or a special ontological status that is enjoyed by some of but not all
the entities it recognizes. I do not suppose that the fact that this one
ontology has no place for ontological levels is any sort of argument
Dispensing with Ontological Levels: an Illustration

for the conclusion that metaphysics does not need ontological levels. An argument for that conclusion — the Good Way tells us — would have to consist in a comparison of all the ontologies that do not incorporate the idea of ontological levels (presumably, mine is not the only one) with the competing ontologies that do. Before any such comparative evaluation can be carried out, however, we must have the competing ontologies on the table. This paper is intended only to accomplish one part of that preliminary undertaking — to put one theory on to the table and to formulate it in a way that brings the fact that there is no place in it for the concept of an ontological level into sharp focus.

The theory that I propose to put on to the table is not the theory of material beings that I presented in the book of that name. If I were to write a systematic Summa Metaphysica in ten chapters, my theory of the metaphysics of the physical world would be presented in Chapter 9 or thereabouts. Earlier chapters, those in roughly the middle of the book, would be devoted to topics like realism versus idealism and the nature of space and time. Earlier still would be the chapters on cosmology and creation (or, more generally, on the question ‘Why is there anything at all?’). The ontology that I am going to lay out in this essay would occupy the second chapter of the book. (The first chapter would contain (a) an analysis of being and existence, and (b) a development of the concept of an ontological category — a concept that I shall use without explanation in the present essay, and (c) an account of the nature of ontological disputes — disputes about, e.g., the existence of universals or temporal parts or mereological sums. The first chapter would be, in a word, an essay in what I have called “meta-ontology.” And the meta-ontological position defended in that essay would be, in many respects but not all, Quine’s position. In the present essay, I will presuppose a Quinean understanding of existence and being and the proper method to employ in resolving disputes about what there is.)

Although, as I say, the theory that I am going to “put on to the table” is not the metaphysic of the physical world that was set out in Material Beings, I take just a moment to insist — vehemently — that that metaphysic does not in any way involve the idea of a plurality of ontological levels. I remind you that my metaphysic of physical things does not imply that electrons inhabit a more fundamental level
of being than that occupied by chairs. For that to be the case, there would have to be a level of being occupied by chairs, and for that to be the case, there would have to be chairs. And there are no chairs. Nor does that metaphysic imply that electrons and mice inhabit different ontological levels: electrons have no proper parts (so they say), and mice have proper parts (whatever Aristotle may have supposed), but an electron and a mouse are both equally “there,” and the two phrases ‘has no proper parts’ and ‘has proper parts’ are not — at least so far as I can see — phrases that even seem to be, that so much as represent themselves as, names of ontological levels.

While we are on the topic of the physical world, I will note parenthetically that there is a clear and useful causal sense in which one physical entity can be more fundamental than another: an entity $x$ is more fundamental than an entity $y$ if $x$ can exist in a wider range of physical regimes than $y$. For example, a proton is more fundamental than a sparrow because a proton can exist in every circumstance in which a sparrow can exist and can also exist in the center of a star (an environment hostile to sparrows). A quark is by the same token more fundamental than a proton because quarks exist wherever protons exist and once existed when protons could not yet exist: in the quark-gluon soup of the Very Early Universe. It seems evident, however, this use of the word ‘fundamental’ is entirely unrelated to the use of the word in current metaphysics.

Let us then turn to the metaphysic, the ontology, that I am putting on the table. The first thing to say about this theory — the content of the second chapter of my imaginary Summa Metaphysica — is that it is, if I may so express myself, radically platonistic. I will try to explain what this slogan means.

According to this ontology — let us call it the Favored Ontology —, the things that there are may be exhaustively divided into two broad categories. One of them is a category that I am willing to call by any of three names: the category of universals; the category of abstract objects; the category of relations. (I so use the term ‘relation’ that propositions count as 0-term relations, and qualities, properties, or attributes as 1-term or unary/monadic relations. Binary/dyadic and ternary/triadic — and so on — relations I call “proper” relations, a class that also includes variably polyadic relations.) I do not regard these three names as equivalent in meaning. I indeed say
that the classes “universal,” “abstract object” and “relation” are identical, but when I say this I mean to be expressing a substantive metaphysical thesis. In the sequel I will use the term “abstract object” to refer the members of this category, but the choice is more or less arbitrary and I do not mean it to imply that I regard the term ‘abstract object’ as a name for this category that is in any way more important or more, well, fundamental or than either ‘universal’ or ‘relation’.

Abstract objects, I contend, exist independently of human language and human thought. For that matter, they exist independently of divine thought. Each of them in fact exists independently of everything — or, at any rate, of everything else, everything besides itself. Each of them is, I maintain, a necessarily existent entity: the population of abstract objects is the same in every possible world. In particular, they exist independently of the contingent things that they are potentially about, are potentially features of, and potentially relate. The proposition that George Bernard Shaw was credulous, for example, exists in all possible worlds, even though Shaw himself exists in hardly any of them. The attribute credulity likewise exists in all possible worlds, even if (as I’m inclined to suppose) credulous beings like those whose multitudinous existence is such a deplorable feature of the actual world are to be found in only a minuscule proportion of logical space.

Abstract objects are, moreover, radically anetiological. That is to say, it is not possible that they should act on other things (they lack causal powers) and it is not possible that they should be acted on by other things (they are impassible). An abstract object can, of metaphysical necessity, be neither agent nor patient. (Read that statement de dicto or de re, as you will; it’s true either way.) This point applies equally to those abstract objects that are causal powers. The attribute “carries unit negative charge” (an attribute of all electrons) is a causal power, but it has no causal powers. (It’s things like electrons that have causal powers — causal powers such as carrying unit negative charge.) And it is not only the case that all abstract objects are anetiological; it is also the case that only abstract objects are anetiological. Other possible names for the category “abstract object” are, therefore, ‘anetiological object’ and ‘non-causal thing’.

Abstract objects are, finally, non-spatio-temporal. The idea of a location either in space or in time has no application to them. One
The important consequence of this thesis is that it makes no sense to say that a property is located (or wholly located) where its instances are.

The other “high” category of things, the other primary ontological category, is the category “concrete object.” Like the category “abstract object,” this category has more than one name, and it is a substantive metaphysical thesis that these names — which are not equivalent in meaning and none of which is more important or more fundamental than any of the others — are all names for one category. Other names for the category of concrete objects are: “substance,” “impredicable,” “individual thing” or “particular thing,” and “agent” (or “etiological object” or “causal thing”). (“Patient” may also be a name for this category. Whether a metaphysician supposed that it was would depend on whether that metaphysician believed, with Aristotle and St Thomas, that there was one rather special substance whose nature was incompatible with patiency.)

I understand the word ‘substance’ in either of two senses: ‘thing that cannot be predicated of things’ and ‘thing that exists “on its own” or “in its own right”’ — that is a thing that is not a mode or mere modification of some other thing; a thing that does not “inhere in” some other thing; a thing that is not an “ontological parasite.” (Obviously, Aristotelian universals, if such there be, are not substances in the second sense, but then no one would have supposed that they were, since they are not individual things. And equally obviously, individual accidents or tropes are not substances — but, again, no one would have supposed that they were. Holes and wrinkles are a more interesting case: if there are such things as holes in pieces of cheese and wrinkles in carpets, they are not substances — not even if they are space-occupying, contingently existing individual things that endure through time and have causal powers.) These are two distinct meanings that the word ‘substance’ might have. I contend only that the class of things that are substances in either sense is identical with the class of things that are substances in the other. (According to the Favored Ontology, there are no ontological parasites. This is presumably a necessary condition for this ontology’s serving as an illustration of an ontology that has no place in it for fundamentality or ontological levels — for it seems obvious that being an ontological parasite would be sufficient for being a non-fundamental thing. I would, however, insist that a philosopher who did believe that there
were ontological parasites should deny that they were substances.)

The category “concrete object” includes such items as shoes and ships and bits of sealing wax and cabbages and kings. (That is, it includes such things as these if there are such things — and if, as I suppose, Spinoza is wrong and these things are not mere finite modes of the one substance. Whether there are such things as shoes and ships and the rest of that lot is a question that must be referred to the final chapters of the Summa Metaphysica. At any rate, all such physical or material things as there are belong to this category. And such immaterial or non-physical or non-spatial or supernatural things as there may be belong to it as well, provided that they have causal powers: Cartesian egos, angels, Babylonian deities, God, ... . God, I will remark, must belong to this category — if he exists — simply in virtue of the fact that he has causal powers. He is a concrete thing even if, as some theists suppose, he exists necessarily, and even if, as some theists suppose, it is metaphysically impossible for anything to act on or affect him, and even if, as some theists suppose, he has no sort of location in either space or time.)

It follows from what we have said about abstract objects that they can in no possible sense of the word be constituents of concrete objects. Thus, the Favored Ontology agrees with “austere nominalism” on one important point: concrete objects have no “ontological structure.” They are what Armstrong has called “blobs.” The only constituents of concrete objects are their proper parts (parts in the strict and mereological sense): “smaller” concrete objects. For example, the only constituents ships have (if ships there are) are concrete things: masts and rudders and planks, perhaps, or steel plates and nails and rivets and molecules and atoms and elementary particles.

I of course recognize the fact that many metaphysicians contend that there are things of kinds that cannot, or cannot obviously, be thought of as sub-categories (or subclasses or sub-anythings) of either of the two categories I have delineated — or, for that matter, as subclasses of their union, overlapping both. We may cite:

- facts and states of affairs
- states (as in “mental state” and “physical state”)
- physical quantities: masses, charges, forces,...
- immanent universals
kinds (natural or otherwise): species, genera, taxa
- tropes or individual accidents or property instances
- bare particulars or substrates
- mathematical entities: sets, numbers, vectors, functions, operators ...
- events (or changes) and processes
- moments and intervals of time
- spatial points and lines and regions
- points in and regions of space-time
- stuffs and quantities of stuff: water; the water in this glass
- “derivative entities” or “ontological parasites” or “modes of substance”: holes, cavities or hollows, surfaces, waves, shadows, reflections ...
- mental/perceptual/intentional entities (other than immaterial mental substances like Cartesian egos): pains, qualia, sensations, sense data, thoughts, episodes of reasoning, the witch that Hob thought had blighted his crop ...
- linguistic entities: word-tokens, sentence-types, questions, tenses, languages ...
- social entities: married couples, universities, football teams, political parties, religions, nations ...

The fact that it is hard — and may in some cases be impossible — to find a place for entities of these kinds in the Favored Ontology should not be taken to entail that that ontology has any implications, any implications whatever, in the matter of whether any sentences spoken in the ordinary business of life express true or false propositions. I take the ontology I propose in no way to imply that any of the following sentences cannot express truths when uttered in everyday circumstances in which their utterance would be conversationally appropriate:

There are several well-known facts that the Senator chose to overlook in her speech

For any solid object in the shape of regular cone and for any units of linear measure [yards, nanometers, light-years ...], there are real numbers $x$ and $y$ such that (a) the circumference of that object at its base is $x$ units to four significant decimal places, and its
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height is \( y \) units to four significant decimal places, and (b) its volume is \( \frac{x^2y}{37.6991} \) cubic units to four significant decimal places.

There are exactly as many one-centimeter holes in this board as there are one-centimeter wooden dowels in the enclosed packet.

When speakers of Portuguese utter Portuguese declarative sentences in the ordinary business of life, they very often thereby say true things.

In my view a successful defense of the Favored Ontology would include ways of providing paraphrases of those natural-language sentences that both express truths and appear to involve reference to or quantification over things that are neither propositions, properties, relations, nor substances in such a way that the paraphrases (a) either express the same propositions as the originals or at least — as it were — can serve the same purposes as the originals, and (b) involve reference to and quantification only over propositions, properties, relations, and substances.

I might, for example, in attempting to provide such paraphrases say that states of affairs are just exactly propositions (the states of affairs that obtain being true propositions and the states of affairs that do not obtain being false propositions), and I might say that facts are simply states of affairs that obtain — that is, true propositions. I might first paraphrase all sentences that are couched in the standard vocabulary of applied mathematics as sentences whose only specifically mathematical vocabulary comprises the two predicates ‘is a set’ and ‘is a member of’ — and then go on to rewrite all the resulting sentences as sentences whose variables range not over sets but over properties, using the formal techniques Russell employed in his “no class” theory. I might identify kinds with their “corresponding” properties: that is, I might, e.g., identify the kind “horse” with the property equinity or horsehood. I might attempt to interpret all discourse apparently about social entities as discourse about people and various propositions they accept or have undertaken to bring about the truth of and various relations in which they stand to one another; I might, e.g., attempt to interpret discourse about religions as discourse about people and various theological propositions and various
relations like the variably polyadic relation expressed by ‘the $x$s are co-religionists’.

Now one might well ask, Why just those two categories? Why not none — that is, why not dispense with the concept “ontological category” altogether? Or, if you are going to make use of that concept, why not just one of those two? And why not other categories — whether or not those other categories are employed in conjunction with one or both of the categories “abstract object” and “concrete object”? My answer to the question ‘Why not none?’ would depend on my analysis of the concept “ontological category,” and that is not a task I am prepared to undertake in within the confines of this essay.

If the question is, Why not only one of your two categories?, this question will make sense only if that “one” is the category “concrete object” — for it is obviously an absurd thesis that there are only abstract objects; if there are only abstract objects, what are we and what is “all this” (imagine that I have spoken those words aloud and have accompanied them with a gesture obviously intended to indicate “all around I see”)? I am of course aware that there are ontologies according to which everything is a “property.” There is Laurie Paul’s ontology, for example, or James Van Cleve’s “New Bundle Theory” (invented by him, but not endorsed by him). But the “properties” that are the members of the sole category endorsed by such theories cannot be what I am calling “properties” — since they, or some of them, can be present in various regions of space and since they, or some of them, can enter into causal relations (some of them are visible, for example).

Suppose the question is, Why does your ontology include abstract objects? Why not only concrete particulars? Why not only substances? Why are you not a nominalist? I have answered this question elsewhere: I should very much like to be a nominalist, but I can’t see my way clear to being a nominalist. I can’t see my way clear to being a nominalist because I don’t like contradicting myself, and I find that I can’t get along in the world without saying things that imply the existence of abstract objects — or at least they seem to me to have that implication, and I can find no very convincing reason to suppose that that seeming is mere seeming. But this confessional statement raises large questions that I cannot address here.
Why, then, do I not employ other categories? Why does my ontology not include states of affairs — states of affairs that are not propositions but are rather the truth-makers for propositions? Why does it not include states — mental states and physical states, conceived as things that have causal powers? Why, for God’s sake, does it not include events? And so on and so on.

To this series of questions there is a long answer and a short answer. To present the long answer I should have to write a book or at any rate a monograph. I choose to present only the short answer. It can, I hope, be given in the form of an example — followed by an attempt to generalize the moral of that example. The example is this: I will try to explain why my ontology does not include events.

Let us consider one of those pokers that were apparently an invariable adjunct to life in the rooms of Trinity College a century ago. The poker is cold; it is placed in the fire and becomes hot. That is to say, a certain substance, the poker, acquires a certain property, the property “being hot.” Why not say that the poker’s acquisition of the property “being hot” entails the existence of a third item (an item identical with neither the poker nor the property “being hot”), an item denoted by the very words I have used: ‘the poker’s acquisition of the property “being hot”’? And, of course, if the description ‘the poker’s acquisition of the property “being hot”’ denotes something, what it denotes is a certain event, a certain change in the way things are.

I have imagined that I have been asked the question, “Why not say that there are events?” But the ghost of Occam is whispering another question in my ear: Why say that there are events? Why multiply entities beyond necessity? Now you may want to tell me that to affirm the existence of events is not to “postulate” them — any more than to affirm the existence of Scotsmen or camels or historians of medieval philosophy is to postulate something. We already believe in the existence of events, you may want to tell me: earthquakes and lovers’ trysts and traffic accidents are items in everyone’s ontology. And if we do allow the term ‘postulate’ (I imagine your continuing), in postulating the existence of events, we’re hardly postulating beyond necessity: we can’t say what we need to say without referring to and quantifying over events.

These questions are not easily answered in a brief compass. I will attempt to answer only the second, and I cannot devote to it the
space that it deserves. I say that to affirm the existence of events, whether you call it postulating or not, is to affirm the existence of items one doesn’t need to affirm, since it is possible to paraphrase all sentences that involve reference to and quantification over events as sentences that involve only reference to and quantification over substances and properties. (And, I contend, these paraphrases will be workable substitutes — but for length and complexity — for their originals, whether those originals figured in scientific explanations, in philosophical arguments, or in the conduct of the ordinary business of life.) I cannot defend this thesis here: my purpose in stating it is only to point out that it is the thesis I am putting forward when I say that it is not necessary to affirm the existence of events.

You may reply that the argument is insufficient. After all, in that wonderful ironic fragment called “Ontological Misogyny,” Alonzo Church showed how to paraphrase away all reference to and quantification over women. And yet women exist; they inhabit the realm of being in serene indifference to Church’s splendid logical tour de force. And, for all logic can tell us, it may well be that there are events despite the fact (if fact it is) that it is possible to eliminate quantification over events from our discourse. What logic can tell us is the following: If Olivia the ontologist — whose taste for desert landscapes has led her to embrace the proposition that she inhabits an event-free world — has a way of paraphrasing those of the sentences she wishes to utter that apparently imply the existence of events (Olivia, of course, holds that this appearance is mere appearance) in such a way that the sentences her method yields do not even apparently imply the existence of events, then she is in a position to say practically useful everyday things like ‘The commission’s report contains a detailed description of the sequence of events that led up to the release of radioactive material into the atmosphere’ and to say theoretically useful metaphysical things like ‘There are no events’ and, nevertheless, to avoid (perhaps) contradiction, and (certainly) the appearance of contradiction.

1 “Ontological Misogyny” (also known as “The Ontological Status of Women and Abstract Entities”) is available at several places online. Two of them are http://www.jfsowa.com/ontology/church.htm and http://cs.nyu.edu/pipermail/fom/2005-September/009079.html.
I can, moreover, cite a more important motivation than a mere love of ontological parsimony for refusing to affirm the existence of events. It is this. It is not at all clear to me that it is possible to assign a complete and consistent set of properties to objects of that alleged kind. I take it to be obvious, a mere matter of logic, that everything has, for any property, either that property or its complement. In other words, any meaningful question about either objects of a certain kind or about any given object of that kind must have an answer. And it seems to me that if there are events, there are many clearly meaningful questions that can be asked about them (general questions, questions about the category “event” and questions about the supposed referents of certain singular descriptions that purport to denote events) that have no answers. It may be that a theory of events would answer certain of these questions. For example: Can an event recur?, or What is the relation between, e.g., the object called “the poker’s becoming hot at noon” and the poker? (The poker must in some sense be a “constituent” of the poker’s becoming hot at noon — but what, precisely, is this “constituency”?) I am less sanguine about the possibility of answering questions like those posed in the following example.

Consider a certain gradual acquisition of the property “being hot” by the poker in McTaggart’s study, an event that occurred in the morning of on March 11th, 1905; to be more precise, it started at 9:03 a.m. and went on till 9:09 a.m. Here’re some questions about that event. Could it have happened earlier or later? — and, if so, how much earlier or how much later? Could it have happened over a longer or shorter period of time? And here’re some more questions about it. The poker, on that occasion, reached a maximum temperature of 487˚ C; would it still have occurred if the poker had reached a significantly higher temperature, or if it had reached only a significantly lower one? Only certain parts of the poker reached 487˚ C; suppose it was other parts of the poker that had reached that temperature. Would it nevertheless have occurred?

I cannot show that there could not be a marvelous theory of events that implied that all these questions had answers, but I would ask why one should bother to try to find or construct such a theory, however
marvelous, if apparent reference to and apparent quantification over events can be eliminated from our discourse. Why should we metaphysicians invest the precious and severely limited time that is given to us for serious metaphysical thinking in an attempt to find answers to intransient questions if we can make the questions go away?

I think it is important to note that an appeal to ontological levels or grounding or ontologically fundamentality does nothing to enable us to resolve these questions (to answer them or to deal with them in any other way — for example, to dismiss them as meaningless or somehow illegitimate). Suppose we assume that certain entities — substances and properties, it may be, but pick any entities you like — are ontologically fundamental and that events, although there indeed are events, are not among these ontologically fundamental entities. That is to say, assume, that events are ontologically grounded in the fundamental entities, that their existence and their properties and the relations they stand in to one another and to the fundamental entities are all somehow “automatically generated” by the existence of and the properties of and the relations that hold among the fundamental entities. Still, events exist. They’re really there. Apparent reference to and quantification over them is not mere appearance. They do not, as it were, disappear when the sentences that apparently imply their existence are subjected to careful logical or ontological analysis. And that means, as I have said, that each of them has, for every property, either that property or its complement. And that implies that all the questions I have asked must have answers. This is the moral of my example, the moral I promised to generalize.

And the generalization is obvious: it is a defect in a metaphysical theory if it affirms the existence of things that raise questions that have no answers. And it is a prima facie defect in a metaphysical theory if it affirms the existence of things that raise questions such that those who espouse the theory are at a loss to provide answers to them. And that is why I have chosen substances and relations as the only entities whose existence my theory affirms. I do not mean to imply that I can solve all the problems that these entities raise — or all the questions that must by answered by the metaphysician who affirms the existence of substances and relations and nothing else.⁴

⁴ There are three problems in this area that I know of no fully satisfactory
I can say only that:

(a) I don’t think that substances and relations can be dispensed with; I don’t see how to “paraphrase away” the apparent reference to and quantification over substances and relations that is a pervasive feature of our everyday and philosophical and scientific discourse. I think, therefore, that such problems as are raised by substances and relations are unavoidable.

(b) I do think that all the other entities of the sorts whose existence might be affirmed by a metaphysician writing, in my trope, Chapter 2 of a *Summa Metaphysica* (i) raise intransigent questions comparable with those I raised in my brief discussion of events, and (ii) can be dispensed with. If I do not in every case know how to do this (see n. 3), I am willing to include in my “research program” the search for techniques of paraphrase that will enable us to dispense with the entities whose “dispensability” is still problematical. I regard the problem of finding suitable techniques of paraphrase as tractable.

(c) There is no place for the concept of entities that occupy different ontological levels in a metaphysical theory that affirms the existence of only of substances and abstract objects (understood in the “radically platonistic” sense endorsed by the Favored Ontology). And, therefore, there is no place in such a metaphysical theory for the concept of entities that are ontologically grounded in other entities or the concept of entities that are ontological fundamental. Substances are not grounded in abstract objects, and abstract objects are not
grounded in substances. Nor are some substances grounded in other substances or some abstract objects grounded in other abstract objects — not, at any rate, in any sense of “grounded in” that at all resembles the sense in which, e.g., the set that contains Socrates and nothing else — a standard example of an entity that is said to be grounded in an entity of another sort — , is said to by those who use this example to be grounded in Socrates. Substances and abstract objects, moreover, do not occupy different ontological levels. They belong to radically different ontological categories, yes, but there is nothing that could be meant by saying that one of these categories was more fundamental than the other. Nor do any two substances occupy different ontological levels. Nor, finally, do any two abstract objects occupy different ontological levels.

Anyone who accepts the theory I have outlined (the Favored Ontology) has thereby “dispensed with ontological levels.” As I have said, this fact by no means constitutes an argument for the conclusion that metaphysicians should reject the concept of objects that occupy distinct ontological levels. An argument for that conclusion could (as I have said) emerge only in the course of a systematic and comprehensive comparison of, on the one hand, the defects and merits of the metaphysical theories that, like the Favored Ontology, do not incorporate the idea “ontological level,” and, on the other, the defects and merits of the metaphysical theories that do incorporate this idea.

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\footnote{In my view, this statement is fully consistent with classical theism. There is certainly a sense in which God and creatures occupy different ontological levels, but it is not — it in no way resembles — the sense in which "singleton Socrates" and Socrates (supposedly) occupy different ontological levels.}
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References


Olfactory Objects

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Abstract
The philosophy of perception has been mostly focused on vision, to
the detriment of other modalities like audition or olfaction. In this
paper I focus on olfaction and olfactory experience, and raise the fol-
lowing questions: is olfaction a perceptual-representational modality?
If so, what does it represent? My goal in the paper is, firstly, to provide
an affirmative answer to the first question, and secondly, to argue that
olfaction represents odors in the form of olfactory objects, to which
olfactory qualities are attributed. In order to do this I develop an em-
pirically adequate notion of olfactory object that is sensitive to the pe-
culiarities of olfaction, and defend it against various objections.

Keywords
Olfaction, olfactory experience, representationalism, subjectivism

1 Introduction

We hold our olfactory experiences in great esteem. We spend a
considerable amount of time and money perfuming our clothes, our
homes, and ourselves. We find great pleasure in the kind of olfactory
experiences we have when we hold a glass of fine wine against our
noses, or feel the aroma of freshly brewed coffee in the morning. A
certain smell can bring powerful memories from the past and create
long-lasting emotional associations, while an unpleasant smell can
make us feel immediately uneasy, with an overwhelming urge to get
away from the malodorous source of the smell.

And yet, in spite of the great importance assigned to olfactory
experience in everyday life, many questions in the philosophy of
olfaction remain unanswered. In particular, is olfaction a percep-
tual-representational modality? Or should we understand olfactory
experiences in the model of sensations, i.e., as non-perceptual, non-
representational sensory states with no intentional objects of their own? Moreover, if olfaction is a perceptual-representational modality, what does it represent? Does it represent odors in the form of olfactory objects, to which qualities like ‘musky’, ‘rosy’ or ‘minty’ are attributed? Or does olfaction merely represent the instantiation of free-floating olfactory qualities like ‘rosy’ or ‘fruity’, that are not attributed to any odor in particular?

These questions remain hotly debated topics in the philosophy of olfaction. Regarding the first, many philosophers remain unconvinced that olfaction is a perceptual-representational modality, to be treated in the same model as vision (Peacocke 1983, Perkins 1983, Chalmers 1996). According to a popular argument in favor of this view, the phenomenology of olfaction calls for a theoretical treatment in the model of sensations, rather than perceptions directed at something external to the subject.

Moreover, even if we grant, for the sake of argument, that olfaction is a perceptual-representational modality, it is still not clear what it would mean for it to represent odors as olfactory objects. One popular argument against this view is based on the observation that we cannot, on the basis of olfaction, spatially discriminate odors from one another (Matthen 2005, Clark 2000, Batty 2010). Odors do not have definite sizes, and do not occupy determinate locations in the space around us. But as many philosophers have argued, genuine object representation presupposes a capacity for spatial differentiation and tracking (Shoemaker 1996, Campbell 2007, Siegel 2006a). Therefore, the poor spatial character of olfaction suggests that odors are not represented in olfaction in the form of olfactory objects. If

1 These two views are not meant to exhaust all possible options. Another possibility would be to hold that olfaction represents sources of odors, objects that typically give off smells such as roses, basil leaves or wet dogs. There are, however, notorious difficulties with this view. For once, it would make all our experiences of rosy smells that are not caused by the presence of roses falsical, but this seems wrong. When we smell a bottle of rose oil, there is nothing wrong with our noses, and we are not under any kind of olfactory illusion: we accurately smell a rosy odor in the air, as we should. As no one, as far as I know, has seriously defended the view that olfaction represents sources of odors, I will not consider it in this paper (see Lycan 1996, Batty 2010, Perkins 1983 and Richardson 2013 for further arguments against this view).
Olfactory Objects

olfaction has a representational content at all, this content must have an objectless structure (Batty 2010). This argument remains one of the biggest challenges to the claim that olfaction represents odors as olfactory objects.

In this paper I will provide an answer to this argument, and elucidate the sense in which odors are represented in olfaction as olfactory objects. First of all, the criteria for object representation sketched above presuppose a highly visuocentric notion of ‘objecthood’, based on the kinds of solid, opaque, three-dimensional material objects we encounter in visual experience. But that is hardly relevant for a sense modality like olfaction. If olfaction represents olfactory objects, it is surely not because these objects are presented to us in experience as spatially discriminated entities. Rather, I’ll suggest that the relevant criterion for individuating olfactory objects is chemical structure. Our olfactory system is naturally tuned to recovering certain chemical structures amidst all the chemical compounds that arrive simultaneously at the nose, thus representing each of these recovered structures as an odor, which is an olfactory object. Moreover, I shall argue that there are two good reasons to postulate olfactory objects:

First of all, the object-attribute structure of olfactory contents capture very well certain experiences of smelling, where we focus on a certain smell and come to notice some of its subtler tones. Objectless contents, as I will argue, do not adequately capture these experiences. Secondly, olfactory objects serve to mark an important psychological ability attributed to the olfactory system, whereby it is able to discount idiosyncratic variations in chemical stimulation in order to focus on the more stable chemical properties of the distal odor itself, which is represented as an olfactory object that stays constant even as proximal stimulation changes. This makes the notion of olfactory object very useful in theorizing about olfaction and olfactory experience.

The structure of the paper is as follows. I will start by introducing a view I will call subjectivism, which argues, on the basis of phenomenological observations, that olfaction is not a perceptual-representational modality (Chalmers 1996, Perkins 1983). I will then borrow an argument from Louise Richardson (2013) in order to show that phenomenological considerations alone do not support a subjectivist conclusion. As an alternative, in section 3 I will discuss
representationalist views, according to which olfactory states are genuinely perceptual, representational states with semantic properties of their own. Representationalism can come in two forms: object-based views (Lycan 1996/2000, Tye 2002), which postulate odors in the form of olfactory objects in the contents of olfaction, and objectless views (Batty 2010), which take the contents of olfactory states to have an existentially quantified, objectless structure.

My final conclusion will be that object-based representationalism is true of olfaction, although the arguments adduced in its favor by Lycan and Tye will be shown to be less than satisfactory. But before defending this view I will consider in section 4 one powerful objection against it, raised by Tyler Burge (2010): according to Burge, there is no explanatory gain in positing perceptual representations of odors. We should only posit perceptual representations if there is need to distinguish what is proximally registered by the organism’s sensory systems from what is supposedly represented in the organism’s perceptual state. But since we have no need to draw this distinction in olfaction, we should not take olfaction to be a perceptual-representational modality.

But this objection can be met. In the last and final section of the paper, I will appeal to empirical data in order to argue that we do need to posit perceptual representations of odors in olfaction. Most odors we experience are complex mixtures of many different odorants, and are usually delivered to our noses along many other odorants and compounds. In order for us to have an experience as of a particular odor, the olfactory system needs to extract a very complex blend against a background of irrelevant odorants, and represent it as the same odor despite idiosyncratic variations in chemical stimulation. Thus, contrary to what Burge supposes, we do need to distinguish proximal registration of odorants from perceptual representations of odors. We do need, after all, olfactory objects: an odor representation that stays constant even as proximal stimulation changes.

2 Subjectivism

Many philosophers have argued that it would be wrong to take olfaction as a perceptual-representational modality. According to what we may call subjectivism, the most accurate way to characterize
olfactory states would be in terms of unstructured sensations of odor qualities like ‘musky’, ‘rosy’ or ‘minty’, that may call up memories or cause certain emotional states, but that do not represent anything. Olfactory experience in this view does not attribute qualities to anything other than itself. These qualities are properties of experience, something internal to the subject (hence the term ‘subjectivism’).

The main argument in favor of subjectivism is phenomenological. According to the subjectivist, olfactory experience does not reveal that the qualities we smell are qualities of something external to us. Rather, we experience these qualities as qualitative modifications of our own consciousness, something that happens within us. Take, for example, an experience of a rosy smell; if we abstract away from our visual and/or tactile experience of a rose, and from our background knowledge that this kind of olfactory quality is typically caused by the presence of roses, the smell itself does not seem to be a stable property of an external object that would continue to exist unperceived. As Chalmers puts it, ‘smell has little in the way of apparent structure and often floats free of any apparent object, remaining a primitive presence in our sensory manifold’ (Chalmers 1996: 8).

Moreland Perkins agrees (1983). On the basis of similar phenomenological observations, Perkins argues that what we become aware of in olfaction is not a sensible quality of an external object like an odor or its source. Rather, we become aware of a qualitative feature of our own experience, of its distinctive phenomenal character. ‘It smells rosy’, in this picture, should be glossed as: ‘my experience has a rosy-like olfactory character’. Therefore, Perkins concludes that it would be wrong to adopt a realist perspective vis-à-vis olfactory qualities: they aren’t properties of things in the world, they are dispositions in us to have experiences of certain distinctive kinds (Perkins 1983, ch. 3).

It is hard to deny that subjectivism has some initial appeal. Historically, olfaction has always been considered to be a more subjective sense modality, more naturally associated with unmediated affective

2 Peacocke (1983) also suggests something along similar lines, when he writes: ‘a sensation of smell, by contrast [with visual perception], may have no representational content of any sort, though of course the sensation will be of a distinctive kind’ (Peacocke 1983: 5).
responses and memory associations than with perceptual knowledge about the external world, as vision has always been.\(^3\) This affective and mnemonic dimension suggests a picture of olfaction as a sort of ‘inner’ window onto the self, a direct link to our most primitive and unmediated affective responses, rather than a form of epistemic ‘openness’ to the external world.

This view seems to be supported by empirical evidence. Studies with anosmic patients, i.e., people who have completely lost their sense of smell, reveals how crucial olfaction is in making us feel ‘at home’ in the world, providing an affective background against which conscious experience takes place (Van Toller 2000). After losing their sense of smell these patients feel lost, unmotivated, and eventually exhibit signs of severe depression. It is as if their experiences had no ‘color’ anymore, as if they could no longer fully connect to the world they inhabited. These observations suggest a more subjectivist picture of olfaction: one where olfactory states function as an affective background against which conscious experience takes place, rather than representing something external to the mind. Olfaction looks inwards, so to speak, not outwards.

But of course, there is nothing here a representationalist needs to disagree with. No one denies that there is an important affective, subjective dimension to olfaction, but that need not be incompatible with the claim that olfaction is a genuine perceptual-representational modality, whose function is not only to tell us of our own internal states but also to inform us about the current state of the world around us. Furthermore, it is far from clear that this subjectivist, ‘inner-looking’ picture of olfaction is something we can get out of phenomenological reflection alone. When the subjectivist claims that a smell is nothing but a ‘primitive presence in our sensory manifold’, she is in fact ignoring an important dimension of olfactory experience. As Louise Richardson (2013) correctly points out, our conscious olfactory experiences are typically accompanied by an experience of smiffing, a feeling of ‘taking in’ the air from the outside as we breathe. As Richardson argues, when we say we have an experience of smelling freshly brewed coffee, this is more than an

\(^3\) See Le Guérer 2002 for a historical overview of olfaction in philosophy, psychology and psychoanalysis that provides support for this claim.
introspective report of a qualitative change in us. This is also a report on what things are like in our external environment, that something ‘out there’ bears this olfactory quality. For we only sense the smell of coffee when we actively bring in the air from our external environment by sniffing. The coffee-like quality that characterizes our experience is a quality of something that was lurking in the air around us, and is now coming into our bodies through our noses. If this is an experience we want to avoid, all we need to do is temporarily cut the airflow in our noses by holding our breath, thus preventing the air from coming in.

There is, in other words, an important exteroceptive element in the phenomenal character of conscious olfactory experience, provided by the experience of sniffing, of ‘taking in’ the air from outside. The subjectivist can only make her case by ignoring this element of conscious olfactory experience. But once we see that we cannot abstract the experience of sniffing from a complete characterization of (typically) what it’s like to smell, the phenomenological case for subjectivism is considerably weakened.

Granted, there are some answers available to the subjectivist to resist Richardson’s arguments. She could, for example, hold that the experience of sniffing is not strictly speaking an element of olfactory experience, but a tactile sensation, caused by airflow in the nasal cavities. Although one could hold such a view, I agree with Richardson that it would involve some substantial commitments concerning the individuation of sensory modalities, which are highly controversial (2013: 412-14). So if the subjectivist can make her case only on the basis of these controversial commitments, her case is also weakened.

But regardless of our final verdict on the issue, my aim in this section was merely to cast some doubt on the sort of phenomenological observations the subjectivist appeals to in order to make her case. As far as phenomenology is concerned, there are other data we may appeal to in order to mount a case against subjectivism, as Richardson has shown us. Therefore, it is far from clear that this question will be settled on phenomenological grounds alone. But as we shall soon see, there are other good, independent reasons for representationalism, which concerns the role of olfactory representations in accounting for certain facts about olfactory experience and olfactory processing. These will be spelled out in more detail in sections 3 and 5 of the paper respectively.
3 Representationalism

While the arguments in favor of subjectivism remain controversial, the most plausible theoretical alternative is representationalism. According to the representationalist, olfactory states are genuinely perceptual, representational states with semantic properties of their own, which function to tell us something about our external environment. Olfactory experience, in this picture, does not merely tell us that qualities are instantiated; it tells us that these qualities are instantiated out there, in the world, an experience that may be true or false, accurate or inaccurate according to how things really are out there.

But if we move towards representationalism, one question that immediately arises concerns what it is exactly that olfaction represents. According to object-based representationalism, olfaction represents odors in the form of olfactory objects, which bear the olfactory qualities we experience. One supporter of an object-based view is Michael Tye (2002). Although Tye’s primary concerns are not with a philosophical theory of olfaction, he does provide some brief remarks in that direction, which suggests a phenomenological argument in favor of object-based representationalism. ‘When we introspect our experiences of hearing, smelling, and tasting,’ Tye tells us, ‘the qualities of which we are directly aware are qualities we experience as being qualities of sounds, odors, and tastes’ (Tye 2002: 142). Although he does not develop this point in more detail, we can propose an argument in favor of object-based representationalism roughly along these lines:

When we have a certain olfactory experience of a coffee-like quality, we feel this quality to be instantiated by something in our external environment, as we actively bring in the air from outside into our bodies by sniffing. But the things out there that carry the chemicals responsible for the olfactory qualities we smell are odors. Therefore, if experience represents olfactory qualities in ‘the air outside us’, it represents them as qualities of particular odors. This also seems to be Lycan’s argument in favor of object-based representationalism, when he writes:

Consider what an odor is, in the public sense of the term. It is a vaporous emanation, a diffusing collection of molecules typically given off
from a definite physical source. It is itself a determinate physical thing that makes physical contact with the smell receptors in one’s olfactory epithelium and sets them to firing. Moreover, there is nothing arcane about this. We are publicly and commonsensically aware of odors; they are public physical entities available for sensing by anyone who, fortunately or unfortunately, happens by. (...) Now odor is a candidate for the representatum (...) perhaps, then, smells represent odors (Lycan 1996: 146).

Now, as a metaphysical characterization of odors, the passage above is acceptable. However, it can hardly count as an argument for object-based representationalism. To be sure, no one would deny that odors are in fact the things we come in contact with in olfaction, as vaporous emanations that bring to our noses the volatile chemicals responsible for the smells we experience. But it does not follow from this claim that olfaction represents odors as bearers of the olfactory qualities we smell. It is one thing to say, with Richardson (2013), that olfactory qualities are presented as instantiated by something in the air outside us, and quite another to say they are presented as attributes of particular odors. The latter is a more substantial claim, which needs to be argued for. But Tye’s and Lycan’s observations do not seem to take us far enough.

Philosophers like Austen Clark (2000), Mohan Matthen (2005) and Clare Batty (2010), for example, have argued that if odors were presented in olfaction as olfactory objects, they should be presented as individual entities spatially differentiated from one another; and that we should be able, on the basis of olfactory experience, to pick out and perceptually track one of these objects as opposed to another. As Shoemaker puts it,

Sense perception affords ‘identification information’ about the object of perception. When one perceives one is able to pick out one object from others, distinguishing it from the others by information provided by the perception, about both its relational and its nonrelational properties. The provision of such information is involved in the ‘tracking’ of the object over time, and its reidentification from one time to another. (Shoemaker 1996: 253)

But olfactory properties are not presented to us like that. If I smell something smoky, and then come to smell something minty, olfactory experience does not tell me if there is a single odor that is both smoky and minty (as the odor of a mint-flavored cigar that has been lit in the room), or if there is one smoky odor and one minty odor (as
the odor of a mint-scented air freshener which has been sprayed in the room after a cigar has been lit) (Clark 2000: 79). For where would the minty odor be, as opposed to the smoky one? And how can I perceptually track one odor rather than the other? These questions are meaningless in olfactory experience. All I get from experience are free-floating olfactory qualities: ‘minty’, ‘smoky’, and so on (Matthen 2005: 284). Differently from vision and even audition, olfaction has a very poor spatial character, and it does not seem to provide us with ‘identification information’ about odors, as Shoemaker would put it. Therefore, according to this line of thought, objectless contents seem unavoidable if we want to be true to the phenomenal character of olfaction.

In this spirit Batty proposes her ‘abstract content view’ (or ‘objectless’ view), where the content of olfactory states are expressed with an existentially quantified structure that tells us that olfactory qualities are instantiated at some undifferentiated spatial location all around the subject (Batty 2010). This structure seeks to capture the phenomenological observation that olfactory qualities are always presented together in the air around us, and not as properties of one particular odor or another. In this picture, an experience of minty and smoky olfactory qualities would have a representational content like:

\[ \text{OLF EXP: } \exists x (x \text{ is minty } \& \ x \text{ is smoky } \& \ x \text{ is at } L_0) \]

This general structure, with only one quantifier and one undifferentiated location ‘all around the subject’ (L₀), is supposed to capture all the richness of experience through the possibility of adding as many represented qualities as we like inside the parenthesis. At the same time, the phenomenological observation that these qualities are experienced as spatially undifferentiated is respected by keeping L₀ as the only location referred to in the content of this experience, comprising the entirety of the olfactory field. This experience will be veridical if there is really something out there that smells minty and smoky, and false otherwise — in case the subject is victim of the kind of olfactory hallucination seen in clinical cases of phantosmia, where patients have recurrent olfactory experiences in the absence

¹ From Batty 2010: 530.
of external stimulation (Cowart & Rawson 2005).

But is it true that these contents can really capture ‘all the richness of experience’? It doesn’t seem so. To see why, imagine for example that you are quietly working in your office, when a delicious smell comes into the room. You sniff profoundly, and come to recognize it as grilled eggplant. According to Batty, the content of your experience would be captured by a structure like:

OLF EXP 1: \( \exists x (x \text{ is eggplanty} \land x \text{ is at L}_0) \)

But suppose that for some reason you become interested in this smell. You want to know more about it. You focus your attention on it, and start to notice some of its subtler notes and tones. There is a sweet tone to it, and perhaps also something earthy. You have adopted a different perspective in relation to the smell, where you consciously try to sense its subtler qualities and tones. But how can we capture this experience in Batty’s view? With the theoretical tools at our disposal, the only option would be to add these further qualities to ‘the air around us’, leaving us with a content like:

OLF EXP: \( \exists x (x \text{ is eggplanty} \land x \text{ is sweet} \land x \text{ is earthy} \land x \text{ is at L}_0) \)

But this does not seem right. As formulated, this content fails to capture the sense in which the sweet and earthy qualities you smell are qualities of the eggplant odor, which you notice when you focus your attention on the smell in this manner. They are not just qualities in the air, presented to you alongside the eggplant quality; rather, they are subtler tones of the eggplant smell.

To make this point clearer, imagine that as you are noticing the subtler tones of the eggplant smell you notice another smell in the air, which you recognize as sweet potato pie being baked in the oven. According to Batty the contents of your experience would be something like:

OLF EXP: \( \exists x (x \text{ is eggplanty} \land x \text{ is sweet} \land x \text{ is earthy} \land x \text{ is sweet-potato-y} \land x \text{ is at L}_0) \)

This change of perspective is something very familiar to wine tasters and perfumers, who need to break a smell apart and notice some subtler tones that inexperienced smellers have more trouble noticing (Lawless 1997).
But now imagine that you focus your attention on the smell of sweet potato pie, and come to notice some of its subtler qualities, which are also presented to you as sweet and earthy tones. If we follow Batty the contents of this experience would be exactly the same as the content of the previous experience, when you focused on the qualities and subtler tones of the eggplant smell. But these are different experiences, with different phenomenal characters. Focusing on an eggplant smell and noticing its sweet and earthy tones, while there is also a smell of sweet potato pie in the room is different from focusing on the smell of sweet potato pie and noticing its sweet and earthy tones, while there is also a smell of grilled eggplant in the room. Batty’s theoretical apparatus seems unable to distinguish between these two experiences.

In order to acknowledge the difference between these two cases we need something else in addition to existentially quantified properties and reference to an undifferentiated location $L_0$. What we need is an odor, an olfactory object, that could bear the different qualities one comes to notice when one focus one’s attention on it. Once we allow olfactory objects in the contents of olfactory experience, the experience of focusing on the eggplant smell and noticing its sweet and earthy tones could be captured in terms of a structure like:

$$\text{OLF EXP: } ([\text{grilled eggplant}]_\text{sweet, earthy})$$

The linguistic material inside the brackets stands for a repeatable type, that marks a psychological ability attributed to the olfactory system: to recover from all the chemical compounds that arrive at the nose, the familiar chemical structure of the odor recognized as a ‘grilled eggplant’ odor. This is so regardless of the linguistic material we choose to put between the brackets. As Howes 2002 has shown, the linguistic labels people attach to odors are highly idiosyncratic, so how we choose to express this content in linguistic form is not important. The olfactory object between brackets is posited in order to mark an ability of the olfactory system, to segregate a certain chemical structure from a background of chemical noise. In the example above the olfactory object was classified as a ‘grilled eggplant’ odor, but it could easily have a different linguistic label (‘grandma’s summer eggplant’), or no label at all (you recognize it as an odor you have experienced before, but you are incapable of applying a linguistic label to it).
When your olfactory system represents this odor, you are in a position to focus your attention on it, and notice some of its subtler tones. This odor may also bring up childhood memories of summer barbecues by the lake, which give you a feeling of peace and relaxation. If you then come to notice a smell of sweet potato pie alongside the eggplant smell, according to the picture I am suggesting we would now have a different olfactory object, which we could incorporate into the content of your experience in the following manner:

\[
\text{OLF EXP: } ([\text{grilled eggplant}]_{\text{sweet, earthy}} \& [\text{sweet potato pie}])
\]

If you now focus on the smell of sweet potato pie and notice its sweet and earthy subtler tones, the contents of your experience would be something like:

\[
\text{OLF EXP: } ([\text{grilled eggplant}] \& [\text{sweet potato pie}]_{\text{sweet, earthy}})
\]

The difference between the two experiences can now be easily captured, in terms of a difference in the olfactory object to which these subtler qualities are attributed in experience: 'grilled eggplant' in one case, 'sweet potato pie' in the other. This move is not available if we adopt Batty's theoretical apparatus, where all qualities are predicated of the same undifferentiated space 'all around the subject'. These kinds of experiences motivate a view of olfactory contents structured in object-attribute form. When we focus on a smell in order to find out about its subtler qualities, we are not simply focusing on 'the air all around us'; we are focusing on one odor among other in the room, which is represented in experience as an olfactory object.

There is, however, an obvious problem with this proposal: haven't we seen before that the phenomenal character of olfaction speaks against odors being represented as olfactory objects, since we cannot not spatially distinguish one odor from another? Indeed we have, but this phenomenological observation simply begs the question against a modality with poor spatial character like olfaction. This argument presupposes a notion of 'objecthood' that is highly visuocentric, based on the kinds of solid, opaque material objects we encounter in visual experience, with edges and boundaries delimiting a specific spatial position or a traceable spatial trajectory. But it is clear that if odors are supposed to be represented in olfaction as
olfactory objects, it will not be because they are presented in experience as spatially discriminated entities. Rather, what is relevant in the case of olfaction is chemical structure. Odors, in this picture, are type-individuated by their chemical structure, and it is the function of the olfactory system to recover these structures out of all the chemical compounds that arrive simultaneously at the nose. The output of this process is a (token) representation of an odor — an olfactory object — that characterizes the content of your olfactory experience. It is this odor what you recognize as an odor you have experienced before, and that you may come to recognize again in the future. For even if you encounter this odor again under very different conditions of chemical stimulation, i.e., mixed with other chemical compounds, as long as your olfactory system is functioning correctly it should normally be able to recover that same chemical structure and represent it as the same odor, which you may experience as a grilled eggplant odor again. That the odor is not presented to you as occupying a certain spatial location has no bearing on its status as an olfactory object.

There is, however, a more serious objection that can be raised against this view. As Tyler Burge has argued at length (2010), we should only posit perceptual representations if they have a non-trivial explanatory role to play in accounting for the organism’s sensory state. If there is no need to distinguish information that is proximally registered in the organism’s sensory systems from what is supposedly represented in the organism’s perceptual state, talk of perceptual representations is explanatorily idle. In this case, we can fully account for the organism’s sensory state in terms of low-level mechanisms of sensory registration. Let’s call this Burge’s constraint on genuine perceptual representations.6

Now, if the view sketched above is correct and olfaction indeed represents odors as olfactory objects, then we should naturally expect our analysis of odor representation to conform to Burge’s constraint. But it is far from clear that it does. As we shall see in the next section, it seems that all we need to mention in order to account

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6 This constraint can also be found (although in slightly different formulations) in both Smith (2002) and Siegel (2006b). But since I will focus on Burge’s version of it I will call it ‘Burge’s constraint’.
for the content of olfactory states are mechanisms of odorant detection at the olfactory bulb, which directly cause the organism to have a distinctive experience that corresponds to the odorant detected. Nothing is gained by saying these odors are *perceptually represented* by the olfactory system.

But this objection can be met. After explaining and motivating Burge’s constraint in section 4 of the paper, in section 5 I will appeal to recent empirical studies that provide evidence for *olfactory constancies*, where the olfactory system is able to discount idiosyncratic variations in proximal stimulation in order to focus on the more stable chemical properties that characterize the represented odor. This suggests that odor representations do meet Burge’s constraint after all, and that olfaction is a perceptual-representational modality.

4 Burge’s Constraint

Let’s start by examining the case of the salmon discussed by Burge (2010). It is known that at about four years of age, the salmon returns to the stream where it originally molted, sometimes following an olfactory trail through the ocean over thousands and thousands of miles. It does so by detecting certain odor plumes in the water at certain intensities, which causes it to respond in a certain way: it orients itself in the direction of the sensed smell, and holds its course until the intensity starts dropping. At this point, it will start to zigzag again until the level of intensity detected rises, and so on. Should we take the salmon to *perceptually represent* these odor plumes? Here’s Burge:

As the salmon case illustrates, the tasks solved by the homing capacity can be immensely complex. Yet such systems of sensory registration are not perceptual. The sensory contribution to behavior is fully explained by appeal to registration of proximal stimulation on the animal’s surface. There are no operations for forming representation as of a specific environmental source of information. No spatial relationships are represented. Only the type of intensity of the proximal stimulus are sensed. Spatial location is determined by repeated sampling techniques. For the salmon, the direction and ultimately the location of the original molting site are ascertained by following up serially on the intensity of relevant proximal stimulation on one or another side of the animal’s body (Burge 2010: 425-6).

In this passage Burge is pointing to a general constraint governing
the theoretical notion of ‘perceptual representation’: we should appeal to perceptual representations in psychological explanations only if we need them in order to distinguish what is perceptually represented from proximal stimulation registered in the organism’s sensory system. More precisely, an organism is credited with perceptual representations of $X$ only if, by discounting proximal features that are merely perspectival, its perceptual system is able to focus on the more stable properties of the distal $X$, so that the organism might take on different perspectives on $X$ and still represent it as $X$. In other words, only if $O$’s perceptual system is capable of applying perceptual constancies to proximal stimuli, maintaining the representation of $X$ constant despite shifts in perceptual perspectives. This condition on genuine perceptual representations is what I call Burge’s constraint.

To make this point clearer let’s take the case of human vision, which is an excellent candidate for a genuine perceptual system. In order to explain how we visually perceive a uniformly colored red cube, it’s not enough to mention the patterns and spectral properties of light registered in the retina, since the mere registration of these features underdetermines the color we actually perceive. In fact, in order to explain how we perceive a particular red cube as such, we need to mention transformational principles that take the initial patterns of light and dark registered in the retina and generate a perceptual representation of a three-dimensional, uniformly colored red cube, that is perceived as the same throughout a period of perceptual tracking, from different perspectives and under different conditions of illumination.7

But now let’s consider the case of olfaction. There seems to be a kind of ‘directness’ in olfaction that distinguishes it from the way other sensory modalities process their stimuli. Indeed, there seems to be no space for olfactory representations to intervene, as opposed to sensory detection of odorants. In vision, for instance, although we perceive external material objects like tables and chairs, all we receive is light reflected from these objects, which must be transformed into meaningful perceptual units according to transformational principles hard-wired into the visual system by evolutionary

pressures. But what we inhale in olfaction are the actual molecules that have evaporated from their sources and found their way through the air into our nasal cavity, where they are picked up by our olfactory receptors and bound to specific kinds of proteins, determined by the chemical properties and three-dimensional configuration of these molecules. This **docking** process, as it is usually called in the cognitive psychology of olfaction, excites the nerve cells, causing electric signals to be sent to the olfactory bulb in a specific spatial pattern; these patterns correspond to the specific odors we are able to detect, giving rise to the correspondent olfactory experience (Cowart & Rawson 2005, Savic 2001).

If the picture sketched above is correct, there is not much room for ‘olfactory constancies’ to be applied, no sense in which olfactory processing has to discount perspectival proximal stimuli in order to focus on invariant features of the external stimuli. In fact, as what is detected by our olfactory receptors is nothing other than the external stimulus itself – the actual molecules that have evaporated from their source and came in contact with our olfactory receptors – the notion of a **perspectival** proximal stimulus, distinct from its distal source, doesn’t make sense here. Even if we consider the subject’s movement towards or away the source of the smell as a sort of ‘olfactory perspective’, the only difference in stimulation this perspective shift would bring would be a difference in **intensity**, which is easily explained by a lower concentration of molecules in the air; but there is no proximal stimulation here to be discounted for the odor to be perceived as the same. In this picture, a certain olfactory experience arises when the molecules that compose the experienced odor are detected by our olfactory receptors, and a signal sent to the olfactory bulb. It seems that we are able to explain all there is to explain about our olfactory states and experiences with this very simple processing model. There is no need to posit representations of olfactory objects, distinct from what is sensorily registered at the olfactory bulb. Odors, therefore, do not appear to meet Burge’s constraint.8

This appearance, as I will argue in the next section, is deceiving. Empirical evidence shows that the olfactory system *does* apply

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8 See Burge 2010: 415 for an explicit endorsement of this claim regarding the human olfactory system.
olfactory constancies to stimuli that are proximally registered at the olfactory bulb. This will give us a notion of an olfactory object — an odor — that meets Burge’s constraint on genuine perceptual representation, and that is also adequate to the phenomenology of olfaction.

5 Olfactory Objects

Up until the last decade or so, psychological research on olfaction has mostly focused on detection and discrimination of monomolecular artificial odorants, either presented in isolation or in very simple mixtures, under carefully controlled laboratory conditions. In a typical experiment, for example, a subject would be presented with simple chemical compounds like n-butanol or b–phenethyl, and psychologists tested for odor detection and discrimination threshold in different concentrations. As these odorants had very simple chemical compositions and were usually presented in isolation (i.e., with little or no background chemical noise), there was no need to distinguish what was proximally detected in the olfactory bulb from the subject’s conscious olfactory experience. However, many psychologists now think that these experiences fail to capture the richness and complexity of our everyday olfactory experiences, where we need to take a much wider range of factors into account. If we want to explain a subject’s olfactory experience in real-world situations, we cannot limit ourselves to proximal stimulation alone, as there will be a wide variety of chemical compounds arriving simultaneously at our olfactory receptors. In these situations, psychologists now argue that we must look beyond the olfactory bulb to how olfactory stimuli is represented at the piriform cortex, an area of the brain involved in olfactory attention, multisensory integration and olfactory consciousness. And there are good reasons to take these representations to be genuinely perceptual, distinct from the kind of proximal stimulation detected and encoded at the olfactory bulb.

First of all, real-world situations of olfactory perception seem to

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9 See Stevens et al. 1988 for review.
require some sort of figure-ground segregation, a process traced to the piriform cortex that seems to be genuinely perceptual in nature (in the sense specified in Burge’s constraint). Looking beyond the simple monomolecular odorants used by psychologists in the laboratory, most odors we experience in real-world situations are complex mixtures of many different odorants, and are usually delivered to our noses along many other odorants and compounds. But even if all this chemical noise is simultaneously detected by our olfactory receptors, for one of these odors to be experienced as such, as the odor that it is, the olfactory system needs to be able to extract a very complex blend against a background of irrelevant odorants and competing olfactory objects. By successfully masking all irrelevant background noise, this process will ultimately yield an odor representation at the piriform cortex (Stevenson & Wilson 2007, Gottfried 2010).

Think, for example, of the kinds of olfactory experiences you may have while walking through a food market downtown; despite being constantly bombarded with several different odors at the same time, you are nevertheless able to sometimes focus on the smell of ginger beef, other times on basil chicken, or caramelized bananas, and so on. When you focus on one of these odors as opposed to the others, the odor becomes a figure against a background of masked chemical noise. Of course, this does not mean that the odor will be experienced as in a spatial location distinct from the one where you experience a different odor, but that is beside the point. What is segregated by the olfactory system is not the spatial location of the vaporous cloud of molecules responsible for the odor in question, but its chemical structure: the stable chemical properties that compose the odor the system is able to detect and represent, as opposed to others that are temporarily masked as part of background chemical noise.

The market experience is not something we can account for with proximal stimulation alone; psychologists explain figure-ground segregation in olfaction partly in terms of a process of cortical adaptation, whereby, after a brief period of exposure to stable odors in the environment, neurons at the piriform cortex stop responding to these odors, thus facilitating the detection and representation of a novel target odor. This odor may be then experienced against a background of chemical noise ‘as if that target odor alone were present,’ as Stevenson and Wilson argue, ‘despite the fact that, at the nose, a bi-
nary mixture of the target and background is present (Stevenson & Wilson 2007: 1824).’ If we want to explain a subject’s experience of ‘basil chicken odor’ in the food market, we need to go beyond processes of odorant detection, which detect the whole range of odorants and compounds that simultaneously reach the nose (at the right levels of concentration). Rather, we must bring in this process of cortical adaptation, responsible for filtering background chemical noise and yielding a cortical representation of a single ‘basil chicken’ odor.

Moreover, the stimuli proximally detected in the olfactory bulb is highly inconstant, often showing enormous variations in its chemical properties depending on the temperature and humidity of the air, force and speed of the wind, nose angle, respiratory phase, and so on (Gottfried 2010, Barnes et al. 2008). Due to these variations, it may be that on certain occasion some of the odorants that compose an odor are not actually registered at the olfactory bulb. But we are still able to experience a particular odor in these circumstances as such, even if some of its components are missing. And we continue to experience it as the same throughout a period of exposure, even as its chemical properties change across samplings. Finally, we may also come to recognize it as an odor we have previously experienced even if it is highly unlikely that odors are ever delivered in the same chemical proportion or intensity each time.

This requires the olfactory system to apply olfactory constancies to proximal stimulation, in order to discount changes in chemical properties that are likely to be caused by idiosyncratic perceptual conditions, and focus on the stable chemical structure that characterize the odor itself. As evidence presented in Barnes et al. (2008) suggest, operations of pattern completion in the piriform cortex are able to ‘fill in’ missing or corrupted compounds, which are likely to be the result of poor perceptual conditions. Even if a few odorants that compose a certain odor happen to be missing, the olfactory system can rely on the simultaneous presence of most of its components in order to ‘infer’, as it were, that this odor is likely to be present in one’s external environment. This is clearly a perceptual process (in the sense of Burge’s constraint), which yields a representation that is distinct from proximal stimulation.

This gives us a notion of an olfactory object — an odor — that is able to meet Burge’s constraint, and structure the representational
content of olfactory states. As I have been arguing in this section, the olfactory system’s main function is to perceptually differentiate chemical structures from one another (and not to spatially differentiate vaporous clouds of volatile chemicals from one another). In order to explain how it can do this, as well as how we can experience a certain odor as the same under very different conditions of chemical stimulation, we need to posit perceptual representations of odors qua olfactory objects. They mark repeatable psychological abilities of the olfactory system which can be applied at different times, in order to yield a particular (token) representation of the odor in question. These odors play various roles in psychological explanations in olfaction: they are what we primarily experience in conscious olfactory experience, what serve as the basic units of olfactory attention, what is recognized as the same odor upon subsequent perceptual encounters under different conditions of chemical stimulation, and what triggers emotional and mnemonic responses.

These represented odors and their qualities are, as I have been arguing, genuine perceptual representations; in order to explain an olfactory experience of a certain odor among many other odorants that are simultaneously presented to the nose, we need to bring in perceptual processes that explain how the olfactory system is able to discount idiosyncratic chemical variations in proximal stimulation in order to focus on the stable chemical properties that characterize the experienced odor. This can be done, as I have suggested, through processes of figure-ground segregation and the application of olfactory constancies, which explains how Burge’s constraint can be met in olfaction after all.

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Does Ontology Matter?

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Abstract
In this paper, I argue that various disputes in ontology have important ramifications and so are worth taking seriously. I employ a criterion according to which whether a dispute matters depends on how integrated it is with the rest of our theoretical projects. Disputes that arise from previous tensions in our theorizing and have additional implications for other issues matter, while insular disputes do not. I apply this criterion in arguing that certain ontological disputes matter; specifically, the disputes over concrete possible worlds and coincident material objects. Finally, I consider how one could show that some ontological disputes do not matter, using a Platonism/nominalism dispute as an example.

Keywords
Ontology, metaontology, possible worlds, coincidence, platonism and nominalism.

1 Introduction

In recent times, a number of philosophers have argued for a variety of deflationary views concerning ontology (the study of what exists). For instance, some argue that ontological disputes are merely verbal or terminological, some that there are no objectively correct answers to ontological questions, some that ontological disputes are shallow or fail to be substantive. In response, other philosophers more sympathetic to metaphysics have developed ways of defending ontology from these charges.1

In this paper, I will consider a question which is closely related to many of these metaphilosophical disagreements: does ontology mat-

1 For a selection of papers defending these and other views about ontology, see the recent volume edited by David Chalmers, David Manley and Ryan Wasserman 2009.
I suspect that this question is at the root of such disagreements because I think many deflationary philosophers are motivated by the feeling that ontological speculation is pointless and irrelevant. Even setting aside this psychological conjecture, the questions of whether and why ontology might matter are interesting in their own right and yet have not been addressed directly by the participants in these disagreements.

I have three aims in this paper. The first is to articulate a criterion for deciding whether some dispute matters or not. The second is to argue that on this criterion, many familiar ontological disputes do matter. In particular, I will argue that the dispute over the existence of concrete possible worlds and the dispute over coincident material objects (like a statue and its clay) both matter. The third is to discuss how one might demonstrate that some other ontological disputes do not matter, using a version of the Platonism vs. nominalism dispute as an example.

2 When Does a Dispute Matter?

To begin, I will articulate a criterion for deciding whether a dispute matters or not. To make things simpler, I will call disputes that matter ‘significant’ and disputes that do not matter ‘insignificant.’ So, what we are looking for is a way to understand the distinction between significant and insignificant disputes, but to do so we should first get clear about the relevant sense of ‘matters’ or of ‘significant.’ We can get a rough handle on this by noting that significant disputes are those that are worth taking seriously, or paying attention to, or investing time and effort in, and insignificant disputes are those that are somehow defective in ways that make them not worth taking seriously.

2 It is worth emphasizing that I am using ‘significant’ in a somewhat technical sense. ‘Significant’ is sometimes used to mean something like meaningful or contentful, as in the claim that nonsensical sentences lack significance. That is not how I am using it. I am using it more in the sense of important or worthwhile, in the way that a comment might make a significant contribution to a discussion while other comments might fail to do so, even though they are all perfectly meaningful.
There are, however, different ways a dispute might matter. A dispute over how many votes a candidate has received is significant for primarily political reasons; it bears on who can legitimately govern. A dispute over which route to the airport is the quickest is significant for primarily practical reasons; it bears on how to avoid being late for one’s flight. A dispute over the age of the Earth is significant for primarily theoretical reasons; it bears on which theories we should accept in geology, physics, and biology. These different ways of being significant may not always be cleanly separable, but the one I am most interested in is best captured by the last example. There is also a correlative sense of ‘insignificant,’ applicable to those disputes that lack the relevant feature. Though most disputes over the age of the Earth are significant in the relevant sense, a dispute over the age of the Earth down to the billionth decimal place may not be.

It is also natural to speak of a dispute’s mattering or being important to or for somebody, or relative to certain interests, and so there may be a corresponding sense of ‘significance.’ A dispute over the identity of my great, great grandfather might be significant to me (if I have an interest in genealogy), but not to many other people. When it comes to ontology, I have in mind a more impersonal notion of significance. Ontology may well matter to particular people and not to others, but there is an additional question of whether it matters in general. In saying that a dispute over the age of the Earth is significant, we need not think that it is significant to or for any specific person or relative to any particular set of interests (except, perhaps, very general interests, like figuring out what is true).

In looking for way to determine whether disputes are significant in this theoretical and impersonal sense, I think the proper approach is to look at the (theoretical) roles played by the disputes. My suggestion is that whether a dispute is significant depends on how it hooks up with the rest of our theoretical projects. In particular, the important thing is whether the dispute is the product of tensions arising from previous theorizing and whether its resolution would have consequences for other theoretical issues by, for instance, helping us answer other questions, resolve other disputes, open new lines of inquiry, and so on.

Call disputes which are connected with the rest of our theoretical projects in this way ‘integrated,’ and those that lack such features
'insular.' My suggestion is that integrated disputes are significant, while insular disputes are insignificant. Disputes become significant by being integrated into our broader theoretical projects.

For our purposes, the important claim is that integration is sufficient for significance. As above, I will also often claim that insular disputes are insignificant, but here I am less certain. If insularity makes for insignificance, then integration is necessary for significance. In that case, there are no intrinsically significant disputes, disputes that matter just for their own sake and not due to connections with the rest of our inquiries. I think this view can be defended, but I recognize that it is much more controversial than the simpler claim that integration is sufficient for significance. The more controversial claim is inessential for most of the arguments later in the paper, so although I may appeal to it on occasion, those who reject it can still find room to agree with my main claims concerning the significance of ontological disputes.

Although this view can help guide us in classifying disputes, it is admittedly rough, since the characterization of integration is rough. However, I do not think that we should seek out a more precise account. Even a rough characterization can yield a precise classification of a wide range of cases and I see no simple way to codify the great variety and complexity of factors on which a dispute’s significance might depend.

That being said, let me note some features of the view that shed more light on it and remove the temptation to look for a perfectly precise account. The first is that whether a dispute is integrated cannot always be determined a priori, because its theoretical role cannot always be known a priori, or prior to actually pursuing the dispute to its natural terminus and discovering how it bears on other theoretical projects. Therefore, whether a dispute is significant cannot always be known a priori either. I think that is the correct result. It would, on the contrary, be amazing if one could distinguish the worthwhile disputes from the empty ones merely by reflecting on them in the abstract. We certainly cannot do this in other areas of inquiry, like physics or math (we cannot, for instance, pronounce that some research program is fruitless before even considering what results it may have). Rather, we must see how the disputes play out, how they affect other areas of inquiry, whether they produce fruitful
lines of research, and so on. The upshot is that one reason for looking for a precise account of significance — the desire to determine *a priori* whether some dispute is worth engaging in, before getting our hands dirty — is misguided.

A second feature of the view is that integration is an extrinsic property of disputes. Whether a dispute is integrated does not depend merely on the features of the dispute itself, such as what the sentences are that it targets, what languages are used, and who the participants are. Rather, it depends on the wider theoretical context: what prior research produced the question, what prior commitments led the parties to disagree, what lines of research their positions might produce, how their positions bear on commitments in other areas of inquiry, and so on. So, on the view that integration is sufficient for significance, a dispute’s significance is typically a matter of how it relates to our inquiry more generally and not what the dispute itself, in isolation from the rest of our theorizing, is like.

A consequence of this observation is that any dispute, individuated by its intrinsic features, could be significant (or fail to be), so long as it occurs against the proper theoretical background. Some might find this implausible, but I think it is correct. It is not difficult to imagine contexts where an important theoretical question hangs on even the most silly-seeming issue. Imagine arguing about whether every true sentence can be rewritten in subject-predicate form (e.g. ‘A is thus and so’). In most contexts, this question does not matter and an effort to establish whether such equivalences held would be a waste of time (imagine, for instance, someone insisting on making sure that an article submitted to a physics journal could be completely rewritten in that form before publishing it). Nonetheless there are contexts where it is very important: if we are evaluating Leibniz’s theory of truth (according to which ‘an affirmation is true if its predicate is contained in its subject,’), or his defence of

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3 G. W. Leibniz, quoted in Benson Mates (1986: 84). There are various other formulations of this idea by Leibniz, for instance: ‘in every true affirmative proposition, necessary or contingent, universal or singular, the concept of the predicate is included in some way in that of the subject, *praedicatum inest subjecto.*’ (quoted in Robert Adams (1994: 57)) and ‘the predicate… is always in the subject… and the nature of truth in general… consists in this very thing.’ (Leibniz 1686: 31). I am not a Leibniz scholar, so I stand open to correction if I have mis-
nominalism, then this is precisely the question to ask. Another example: Ann and Bert disagree as to whether, during the September 11, 2001 terrorist attacks on the World Trade Center, there was one destructive event (involving both towers) or two destructive events (each involving a single tower only). For many purposes, such as deciding how to describe the event in a history textbook, this is beyond pointless. Yet it might matter a great deal for the purpose of settling an insurance claim, depending on how it is worded (there could, for instance, be limits on how much is paid per destructive event.)

That significance is extrinsic defuses another reason for wanting a precise and systematic account: the thought that we can settle, once and for all, which disputes are significant. If significance is extrinsic, then a dispute could be significant in one context and not in another, so long as the theoretical background shifts accordingly. Our account of significance should be flexible enough to accommodate those shifts.

Even with these clarifications, it should be clear that I have not provided strict necessary and sufficient conditions for whether a dispute is integrated, and so have not provided a foolproof methodology for determining whether a dispute is significant. Although this may be true, I do not think it should worry us because, if my view is correct, no such methodology is expected or needed. Not expected, because there are many ways that a dispute can be relevant to our theorizing and there is no reason to think that they can all be subsumed under a single methodology. Not needed, because whether a dispute is significant depends on factors that we are antecedently good at detecting (as should become plausible in the next few sections when we apply the view to some specific examples). That does not, of course, mean that there will not be hard cases, but the difficulty here is the sort that arises whenever we must rely on our judgment rather than

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4 Here I am following Benson Mates, who writes: 'The propositions ordinarily considered most basic by Leibniz are those expressed by simple sentences of the form 'A is B,' possibly supplemented by the quantifiers 'some,' 'no,' or 'all.' He seems to think — because of his nominalistic metaphysics, as I conjecture — that whatever can be said at all can be expressed in such propositions.' (Mates 1986: 54)
on some predetermined decision procedure. On my view that sort of difficulty may well be ineliminable, but I think that will be so on any reasonable view. Trying to determine which disputes are significant is like trying to determine which horses to bet on; there are no wholly foolproof criteria that could provide a fixed methodology, but we can make clear what considerations are relevant and refine our judgments nonetheless.

Some questions remain concerning the relationship between significance and various other features of disputes explored in the recent literature on metaontology. More specifically, philosophers have given accounts of what it is for disputes to be merely verbal or factual, for disputes to be substantive (‘deep’) or shallow, for disputes to concern the fundamental or the non-fundamental, and so on, and have asked whether ontological disputes have these features. So, we might naturally wonder how significance relates to these various different qualities. For example, must a dispute be non-verbal for it to be significant? Are all substantive disputes significant? To some extent, I will remain neutral on these questions, but I suspect that whether a dispute is significant is independent of which of these other features it might possess, meaning that the question of significance can be answered independently of these other questions concerning verbality, substantivity, and related notions. One might have doubts about this independence; for instance, it can seem plausible initially that verbal disputes are never significant. However, one might argue that some verbal disputes are integrated and so significant after all. We might, for instance, imagine a disagreement between two members of some organization about whether John was late to the meeting. The disagreeing parties might nonetheless agree about the exact time at which John arrived, making the dispute appear verbal (it seems to concern nothing but the extension of the term ‘late’). Despite this, the dispute might still be significant, since it might have important consequences for various other questions, such as whether John will be punished, whether others will be counted as late, how the rules concerning lateness will be enforced in the future, and so on. Similarly, non-verbal (or factual) disputes are not always significant. Two people might disagree about how many blades of grass are in my yard, yet without some further story about what hangs on this dispute, it seems insular enough to render it insignificant. The
relationship between significance and notions like substantivity or fundamentality is more difficult to assess, but as with verbality, I think the question of significance and the questions of substantivity, depth or fundamentality are largely independent of one another. So, in what follows, I will act on the assumption that we can determine whether a dispute is significant without first having to settle where it falls on these other classifications (e.g., whether it is verbal or factual, substantive or shallow, etc.).

3 The Significance of Ontological Disputes

On my account, to determine whether some ontological dispute matters, we need to determine whether it is integrated. As this formulation suggests, the question of whether ontological disputes are significant is best tackled on a case-by-case basis. It may well be that some ontological disputes are integrated and others are not. I suspect that many ontological disputes are integrated. I do not, however, have space to defend the significance of a great many disputes in this paper. Instead, we will examine two particular ontological disputes. I will argue that each is integrated in a way that renders it significant. The first of these two is the dispute over concrete possible worlds. Since the significance of this dispute is less controversial than many others in ontology, this case will serve mainly as an illustration of the idea that theoretical connections are what makes for significance and to motivate the idea that ontological disputes can have such connections. I will then turn to a more controversial case, the case of coincident material objects like a statue and its clay. Much of what I will say regarding the details of these disputes is not entirely novel, but the aim is to gather together these observations for the novel purpose of demonstrating that these disputes matter.

3.1 Possible Worlds

The dispute in question is that between modal realists, like David Lewis, and actualists, like Alvin Plantinga, Robert Stalnaker, and others, over the existence of concrete possible worlds of the sort.

\footnote{I defend this independence more carefully in Graham (forthcoming).}
Lewis famously defends. The dispute is ontological, since it concerns the existence of objects of a peculiar kind, yet I think there is less temptation to think that it is insignificant compared to examples more frequently discussed in the metaontology literature, such as the persistence and composition debates. The reason, I think, is that the wider theoretical relevance of the dispute concerning possible worlds is more obvious than in those cases. Here I will point out some of the ways in which it is relevant.

Let us begin with its source. What, for instance, are Lewis’s motivations for accepting his account of possible worlds, in contrast with the actualist alternatives? In *On the Plurality of Worlds*, Lewis considers a wide range of theoretical work that possible worlds can perform. He notes that they can be used in explicating modal notions (including not just necessity and possibility but counterfactuals and causation as well), in developing a theory of content for speech and thought, in a theory of properties, and so on. In many of these cases there is agreement between Lewis and actualists about the role possible worlds can play, but two cases that are especially important to Lewis set them apart. One, which appears again and again in *On the Plurality of Worlds*, is eliminating primitive or unanalyzed modality. The second is giving a purely extensional theory of properties.

Regarding the first, Lewis’s thought is that modal notions can be explicated in terms of possible worlds (e.g. necessity can be understood as truth in all possible worlds) and possible worlds in turn can be understood in non-modal terms. They are simply concrete universes, of the sort we inhabit, that are spatiotemporally isolated from one another. No primitive modal notions are needed. On the second point, Lewis favours a set-theoretic conception of properties. Though attractive, the view that properties are just the sets

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6 For Lewis’s views, see Lewis 1986. For actualism, see Platinga 1974, 1976, chapter 3 of Stalnaker 1987, and Stalnaker 2003.

7 See especially the first chapter of Lewis 1986.

8 That is, at least, how the picture is meant to work. I want to set aside, for now, the question of whether Lewis really succeeds in eliminating any primitive modality and focus instead on the intended contrast between his view and those of his opponents.

9 At times, he flirts with more robust conceptions of properties as universals.
of their instances (and that every set is a property of its members) is open to the well-known objection from the existence of distinct yet co-extensive properties, as in the famous example of creatures that have hearts and creatures that have kidneys. Having a heart and having a kidney are distinct properties, but the sets in question are identical, assuming they have the same members. Lewis’s plurality of concrete possible worlds gives him a way out of the problem: take properties to be sets of individuals from all possible worlds. Assuming that these properties are not necessarily co-extensive, there will be individuals in some worlds that have one but not the other and the sets will be distinct.

These two applications of possible worlds set Lewis’s view apart from actualists who accept an ontology of non-concrete or abstract possible worlds, which exist in the actual world. His primary objection to each of the actualist (or, in his terms, ersatz) alternatives he considers is that it is incapable of dispensing with primitive modality. In each case, some sort of primitive modal notion is needed to make sense of what the actualist’s possible worlds are. For instance, in the version of actualism that takes possible worlds to be sets of sentences of some kind, one needs a notion of consistency to distinguish between those sets of sentences that serve as possible worlds and those that do not (an inconsistent set of sentences could at best be an impossible world). But, Lewis argues, consistency is a modal notion since it signals that the sentences in question could all be true together. We might explain it by saying that a set of sentences is consistent if there is a world where they are all true together, but that would be circular for the actualist in question. So some notion of consistency must be taken as primitive (or some other modal notion taken as primitive, in terms of which consistency can be explained).\(^\text{10}\)

Similarly, it is clear that actualists cannot take properties to be sets in the straightforward way without running afoul of the co-extension problem. Many actualists adopt a more realist attitude towards properties, taking them as primitive in some way (some even

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\(^{10}\) I am oversimplifying here by ignoring attempts to formulate a syntactic notion of consistency. Lewis discusses this in more detail in section 3.2 of Lewis 1986.
employ them in their account of what possible worlds are, as in Stalnaker (1987: 46)).

The suspicion of primitive modality and the set-theoretic conception of properties are related since both find their motivation in the broad empiricist tradition that regards modality and intensionality as somehow mysterious or objectionable. Furthermore, they rest on the view that at least conceptually there is a distinction between the modal and the non-modal, for otherwise the project of eliminating primitive modality is hard to make sense of.

In contrast, rather than viewing it as a disadvantage of their position, many actualists are happy to accept unreduced modality and properties. Actualists often view modality in particular as pervasive and primitive. Far from mysterious, modal notions form part of our ordinary conception of the world, and although they might stand in need of some regimentation for theoretical purposes, conceptually they are no more problematic than so-called ‘non-modal’ notions. I say ‘so-called’ because many actualists also endorse the view that there is no sharp distinction between the modal and the non-modal, or that many apparently non-modal notions are in fact modal, at least in the sense that a proper understanding and application of them involves understanding certain modal facts. As a result, many actualists view the project of eliminating primitive modality as misguided, manifesting a misunderstanding of modality. Without this motivation, there is less reason to think of possible worlds as concrete universes, especially when combined with a willingness to take properties (or similar abstract entities like states of affairs or essences) as primitive, rather than reducing them to sets. Those entities can then be used to make sense of our talk of possible worlds.

Hence the dispute over concrete possible worlds has its source at least in part in competing conceptions of modality and the prospects for its reduction. Much of the motivation for adopting a Lewisian ontology stems from an aversion to primitive modality and intensionality. Those who do not share this aversion are free to adopt alternative conceptions of possible worlds, as many actualists do, since although actualists and modal realists agree about many of the theoretical roles that possible worlds should play, providing a non-modal ground for modal notions is not a shared goal. Although the dispute is ontological, it arises naturally out of prior commitments outside of ontology.
Other prior disagreements are also relevant (for instance, different views about the epistemological and metaphysical significance of the concrete/abstract distinction), but let me turn from the source of the dispute to its consequences. Some of its consequences are obvious from the foregoing: how the dispute plays out will affect what theoretical roles possible worlds can play. For instance, those who accept concrete possible worlds can offer extensional accounts of various apparently intensional phenomena, like properties, but also counterfactuals, causation and so on. That in turn has consequences for what kind of language and ideology we employ in our theorizing, or which and how many primitive terms we must employ. Other consequences are less obvious from the foregoing, but still important. The parties to the dispute might be committed to different treatments of de re modality (counterpart theory vs. more straightforward accounts of transworld identity), to different views about which modal claims are true or false or meaningful at all (see, for instance, Alan McMichael 1983), to different semantics for terms like ‘actual,’ and so on. Rather than discuss these connections in detail, my aim is to draw attention to the fact that it is because of these points of contact with other areas that many people are inclined to take the dispute over concrete possible worlds seriously. The dispute has important ramifications for our theorizing in various domains and its significance is due to those connections. So, I think the case serves as a model for how to think about the significance of ontological disputes more generally.

3.2 Coincident Objects

Consider the following disagreement. An artist has two lumps of clay, one shaped like the upper half of Goliath, and the other shaped like the lower half. At noon, the artist puts them together, thereby creating both a new lump of clay and a new statue of Goliath, which he names ‘Lump’ and ‘Goliath,’ respectively. At 1:00, he smashes the clay, thereby destroying both Lump and Goliath. Two people observe these events, and are asked: from noon to 1:00, were there two, coincident things, or was there only one thing? The first (who we will call ‘2-thinger’) answers that there were two, and the second (‘1-thinger’) that there was one.
I will use the same strategy as in the last section to argue that this
dispute is significant. To do so, we need to see how the dispute is a
natural result of prior theoretical commitments and how it has rami-
fications for other areas of inquiry outside of ontology.

First, in a dispute like this the participants are brought to their
positions by reflecting on a paradox and their positions represent dif-
ferent ways of coping with genuine tensions in their beliefs. For in-
stance, suppose that prior to their disagreement both 1-thinger and
2-thinger began by accepting the following three claims:

1. Leibniz’s Law (if x is identical to y, then x and y have all the
   same properties).
2. Distinct material objects cannot occupy exactly the same re-
   gion of spacetime.
3. Lump could have survived changes that Goliath could not
   have survived and vice versa.

From these claims, we can derive a contradiction, as follows: Lump
and Goliath both occupy exactly the same region of spacetime and
so, by claim 2, they are identical. We can also assume, as an instance
of claim 3, that Lump could have survived being squashed into a ball
while Goliath could not have survived that change. However, given
Leibniz’s Law, it follows from the identity claim just established that
Goliath could have survived being squashed into a ball, while Goliath
could not have survived that change, which is inconsistent.

2-thinger and 1-thinger’s divergent reactions to the case can be
seen as divergent attempts to resolve this paradox. 2-thinger aban-
dons the claim that material objects cannot spatiotemporally coin-
cide (claim 2), while 1-thinger denies that Leibniz’s Law applies in
this case, perhaps by reinterpreting the sentences attributing modal
properties to Lump and Goliath so that they do not attribute the same
properties when different names are used to pick out the thing in
question. She thereby blocks the inference from the identity of Lump
and Goliath, plus Leibniz’s Law, to the inconsistent modal claim.
2-thinger’s reaction leads him to think that Goliath and Lump are dis-
tinct but perfectly coincident, while 1-thinger’s leads her to think that
Goliath and Lump are identical, even though something can be true of
that thing \textit{qua} Goliath that is not true of it \textit{qua} Lump and vice versa.
That the disagreement is prompted by different reactions to a tension in their beliefs lends some support to the claim that the disagreement is significant, but we should also consider what ramifications their positions have for questions beyond the dispute itself, including some issues in the philosophy of language. A number of such connections have been explored in the literature on such cases, but I will summarize some of them in order to make their relevance clear.\footnote{For some representative discussion, see David Wiggins 1968, Alan Gibbard 1975, chapter 4 of Lewis 1986, Theodore Sider 2001, Kit Fine 2003, and Karen Bennett 2009.}

One consequence is that 2-thinger and 1-thinger are committed to different conceptions of \textit{de re} modal predication. 1-thinger’s response to the problem requires her to adopt a semantics on which one cannot simply substitute co-referring proper names in \textit{de re} modal predications while preserving truth-value. Given that she accepts that Goliath = Lump, such a semantics is required to block the inference from ‘Lump could survive a change that would destroy Goliath’ to ‘Goliath could survive a change that would destroy Goliath.’ There are different ways of achieving this goal; one familiar route would be to adopt a Lewisian semantics in terms of counterparts, but there are other options. The unifying idea behind these options is that the properties attributed to a thing by predicates like ‘could survive being squashed into a ball’ vary along with the name used to pick out that thing, so that the same predicate can apply to a thing under one name and fail to apply under another name. In that case, despite the fact that the same predicate is used in both the consistent and the inconsistent predications, the same property is not being attributed by those predications, and so Leibniz’s Law cannot be used to derive a contradiction. On a counterpart semantics, the property picked out by the predicate depends on the counterparts picked out by the counterpart relation: ‘could survive being squashed into a ball’ picks out the property of having \textit{this} counterpart (the one picked out by the relevant relation), who survives being squashed into a ball. Furthermore, if one thinks that the counterpart relation is fixed, at least in part, by how one refers to the object in question (e.g. ‘Goliath’ fixes the statue counterpart relation, while ‘Lump’ fixes the lump of clay.
counterpart relation), then the property attributed varies along with
the name, since the name varies the counterpart relation.

Thus 1-thinger will be committed to various theses in the philos-
ophy of language (exactly which theses will depend on how she spells
out her view). She maintains metaphysical consistency by adjusting
her semantics. 2-thinger, on the other hand, incurs no such commit-
ments from his view; he might adopt those views for independent
reasons, but as far as this dispute is concerned, he is free to treat de re
modal predications as he likes.

This particular consequence is really an instance of a more gener-
al consequence. The divergence between their views will not be iso-
lated to the semantics of modal claims. Following Fine 2003, there is
reason to think that modal properties are not the only properties that
(seem to) distinguish Lump and Goliath. Depending on the case, it
might be that Goliath is poorly made but Lump is not, or that Go-
liath is valuable but Lump is not, or that Goliath is well insured but
Lump is not, or that Goliath is the referent of ‘Goliath’ but Lump is
not, and so on. If so, and if 1-thinger appeals to the same strategy for
dealing with these cases, then predications like ‘Goliath is valuable,’
‘Goliath is poorly made’ and ‘Goliath is the referent of ‘Goliath’,’
as well as many others, will require special semantic treatment, in
the same way as de re modal predications. The result will be an even
greater divergence between 2-thinger’s and 1-thinger’s views in the
philosophy of language.

Another, related consequence of the dispute is that 2-thinger and
1-thinger are committed to different views about identity. In par-
ticular, they are committed to different answers to the question of
whether identity can be contingent. 1-thinger is committed to the
claim that identity can be contingent, in the sense that the follow-
ing can be true: Goliath is identical to Lump, but there is a world
where Goliath and Lump both exist yet are not identical. Generally,
that is because 1-thinger thinks that Goliath and Lump are identical
yet have different modal properties (e.g., Lump could survive being
squashed into a ball but Goliath could not). We can assume that in
some world the relevant difference is realized: the thing is squashed,
Lump survives, and Goliath does not. In that world, the two are not
identical, yet both exist (at some time or other). Alternatively, con-
tinuing in a Lewisian vein, depending on the counterpart relation in
question there may be a world where the thing in question has two distinct counterparts, one a lump of clay and one a statue, thus making true the claim that Lump and Goliath could have been distinct. 2-thinger, on the other hand, is not committed to any such views about identity.\(^{12}\)

These consequences have further consequences. A disagreement over whether there can be contingent identity will generate disagreements about what is possible, and disagreements concerning the space of possible worlds can generate disagreements over what is intelligible or conceivable. A simple example is that 2-thinger and 1-thinger might disagree about whether it is conceivable for Goliath and Lump to be distinct. These disagreements open up the possibility of more interesting disagreements; for instance, 1-thinger’s commitments remove at least one barrier to the intelligibility of certain theses in the philosophy of mind (like the view that mental states are contingently identical with brain states or that persons are contingently identical with their bodies), theories that 2-thinger should find unintelligible in principle.

There are additional consequences of the disagreement that are somewhat more general and difficult to pin down. One is that 2-thinger and 1-thinger are committed to different views about how our epistemic situation constrains the existence claims we can justifiably accept. For instance, 2-thinger thinks that there can be two distinct objects even if there are no observational differences between them and no way to detect, by ordinary empirical means, that there are two things rather than one. This commitment might require him to reject some (perhaps naïve) versions of verificationism or antirealism. Regardless of whether there is a specific view that

\(^{12}\) Putting this point in terms of contingent identity might be a bit misleading. 1-thinger need not accept that identity can be contingent in the sense that Saul Kripke 1971 famously argued against. On the Lewisian version of this view, the claim that Goliath and Lump are contingently identical can be understood as shorthand for the real story in terms of counterpart relations, and since a thing and its counterparts in other worlds are never really identical, there is a clear sense in which there are no contingent identities in Lewis’s system. Nonetheless, putting things in terms of contingent identity is not entirely inaccurate either, especially since people who adopt the 1-thing view often characterize their view in those terms (see, for instance, Gibbard 1975).
he must reject here, 2-thinger and 1-thinger’s disagreement might lead to additional disagreements over certain epistemic claims concerning when we are justified in believing identity claims (or their negations), how we distinguish objects from one another, and so on.

Once we see what prompts the disagreement between 1-thinger and 2-thinger, and what additional disagreements are prompted thereby, it becomes highly plausible that the dispute is significant. Its resolution would have an impact on the philosophy of language, philosophy of mind, epistemology, and other areas of inquiry. In my discussion I have focused on a fictional dispute, but the details are drawn from actual disagreements between philosophers. Of course, in actual philosophical disputes, it can be difficult to neatly separate out what, exactly, is the source of a dispute, what is a consequence of it, and what is an argument used to defend a view, but the connections between the dispute and our wider theoretical concerns are fairly clear.

How many other familiar ontological disputes are significant on this view is a question that I will leave unanswered for now. As I hope is clear from the above, answering this question in difficult cases — such as the dispute over when and how often composition occurs — will require careful attention to the details of the case in question. I cannot discuss all the interesting cases here, though I expect that many other familiar disputes will turn out to be significant, once we look carefully at the puzzles that produce them and the consequences they might have for various other branches of philosophy.

4 Insignificant Ontological Disputes

So far I have been defending the significance of certain ontological disputes by examining how they are integrated into wider theoretical projects. Although I think many more ontological disputes are significant, I also think it is important to recognize that not all ontological disputes need be significant.

It is difficult, however, to establish that any dispute is truly insignificant and so ought to be abandoned. My view of significance naturally leads one to hesitate before pronouncing some dispute insignificant, since new developments in the dispute, or in other areas of inquiry, always have the potential to expose or create connections...
between that dispute and others. So in claiming that some dispute is insignificant, there is always a real risk that one’s judgment is premature. The same might be said for significance: that a currently significant dispute might become less integrated as our inquiries evolve. This is certainly possible, but the risks of failing to recognize the potential for such changes is greater in the case of insignificance than in the case of significance. Even if a significant dispute loses its connections and so becomes insignificant, it will always have been significant, at least for a time, and so our interest in it was not misguided. At worst, the danger is that we might continue to pursue some dispute after its relevance has been exhausted. In contrast, the danger in the case of proclaiming that some dispute is insignificant is that we can be discouraged from pursuing some issue which is either integrated in some undiscovered way or which, though currently insular, will later become integrated as our inquiries change. So, there is a risk that we will fail to pursue what could become fruitful lines of research. It is because of this greater risk that I emphasize the possibility that our judgments concerning insignificance can be premature and liable to change.

Keeping this in mind, it can still be useful to consider what kinds of evidence can support the claim that a dispute is insignificant. To do so, I will offer a reason for thinking that a particular ontological dispute is insignificant. The aim is not to defend the view that this dispute is insignificant. The reasons I will consider are far from a complete case in favour of insignificance, in ways that I will indicate. Rather, the aim is to illustrate how such a case might be made, by considering the kinds of reasons that one should seek in order to defend such a position.

We will focus on a specific ontological dispute because evidence is more compelling the more specific it is. It is easier to argue that specific ontological disputes are insignificant, rather than arguing from general principles that ontological disputes belonging to some broad category tend to be insignificant. The strategy is to offer reasons for thinking that the dispute lacks connections with the rest of our inquiry, so that it makes no difference which position in that dispute turns out to be correct (if either). Let us consider what that evidence might look like.

Consider the disagreement between nominalists and Platonists
over whether mathematical objects, like numbers, exist. One common defence of Platonism — the view that mathematical objects exist — appeals to the theoretical indispensability of mathematical objects to natural science and our understanding of the world in general (as in, for instance, W.V.O. Quine 1948, 1951, 1960, and Hilary Putnam 1979a, 1979b). In response, some nominalists (most notably Hartry Field 1980) have tried to show how our scientific theories might be reworked to avoid reference to mathematical objects. I think it is plausible that a disagreement between Platonists and nominalists of this sort is significant (since it may have important effects on the shape of our scientific theories), but I mention it here only to set it aside. I want to focus instead on a different yet closely related disagreement.

Consider instead the disagreement between what we might call (following Mark Balaguer 1998) Full-Blooded Platonism and Fictionalist Nominalism. Full-Blooded Platonism is roughly the view that all (conceptually) possible mathematical objects exist (alternatively, all internally consistent mathematical theories are true). According to Fictionalist Nominalism, on the other hand, mathematical claims are not literally true, because mathematical objects do not exist. Instead, we think of ourselves as operating under the fiction that Platonism is true, and we count mathematical claims as true so long as they are true according to the fiction (or, roughly, would have been true had Platonism been true). This fiction is useful because it allows us to theorize about the concrete world in ways that we could not without it, and it constrains our use of mathematics in the same way that the truth of Platonism would. So on Fictionalist Nominalism, mathematical claims are literally false but we can nonetheless

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13 I intend for this to differ from the dispute over whether abstract objects of any sort (including properties, contents, and so on) exist, which I think is a different matter altogether.

14 I say ‘roughly’ because there are difficulties with this formulation (for instance, anyone who thinks that the existence of mathematical objects is not a contingent matter will agree, reading the ‘possible’ as indicating metaphysical possibility). I think the formulation is clear enough for our purposes, but see Greg Restall 2003 for more.
make sense of their usefulness in science and elsewhere.\footnote{For more detail on the fictionalist strategy, see, among others, Steve Yablo 1998, 2002a, and 2002b, Balaguer 1998, Joseph Melia 2000.}

The defender of Full-Blooded Platonism holds that numbers exist while the proponent of Fictionalist Nominalism holds that they do not. Yet if developed in the right way, it is plausible that both Full-Blooded Platonism and Fictionalist Nominalism are fully consistent with our mathematical practice. Full-Blooded Platonism, on the one hand, seems to escape many of the traditional objections to Platonism that stem from our mathematical practice. For example, working mathematicians seem to require nothing but consistency and usefulness in order to regard some mathematical theory as true, but it is hard to find an epistemology for traditional Platonism that makes sense of this. Full-Blooded Platonism fares much better, for any consistent mathematical theory is true. On the other hand, Fictionalist Nominalism does not require us to rewrite our scientific theories in a language that does not quantify over numbers, unlike the other version of nominalism I mentioned above. Apparent reference to mathematical objects is explained as a descriptive aid and mathematical claims can be treated as true for all scientific purposes. So objections from the ubiquity and usefulness of mathematics in natural science do not threaten Fictionalist Nominalism.\footnote{Some might complain that this requires us to adopt a less than fully serious attitude about science, regarding it as partly fictional. However, more recent developments of this approach dispense with the idea of fictions and appeal to independently motivated linguistic mechanisms to explain how mathematical claims can count as true even if numbers do not exist. See, for instance, Yablo 2009.}

These observations suggest that Full-Blooded Platonism and Fictionalist Nominalism would have (or not have) the same effects on the rest of our inquiry. If so, they would require us to think differently about the question of whether numbers exist but not much else. Resolving the dispute one way or the other might have little effect on practicing mathematicians, scientists who employ mathematics, semanticists interested in understanding mathematical discourse, epistemologists interested in our knowledge of abstracta and other theorists. A full defence of this dispute’s insignificance would require a more detailed examination of these possible connections,
but we see here the kind of consideration that counts in favour of insignificance. Even if the dispute between Fictionalist Nominalism and Full-Blooded Platonism is genuine, this kind of insularity would provide reason to think it is insignificant.

Another source of evidence for the insularity, and hence insignificance, of this dispute is the indifference we find amongst those most likely to be influenced by it (e.g., practicing mathematicians). For a dispute to be significant, it must have connections with other areas of inquiry. In some cases, it is clear where we should expect to find those connections. Questions about the existence of numbers should affect those areas of inquiry that involve numbers, if they have effects at all. Theorists who work in those areas are, therefore, the most likely to take an interest in the dispute (among those not engaged in the dispute itself). So, if we find that they are thoroughly disinterested in the dispute, we have some evidence that it lacks any connections and is thus insignificant.\(^{17}\)

In this particular case, the question is whether mathematicians are concerned with the outcome of the Platonism vs. nominalism disagreement. The issue is a bit tricky, since the question should not be a purely sociological one. Many mathematicians do have views on the metaphysics of mathematics and some do let it affect their practice. Perhaps a better way to put the question is whether, from the perspective of working mathematicians, discovering that nominalism (or Platonism) is true would be compelling reason to abandon (or reconfigure in some nontrivial way) the field of mathematics. I think it is plausible that most would say no. It might require them to adjust their understanding of the metaphysics of mathematics, but it is doubtful that mathematics as a science would disappear or change dramatically. Consider, for instance, some remarks made by William Timothy Gowers in discussing the ontological status of ordered pairs in light of the availability of multiple set-theoretic reductions of them:

> I would contend that it [whether there are ordered pairs] doesn’t matter because it never matters what a mathematical object is, or whether it

\(^{17}\) This is highly defeasible evidence, of course. We must assume that these theorists are aware of the dispute in question, that they understand it and have properly assessed its possible ramifications, and so on.
exists. What does matter… about a piece of mathematical terminology is the set of rules governing its use. (Gowers 2006: 192)

In this particular example, we can see why the disagreement between Full-Blooded Platonism and Fictionalist Nominalism over the existence of ordered pairs is irrelevant to a mathematician like Gowers, for both agree on the rules governing mathematical terminology. Gowers goes on to say:

Suppose a paper were published tomorrow that gave a new and very compelling argument for some position in the philosophy of mathematics, and that, most unusually, the argument caused many philosophers to abandon their old beliefs and embrace a whole new –ism. What would be the effect on mathematics? I contend that there would be almost none, that the development would go virtually unnoticed. (Gowers 2006: 198)

We should not draw too strong a conclusion from the claims of a single mathematician, but Gowers’s outlook supports the idea that working mathematicians are not very concerned with the outcome of the Platonism vs. nominalism dispute. That, I think, provides some evidence that the dispute would have no impact on mathematics, which in turn is some evidence that it is insignificant.

It would be premature to think that the observations made in this section establish that this particular ontological dispute is insignificant. There are at least two major areas where evidence for significance might be found. First, I have focused primarily on connections between this dispute and issues outside of philosophy (primarily in mathematics). So, a full defence of its insignificance would require more detailed consideration of possible connections with other issues in philosophy (especially in the philosophy of language and metaphysics). Second, the case for lack of connections with mathematics is still in its early stages. In giving a full defence of insignificance here, one would need to look more carefully at various forms of mathematical practice and their possible connections to the dispute in question. These issues are too complicated to be settled

I think Gowers’s remarks are much more plausible in the case of the Full-Blooded Platonism vs. Fictionalist Nominalism dispute, rather than all possible Platonism vs. nominalism disputes, for some such disputes could lead to genuine differences in the rules that govern our usage of mathematical terminology (for instance, some nominalists might eliminate its usage altogether).
by this brief treatment. My aim, however, has been to illustrate the kind of evidence that is compelling and the kind of arguments that really do threaten ontological disputes. The best strategy is to find specific reasons for thinking that the dispute in question is insular, rather than general principles that cast doubt on ontology as a whole.

5 Conclusion

In summary, I have argued that some familiar ontological disputes do matter, on the view that whether disputes are significant is determined by whether they are integrated with the rest of our theoretical projects. Specifically, I have argued that the dispute over whether concrete possible worlds exist is significant due to the fact that it arises naturally from broader concerns about the nature of modality, properties, and other intensional phenomena, and has consequences for various other questions in other areas of philosophy. Similarly, the dispute over whether there are material objects that coincide in space and time is significant, since it arises out of attempts to resolve certain paradoxes and has ramifications for the philosophy of language, epistemology, and other areas. I have also illustrated how the insignificance of some disputes might be demonstrated, using a version of the Platonism and nominalism dispute as an example. Together, these examples motivate the wider claim that many, though not all, ontological disputes are significant. To be sure, we need to carefully consider the details of those disputes, but when we do so and discover connections to other questions, issues and debates, we will have found some significant ontological disputes.

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Many thanks to Susanna Rinard, Stephen Yablo, Agustin Rayo, Robert Stalnaker, Matti Eklund, Stephen Maitzen, Mahrad Almotahari, and several anonymous reviewers for their helpful comments and suggestions.
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Are Emotions Embodied Evaluative Attitudes?
Critical Review of Julien A. Deonna and Fabrice Teroni’s *The Emotions: A Philosophical Introduction*

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Abstract
Deonna and Teroni’s *The Emotions* is both an excellent introduction to philosophical work on emotions and a novel defence of their own Attitudinal Theory. After summarising their discussion of the literature I describe and evaluate their positive view. I challenge their theory on three fronts: their claim that emotions are a form of bodily awareness, their account of what makes an emotion correct, and their account of what justifies an emotion.

Keywords
Emotion, embodiment, evaluation, correctness, justification

I
Deonna and Teroni’s *The Emotions* is both an introduction and an original contribution in its own right. Presupposing no knowledge of philosophical work on the emotions, the book guides us through the central theories, discussing familiar issues and offering novel critical evaluation in equal measure. The book is a pleasure to read and is an ideal work to use in a postgraduate or final year undergraduate course on emotion. Indeed, I have used it in just this way twice. At the book’s core, however, is an original theory of emotion, the “Attitudinal Theory”. Whilst this account, and the book more generally, stands firmly within the philosophy of mind, the significant atten-
tion devoted to the relation between emotion and evaluation (and value itself) ensure that it will be of interest to those concerned with normative issues and the nature of our engagement with them. This neatly reflects the fact that one of the things that makes the philosophy of emotion such a fascinating area is that it stands at the intersection of the philosophy of mind and ethics. The emotions are that part of our psychological life through which we are most personally engaged with value, with what matters to us. It is a virtue of Deonna and Teroni’s fantastic book that it paints such a vivid and recognisable picture of the nature and significance of this engagement.

In what follows I first outline a few of the book’s central themes and arguments, subsequently turning to the Attitudinal Theory, Deonna and Teroni’s positive account of emotion, subjecting it to a somewhat more detailed scrutiny. As will be seen, there are a number of objections that can be raised.

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Emotions, Deonna and Teroni tell us in their opening chapter, are intentionally directed, phenomenal episodes that are to be distinguished from emotional dispositions (and sentiments, moods and character traits); and are evaluated for correctness, justification and propriety. A word about some of these is in order.

**Intentionality.** Since, when I am angry, I am angry at something or with someone, my anger exhibits intentionality. And as it is with anger, so it is with other emotions. We can then agree that emotions have content, or are meaningful. This is not to say that emotions have propositional content, although it does not rule it out, but simply to insist that they are directed toward things, their “particular objects”. This, however, is not the end of the matter. For, as Deonna and Teroni tell us in Chapter 4, emotions possess “formal objects” (Kenny 1963: Chapter 9). These are evaluative properties that serve, amongst other things, to individuate the emotions. Thus by Deonna and Teroni’s reckoning, fear is, in some way yet to be determined, associated with something’s threatening me; anger with its offending me; shame with its degrading me; and so on. The most natural thought in this area, but hardly yet a theory, is that fearing a involves taking a to be threatening, being angry with a involves
taking a to be offensive, and so on. Thus, the emotion ascribes the formal object to the particular object.

**Phenomenality.** There is, as philosophers are keen to say, something it is like to have an emotion. Joy, fear, resentment and pride feel a certain way. As such, they are episodic rather than dispositional phenomena. Conscious psychological episodes are the sorts of thing that populate the stream of consciousness. They include thoughts, imaginings, sensations, urges, judgements and, according to Deonna and Teroni, emotions. Psychological dispositions, on the other hand, are not themselves phenomenal but rather help to determine which conscious episodes one enjoys. So characterised, we might include beliefs, desires, sentiments and emotional dispositions among their number. A belief is itself not a phenomenal state but a person that believes that $P$ is thereby disposed to judge that $P$ in suitable circumstances. To see the distinction between emotional episodes and emotional dispositions, consider that I may for some time have been horrified by Dr. Frankenstein’s creation but only upon seeing the creature feel fear.

**Evaluation.** Emotions can be correct or incorrect, justified or unjustified, appropriate or inappropriate. If I fear a harmless spider, my emotion is incorrect. Nevertheless, if the creature looks just like a dangerous one, my fear may still be justified. If I become angry with someone who has offended me, my emotion is correct. It may be, however, that my anger is the result of my bad mood, a factor that Deonna and Teroni take to undermine the possibility of its being justified. So correctness and justification are doubly dissociable. In addition, we also evaluate emotions for various sorts of appropriateness. Confronted by a pack of wolves, fear may be the least (prudentially) appropriate response despite, indeed because of, the threat they pose. Finding amusement at another’s intense embarrassment may be (morally) inappropriate, no matter how funny their faux pas.

After briefly defending the coherence of the concept of emotion from recent scepticism (Chapter 2), Deonna and Teroni go on reject

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1 Unaccompanied chapter and page references are to Deonna and Teroni
a number of views that attempt to reduce emotions to other, supposedly better understood, psychological phenomena. For example, they reject the views that emotions are: beliefs or judgements about the non-evaluative features of their particular objects (Chapter 3); judgements about the evaluative features of their particular objects (Chapter 5); combinations of such judgements with desires (Chapter 3); judgements about the satisfaction status of one’s desires (Chapter 3); perceptions of one’s own body (Chapter 6); and either direct or indirect (quasi-) perceptions of the evaluative features of their particular objects (Chapter 6).

This is quite a list, representing in broad outline the central views of emotion currently on the market. Deonna and Teroni do a fantastic job of presenting and evaluating these views, judiciously assessing both their merits and their faults (and along the way even offering a brief defence of realism about value (Chapter 4)). Whilst it strikes me that not every one of their arguments will, ultimately, withstand sustained critical scrutiny, at the very minimum they show that each one of the dominant approaches to emotion comes with costs and owes answers to some difficult questions. I very briefly mention some of these here before moving onto focus on Deonna and Teroni’s positive proposals concerning the nature of emotions, their connection to value, and the ways in which we evaluate them (Chapters 7-10).

Emotions are not, and do not constitutively depend on, judgements. The view that they are (or do), associated with the Stoics and, more recently, Solomon 2007, Lazarus 1994, and Nussbaum 2001, falls foul of a number of difficulties. The view that emotions are non-evaluative judgements can be seen to be inadequate when we note that, for any candidate judgement, it may accompany wildly differing emotions in different individuals (29). For example, the judgement

Deonna and Teroni (39, note 1) use ‘belief’ and ‘judgement’ as interchangeable. Since their primary concern is with emotion, which they construe as an episode, ‘judgement’ is surely the appropriate term. Without wishing to prejudice the issue of whether emotions are episodes or states, I will use ‘judgement’ when discussing accounts of episodic phenomena and “belief” when discussing accounts of the non-episodic.
that I have won a game of tiddlywinks may mean joy for me, but misery for my opponent.

The view that emotions are evaluative judgements might initially seem to fare better; after all, as suggested above, emotions seem to be constitutively connected to certain values, their formal objects. Unfortunately for this view, argue Deonna and Teroni, evaluative judgements are not sufficient for emotions (55). It is perfectly commonplace to judge a situation dangerous, yet feel no fear. One might suppose that moving to a mixed theory would help here. Perhaps emotions are complex states; combinations of judgements and desires. For example, we might suppose fear to be a complex state of judging something to be a threat whilst desiring to avoid it. Such a position seems attractive in that, according to it, emotions have a cognitive element, and are thereby evaluable as correct, and a conative element, thereby being intrinsically motivating. Once more, however, the view can be seen to be inadequate once we notice that judgements are not necessary for emotions. On a glass skywalk, one may experience fear without any temptation to judge the situation dangerous or threatening. Arguably, furthermore, to feel fear one need not even posses the concept danger, unless we are to deny that conceptually unsophisticated subjects such as infants and non-human animals can experience the emotion (55).

What of the view that emotion can be understood on the model of perceptual experience? Such a view, one might think, is on the right track, since we think of perceptual states as non-conceptual (so shared with conceptually unsophisticated subjects), directed at objects (so intentional) and essentially conscious (so felt). But we can ask what are the objects of such emotional perceptions. On one view, seemingly endorsed by William James (1884), the object of an emotional state is one’s own body. An emotion is the perception (from the inside) of the bodily changes caused in one by some perceived object. Whether or not this was really James’ view, one of the familiar objections to it is that it does not really tell us what is distinctive about emotion per se (65). There are many situations in which one perceives a bodily change, but is not in an emotional state.

3Putting aside the supposed cases of non-conscious perception found in blindsight and masked priming.
What then is it that all the *emotional* perceptions of bodily changes have in common? We are none the wiser.

Perhaps a more intuitive thought is that emotions are (analogous to) evaluative perceptions of outer objects (de Sousa 1987). Thus, fear is the perception of some object as threatening; anger the perception of some object as offensive, etc. The central problem with this view, as Deonna and Teroni see it, is that an emotion, unlike a perceptual experience, depends on a ‘cognitive base’ (5) that, when things go well, provides a justificatory reason for it (Chapter 8). Thus, my feeling angry at Bert depends on my having some awareness of Bert that, if my anger is justified, presents him as in some way deserving of my anger. This is brought out by the fact that we ask, and demand answers to, ‘Why?’ questions directed at the emotions. If I am angry with Bert, it is legitimate to ask why. If I am unable to provide an answer, my anger will appear unjustified. In this regard, emotion is like belief and, perhaps to a lesser extent, desire. We demand that people be able to say why they believe that $P$; we are somewhat less strict with desire. Perceptual states, like states of knowing, do not admit of such questions. To ask why I know or perceive something is to express confusion. Insofar as such questions make sense, they ask not for reasons but for causal explanations. Such is the case with perceptual experience. Thus, if asked why I am currently experiencing a ringing sound, I may answer that my alarm is sounding, or that I have been listening to loud music. But neither of these answers *justifies* my experiencing a ringing sound. They explain it. On the other hand, if asked why I am afraid of the spider, I may reply that it is poisonous. This places my fear within the realm of reasons, staking for it a claim to justification. This disanalogy with perceptual experience is sufficient to cast serious doubt on the perceptual account of emotional feeling, the rejection of which paves the way for Deonna and Teroni’s own “Attitudinal Theory”.

The Attitudinal Theory combines two key claims: (AT1) Evaluation is an element of the *attitude*, not the *content*, of an emotion; (AT2) Emotions are constitutively tied to states of bodily “action readiness”. These two claims provide the material for Deonna and Teroni’s pro-
posed account of emotional correctness. In summary,

each emotion consists in a specific felt bodily stance towards objects
or situations, which is correct or incorrect as a function of whether
or not these objects and situations exemplify the relevant evaluative
property (89).

This, taken together with the account of emotional justification pre-
sented in Chapter 8, constitutes the heart of the book’s positive pro-
posal concerning the nature of emotion.

To see what Deonna and Teroni have in mind with their clai
that evaluation is an element of the attitude of emotion consider the
case of belief (76-7). In believing that grass is green, I hold an at-
titude toward the content \textit{grass is green}. That attitude might be char-
acterised as \textit{considering true}. It is because I hold the considering true
attitude to the proposition that grass is green that my belief is cor-
rect if and only if it is true that grass is green. Truth is an element
of the attitude of belief not, or not usually, its content. That is, we
do not suppose that the content of the above belief is \textit{grass is green is
ture}. Now, consider the case of emotion. A number of contemporary
views place evaluative concepts in the emotion’s content. Thus, grief
is the judgement that someone or thing is a \textit{great loss}, fear is the per-
ception of something or someone as a \textit{threat}, and so on.

This, argue Deonna and Teroni is a mistake. Just as truth, which
they claim to be the formal object of belief, is not thereby an element
of the content of belief, and the good, arguably the formal object
of desire, is not thereby an element of the content of desire, so we
should agree that the evaluative properties that are the formal objects
of the various emotions are not thereby elements of the contents of
emotion. Rather, we need to think of these evaluative properties as
elements of the attitude one holds toward the content of an emotion.

This move, one of the more interesting innovations in the book,
requires us to elaborate on the nature of emotional attitudes. If belief
is \textit{considering true}, what are emotional attitudes? It is at this point that
Deonna and Teroni bring in the notion of felt bodily action readi-
ness. Deonna and Teroni start from the idea that the phenomenology
of the emotions is, at least primarily, bodily phenomenology and that
there is a constitutive link between their phenomenology and their
intentionality. The core of their position is that, “we should conceive
of emotions as distinct types of bodily awareness, where the sub-
ject experiences her body holistically as taking an attitude towards a certain object” (79). What it is for one’s body to take an attitude towards an object is further elaborated by way of Frijda’s 2007 notion of action readiness. We experience our body as poised to act in various ways with respect to some object. So, for example, in fear we experience our body as ready to “contribute to the neutralisation of what provokes the fear”; in anger we experience our body as, “prepared for active hostility”, towards an object; in sadness, we experience our body as “prevented from entering into interaction” (80) with the object; and so on. This relates emotions to evaluative properties, their formal objects, in the following way: each of these attitudes is correct if and only if the object in question has the relevant property. It is correct to neutralise something if and only if it is a threat, it is correct to prepare for hostility toward something if and only if it is offensive, the formal objects of fear and anger respectively.

With this, we see how Deonna and Teroni combine their view of emotional evaluation as an element of the attitude with their account of bodily action readiness to derive an account of the correctness conditions of emotional states. To complete the picture, however, they also offer us an account of emotional justification. Given that, on Deonna and Teroni’s view, emotions rest on a cognitive base, a natural view of justification would be that an emotion is justified if its cognitive base represents its object as possessing its formal object. So, for example, an experience of fear would be justified if it rests on a judgement, perception, etc. of that object as threatening. As I understand them, Deonna and Teroni accept that this natural thought may capture a sufficient condition of emotional justification, but they deny that it is necessary. As they put it,

[the cognitive base of an emotion then need not, and typically does not, contain an evaluative judgment or a value intuition. This is for instance the case when fear is explained by the subject’s awareness of a dog with big teeth behaving erratically (96)]

To find a necessary condition, we must loosen the requirement, allowing the cognitive base to represent the particular object as possessing some property that, in the context, constitutes an instance of the relevant evaluative property that figures in the emotion’s correctness conditions (97). In the above example, the dog’s having big teeth and behaving erratically constitutes it’s being a threat. As such,
fear is a justified response. Of course, I may have misjudged, or misperceived, the dog’s behaviour. Perhaps it is not really a threat. In which case my emotion is justified but not correct.

Any view, such as Deonna and Teroni’s Attitudinal Theory, that treats emotions as constitutively tied to bodily awareness (felt bodily action readiness) must be able to explain the fact that there seemingly exist subjects who lead a rich emotional life despite lacking the relevant bodily perception and active capacities (Cobos et al. 2002; cf. Cole 1995). This is a challenge that goes as far back as Cannon’s 1927 challenge to James’ account of emotion as a form of bodily awareness and recent defenders of neo-Jamesian views have an answer to hand (Damasio 2006; Prinz 2004). According to this view, emotional feeling may involve what Damasio terms an “as if loop”, a neural surrogate for the relevant bodily states that, “help[s] us feel ‘as if’ we were having an emotional state” (Damasio 2006: 155). Whilst Damasio speaks of feeling “as if” one has an emotion, Prinz makes the stronger claim that despite its bodily character, emotion can exist in the absence of the relevant bodily changes (Prinz 2004: 57, 72) and, in this judgement Deonna and Teroni concur, claiming that, on the Jamesian view, “[a]n emotion would then either consist in the veridical perception of certain bodily changes or, when such changes are not present, in the simulation of such perception” (65).

Given that Deonna and Teroni’s view is one according to which emotions are a form of bodily awareness, and given that they mention no other response to this objection to bodily views, we can assume that the postulation of an “as if” loop is a part of their defence of their Attitudinal Theory. But it is far from clear that this is something to which they can simply help themselves. As we have seen, Deonna and Teroni take emotions to be conscious episodes, in their terms that they are “essentially felt” (18), with any putative cases of unconscious emotions being explained away as merely unattended, mis- or non-conceptualised, or merely dispositional (16-7). It is crucial to note, however, that the “feelings” of which Damasio speaks are not themselves conscious states. Damasio explicitly distinguishes between,
a state of emotion, which can be triggered and executed nonconsciously; a state of feeling, which can be represented nonconsciously; and a state of feeling made conscious, i.e. known to the organism having both emotion and feeling (Damasio 2000: 37)

At a first glance, then, one might suppose that Deonna and Teroni may not help themselves to the “as if” loop response, which apparently involves only non-conscious “feelings” and not conscious, essentially felt emotions. On reflection, however, perhaps the problem is not with Deonna and Teroni’s use of the “as if” loop response, but with the response itself. For the putative counterexamples to bodily accounts of emotion are precisely cases of conscious emotion without bodily phenomenology, so it is far from obvious how a non-conscious state will play the role assigned to it.

There is some reason to suppose, then, that we must reject one of the following, (i) Conscious emotions can persist in patients without any bodily feeling, veridical or otherwise, (ii) Emotional phenomenology is bodily phenomenology. Deonna and Teroni apparently accept both and offer no way of resolving the tension. Admittedly, they do point out that the Attitudinal Theory can be divorced from the particular Jamesian interpretation that they give it (81). That is, one might accept AT1 whilst rejecting AT2. However, they themselves do not favour such an approach and it is remains an open question how one would characterise such evaluative attitudes in a non-bodily way. Nevertheless, the above worry about the viability of Jamesian views in general may push the Attitudinal Theory in that direction.

Setting the above worries aside, we can ask about the plausibility of the account of correctness. Here is Deonna and Teroni’s account of correctness for fear,

Fear of the dog is an experience of the dog as dangerous, precisely because it consists in feeling the body’s readiness to act so as to diminish the dog’s likely impact on it (flight, preemptive attack, etc.), and this felt attitude is correct if and only if the dog is dangerous. (81)

Likewise, Prinz (2004: Chapter 9) is happy to speak of unconscious emotions.
Are Emotions Embodied Evaluative Attitudes?

This is a natural thought. Surely it is correct to run, etc. from an object if an only if it is threatening. But the naturalness of this thought masks a difficult question: what does ‘correct’ mean in this quotation? ‘Correct’ in this context cannot mean ‘true’, since running is not truth-evaluable. But in what sense is running from a threat correct?

The difficulty in providing an answer to this question is perhaps more obvious when we turn to some of Deonna and Teroni’s other examples. Anger, they tell us, “is an experience of [someone] as offensive, precisely because it consists in feeling the body’s readiness to act so as to retaliate one way or another, and this felt attitude is correct if and only if the person is or has been offensive.” (81). Really? Jesus taught his followers that, “if anyone strikes you on the right cheek, turn the other also” (Matthew 5:39). Christians, it seems, would reject the thought that retaliation is the correct response to offense. Or consider the case of shame. This, say Deonna and Teroni, is, “the experience of oneself as degraded, precisely because it consists in feeling one’s body ready to act so as to disappear into the ground or perhaps from the view of others, and this felt attitude is correct if and only if the person is degraded” (81). What is correctness here?

To the question of what correctness amounts to in Deonna and Teroni’s account of fear, it is natural to answer “rational”. Indeed, plausibly, it is rational to flee if one spies a threat and irrational otherwise. But such an answer is markedly less plausible in the other cases. Is it rational to prepare for retaliation when offended? It is far from obvious that it is. Is it rational to disappear into the ground when degraded? I am tempted to say that, insofar as I can make sense of the suggestion, it is not. More significant than such puzzlement, however, is the suspicion that correctness in these analyses is ultimately a matter of prudential or moral appropriateness. But these notions, so Deonna and Teroni suppose (7), are to be contrasted with correctness, as the earlier example of feeling (correct but prudentially inappropriate) fear at a pack of wolves was intended to illustrate. Without a further characterisation of the sense in which correctness is being employed in these analyses, it would seem that the Attitudinal Theory may fall into the trap of conflating it with appropriateness.
My final critical comment on the Attitudinal Theory concerns the account of justification. Deonna and Teroni spell their account out in the following way,

An emotion is justified if, and only if, in the situation in which the subject finds herself, the properties she is (or seems to be) aware of and on which her emotion is based constitute (or would constitute) an exemplification of the evaluative property that features in the correctness conditions of the emotion she undergoes. (97)

I put to one side the worry that the notion of constitution (really an ‘in virtue of’ relation) employed here is less than transparent, especially regarding the issue of how we are to properly distinguish between the constituting properties and the “situation” (which Deonna and Teroni admit is required for even a supervenience claim to hold (96-7)). Instead, I focus on an objection that they pose to their own view but then, curiously to my mind, seemingly misinterpret in their response (98ff). As they put the objection, “[t]here seems to be an important gap between awareness of properties constituting an instance of an evaluative property and what justifies a given emotion.” (98). The most powerful way of stating this objection, it seems to me, is that justification travels via content, so the non-evaluative content of the cognitive base (that the dog has big teeth) cannot justify the evaluative attitude that is the emotion (that it is dangerous). According to this principle, a representation of something as an F cannot not justify one’s taking it to be a G in the absence of some further information (say that all Fs are Gs). This, it might be maintained,

As it stands this condition may seem inappropriately insensitive to information possessed by the subject that undermines the credibility of the cognitive base. For example, if I falsely take the fierce dog to be safely chained to a wall, I would not be justified in fearing it. Or, at least, such a belief would surely affect the extent to which my fear was justified. Deonna and Teroni’s account of justification is entirely “bottom-up”, with justification flowing from the cognitive base alone, but there is surely some pressure to recognise top-down effects on justification; effects stemming from beliefs etc. that are relevant to the case, without themselves forming a part of the cognitive base. Since Deonna and Teroni do accept that justification can depend on the subject’s beliefs (99-100), it seems reasonable that some such account of how justification can be defeated may be incorporated into their account.
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holds in cases where \( F \)ness constitutes \( G \)ness. It even holds in cases where \( F \)ness is identical to \( G \)ness, as the example of temperature and mean kinetic energy shows. Given this, we should be highly sceptical of the idea that being aware of something as having big teeth, even in a context in which this property constitutes being a threat, is sufficient to justify one’s taking it to be a threat. Deonna and Teroni owe us an explanation of exactly where this line of thought goes wrong.\(^6\)

Deonna and Teroni’s *The Emotions* is an exemplary introduction to the philosophy of emotion. It skilfully leads the reader through the thicket of contemporary philosophical work on emotion in a way that is at once introductory and challenging. This is an impressive achievement. But it is also itself a significant contribution to that body of philosophical work. The Attitudinal Theory of emotion, defended in this book, is a serious contender to be ranked alongside other major theories currently available. There are, as I have tried to suggest above, some unanswered objections to which Deonna and Teroni owe responses. But a good book, especially an advanced introduction of this sort, should leave us with at least as many questions as it answers. In that way it inspires its students to dive into the issues themselves. This is precisely what Deonna and Teroni do. Theirs is an introduction that shows students in a methodical way exactly how to pursue careful, systematic and wide-ranging thinking about a difficult and absorbing topic.\(^7\)

\(^6\) Note that this argument does not assume that in order for one’s emotion to be justified one must be aware, from the first-person perspective, of that which justifies it, or that one must take one’s emotion to be appropriate (cf. the account discussed by Deonna and Teroni on pp. 100-1). Rather, it assumes merely that for an emotion, or any other state, to be justified, one must be in states (accessible or otherwise) with the right justifying content, and that this is individuated at the level of sense, not reference. Some externalists will deny even this. My point is simply to press Deonna and Teroni for some further illumination regarding exactly what the moving parts of their theory of justification might be.

\(^7\) Thanks to the students in my *Evaluating Emotions* seminars 2011-14; to Julien Deonna, Fabrice Teroni and Ann Whittle for preventing me from making too many mistakes; and to Moritz Müller for many hours of conversation on emo-
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I wrote this critical review while on research leave funded by the Arts and Humanities Research Council as a part of the Knowledge of Emotion project.
Abstract
Philosophers have argued that the conceivability of philosophical zombies creates problems for physicalism. In response, it has been argued that zombies are not conceivable. Eric Marcus (2004), for example, challenges the conceivability claim. Torin Alter (2007) argues that Marcus’s argument rests on an overly restrictive principle of imagination. I agree that the argument relies on an overly restrictive principle of imagination, but argue that Alter has not put his finger on the right one. In short, Marcus’s argument fails, but not for the reasons Alter gives.

Keywords
Zombies, conceivability, imagination, first-person perspective, third-person perspective

Eric Marcus (2004) challenges the conceivability of philosophical zombies. Torin Alter (2007) argues that Marcus’s argument rests on a questionable assumption, which he calls the entailment principle. (EP) To imagine the instantiation of a negative property N, one must imagine the instantiation of some positive property P that entails N. (Alter 2007: 93)

Because this assumption is false, Alter argues, Marcus’s conclusion that zombies are inconceivable does not trouble the anti-physicalist argument that depends on the conceivability of zombies. In this note, I argue that Marcus’s argument does not rest on the entailment principle but on the following principle of imagination.

1 By ‘zombies’ I mean creatures who are physically, functionally and behaviorally identical to us but not phenomenally conscious.

2 See Marcus 2004.

3 See Chalmers 1996.
The principle of imagining subjective properties: To imagine the presence or absence of a subjective property, one must do so from the first-person point of view.

I discuss Alter’s response to Marcus and show that it fails to do justice to Marcus’s focus on first-person and third-person forms of imagination. I then show that Marcus’s argument relies on the principle of imagining subjective properties and argue that this principle is overly restrictive. So, Alter is right that Marcus relies on an overly restrictive assumption, but he has not put his finger on the right one.

1 Alter’s interpretation of Marcus

Many grant that zombies are conceivable. Marcus holds that zombies only appear to be conceivable. For him, when one mistakenly believes one has imagined a zombie world, one has actually imagined a world that mirrors ours in terms of its physical, functional, and behavioral properties and merely refrained from imagining the phenomenal properties of this world. Put another way: claims to conceive of a world identical to ours in terms of physical, functional and behavioral properties but without phenomenal properties are claims about acts or processes of conceiving and not the objects or products of such conceiving. For Marcus, more work needs to be done to conceive of a zombie world.

Alter argues that this demand for more imaginative work rests on the entailment principle.

(EP) To imagine the instantiation of a negative property N, one must imagine the instantiation of some positive property P that entails N.

4 In this note, I use ‘to imagine’ and ‘to conceive’ interchangeably.

5 In other words, a world with individuals who are like us in terms of their physical constitution, their non-qualitative intentional lives, and their behavior.

6 In this note, I assume that there is a distinction between phenomenal consciousness and access consciousness. The coherence of the zombie scenario depends on this assumption, so I grant it for the sake of discussion.
According to Alter, Marcus’s core idea is that to successfully imagine a zombie world we must imagine a positive property that entails the negative property being a world without phenomenal consciousness. Marcus says there is no such positive property, so we cannot imagine zombies.

To support attributing this principle to Marcus, Alter cites the following.

Empty rooms, empty heads, houses with no one home, and vast stretches of Nebraska are imaginable. In general, empty space is imaginable. In these cases, however, absence is imaginable against the background of presence — the presence of rooms, heads, houses, cows, and, in general, space. But there is nothing comparable in the case of the nothing it’s like to be a zombie. There is no inner border or background of inner space against which it is possible to conceive subjective absence. Imagining subjective absence presents an insurmountable obstacle. (Marcus 2004: 483)

Marcus does at times focus on the impossibility of imagining subjective absence. The basic idea here is that to ensure that we have imagined a world that truly lacks phenomenal consciousness, we have to imagine the lack of subjective properties in the world, and Marcus holds that we can do so only from the first-person point of view. According to Marcus when we imagine a scenario from the first-person point of view, we imagine what it is like to occupy some point of view in the scenario. From such a point of view, though, we cannot imagine a lack of phenomenal consciousness; when we take up such a viewpoint we thereby imagine a world with phenomenal properties because imagining first-personally requires the instantiation of some phenomenal properties in the imagined scenario. This problem, though, has nothing directly to do with imagining a positive property that entails some other negative property. The quote above does mention our ability to imagine the non-existence of some feature against various backdrops, but these examples are supposed to show that the case of imagining zombies from the first-person point of view is not possible.

It would be possible by Marcus’s lights to imagine a world lacking in some of the subjective properties of our world. A world with no color experiences can be imagined from the first-person point of view; some of the phenomenal properties of our world (what it is like to see various colors) are not instantiated. But imagining a complete lack of subjective properties from the first-person point of view is not possible.
of view is distinct from these other examples where we can imagine
the lack of some feature from the third-person point of view. Mar-
cus’s point is that the difficulty is not simply imagining the absence
of some property. As his examples bring out, imagining such absence
is often easy. The zombie case is special; to ensure that the world
we imagine is one without subjective properties, we must take up
the first-person point of view, but in doing so we thereby imagine a
world with phenomenal consciousness.

Alter concedes that he may not have put his finger on the correct
assumption driving Marcus’s argument, suggesting at one point that
perhaps it rests on a more specific version of EP.

(EP’) To imagine, from the first-person perspective, the instantiation
of a negative property N, one must imagine, from that perspective, the
instantiation of some positive property P that entails N. (Alter 2007: 94)

This talk of imagining a scenario from the first-person perspective
brings us closer to Marcus’s actual argument, but the focus on posi-
tive and negative properties continues to run interference.

Despite this distracting focus on the entailment principle, Alter
does cite the following reminder from Marcus, which makes it clear
that the barrier to imagining zombies lies in concerns about imag-
ing zombies from a certain points of view or perspectives and not
concerns about the need for some positive property that guarantees
a lack of consciousness.

It is worth emphasizing that it is crucial for the argument in favor of
the possibility of zombies that the conceivability of zombies be in part
a matter of first-person imagining. As I hope is already clear, no purely
third-person imagining by itself will conjure up the alleged zombie-
world. (Marcus 2004: 483)

The demand here is clearly put in terms of imagining the situation from
a specific point of view and not on imagining a positive property that
will entail the lack of consciousness. I suspect that Alter let the passage
about imagining emptiness against a background of presence drive his
interpretation of Marcus’s argument. To make proper sense of the arg-
ument, though, we have to recognize that the key difficulty in imag-
ing zombies results from Marcus’s demand that we imagine zombies
from a point of view from which we cannot actually imagine zombies. ⑧

⑧ For what it is worth, I think that Alter is too quick to dismiss EP. Nothing
Alter does discuss another potential argument. Here is his characterization.

If, in trying to imagine total subjective absence, we use something of the what-it-is-like variety — a phenomenal quality — then we are not imagining total subjective absence: the phenomenal quality we use is subjectively present. (Alter 2007: 96)

This is closer, but it leaves out Marcus’s explanation for why we must use a phenomenal property in imagining total subjective absence. There is no mention of the principle of imagining subjective properties. Without mentioning this principle, Alter attributes a very bad argument to Marcus. On the latest diagnosis, Marcus is quite confused about how imagination works. Alter appears to accuse Marcus of thinking that if we employ the notion of a phenomenal property in imagining some scenario, then there are phenomenal properties instantiated in the scenario. We of course use our concept of a phenomenal property when we imagine the zombie world, but we do not thereby imagine any referents of the concept existing. Imagin-ation often works this way. When I imagine a world in which God does not exist, I employ the concept of God in the act of imagining this world, but it is important that I imagine that the concept has no referent. Marcus’s argument would be poor indeed if he were arguing that because we must use the concept of a phenomenal property to imagine the zombie world, we thereby imagine a world with phenomenal properties. ⁹

in my own critique of his interpretation hangs on the truth of EP, but I think it is a principle that can protect us from modal error. Take the case of a godless world. Surely we must, in a philosophical context, be able to point to some positive property in the world that entails or guarantees the non-existence of God in order to be sure that we have imagined a godless world. Here is an example: the property of being a world that satisfies the philosophical naturalist’s theory of the world.

⁹ This is as bad as saying that imagining a world with no such country as the United States involves the concept of the United States and is thereby a world with the actual United States in it.
2 First-person and third-person perspectives in imagination and Marcus's argument

Alter is right to be suspicious that Marcus is indeed working with an overly restrictive principle of imagination; he has just not identified the correct one. One cannot make proper sense of Marcus’s argument without appreciating his emphasis on first-person and third-person ways of imagining scenarios. I have touched on this distinction. Here is Marcus himself.

The imagined difference between zombies and us is purely first-personal or subjective. What is such a difference? As typically understood, a first-person difference is a difference of what it’s like . . . To imagine Abe Lincoln third-personally is to imagine the way his parts are laid out in space. To imagine him first-personally is to consider how the world appeared to him, to imagine feeling what he felt, experiencing his moods, and so forth. To imagine a subjective difference between Abe Lincoln and someone else is to imagine a difference in what it’s like to be them. (Marcus 2004: 482)

Here Marcus notes that there are at least two distinct ways one can imagine a world. One can imagine first-personally by placing oneself in the world and imagine experiencing that world. One can imagine third-personally by imagining a world but not imagining what it is like to be in that world.¹⁰ For example, I can imagine scoring the winning goal of the final of the 2014 World Cup first-personally. I imagine experiencing the elation, joy and adrenaline that results from such a feat. I can imagine that same situation from a third-person point of view, too. I picture myself scoring the winning goal in the final of the 2014 World Cup from the point of view of an outsider.¹¹ I do not imagine what it’s like to do this. I just see myself doing it as spectators in the stands would or perhaps as television viewers would. This distinction between first-person and third-per-

¹⁰ There are interesting things to say here about ways of imagining a scenario. I do not have the space to consider more detailed distinctions. See Shoemaker 1994 and Nagel 1974 for related discussions.

¹¹ It is perhaps important not to imagine myself doing this from the standpoint of being a spectator, because that may be incoherent. How can I be in the stands and score the winning goal at the same time? To imagine third-personally does not require that one is in the situation at all. One may simply take a God’s-eye-view of things wherein one is not located in the scenario at all.
son imagining does not track whether or not the subject doing the imagining has his or her normal identity in the scenario in question, but whether the subject imagines what it is like to be experiencing a given scenario or whether the subject imagines the situation without imagining directly experiencing the scenario.\textsuperscript{12}

Consider the following from Marcus regarding the ability to imagine zombies first-personally.

To imagine zombies first-personally, then, is to imagine what it’s like to be a zombie. What is it like to be a zombie? Well, zombies are beings without consciousness. There is nothing that it’s like to be a zombie. To imagine zombies first-personally is to imagine first-person nothingness. The difference between Abe and Zombie-Abe is that there is something it’s like to be Abe, and nothing it’s like to be Zombie-Abe. So, when we add third-person duplication to first-person absence, we’ve imagined zombies. (Marcus 2004: 482-483)

Imagining zombies first-personally is required to properly imagine zombies according to Marcus, but this is a problem because we cannot imagine first-person absence for the reasons rehearsed earlier.

But why must we imagine zombies from the first-person point of view? Recall the reminder.

It is worth emphasizing that it is crucial for the argument in favor of the possibility of zombies that the conceivability of zombies be in part a matter of first-person imagining. As I hope is already clear, no purely third-person imagining by itself will conjure up the alleged zombie-world.

Marcus references Saul Kripke’s conceivability argument against the identity theory here and the fact that being in pain must be imagined from the first-person point of view. The only acceptable method, according to Marcus, for imagining the existence of subjective properties in a scenario is to imagine them from the first person point of view.

Let me lay out the argument.

\textsuperscript{12} As Shoemaker (1994) notes, it may not always be possible to imagine oneself being the subject when one imagines what it is like to be the subject of a scenario. For example, I can imagine what it’s like for the world’s greatest soccer player, Lionel Messi, to dribble by me, an amateur soccer player, while I can also imagine what it is like to be outmaneuvered by him. I do not thereby imagine being myself and being Messi in that scenario. I imagine having the experience myself and I also imagine what it would be like for him to have such an experience.
One can imagine situations first-personally or third-personally.

Imagined scenarios have subjective and objective properties.

One must imagine the existence or non-existence of the subjective properties of a scenario first-personally.

If zombies are phenomenally conscious, their phenomenal conscious properties are subjective properties.

In order to examine whether or not zombies have phenomenally conscious properties, one must imagine them first-personally.

We cannot imagine zombies first-personally because imagining a scenario from the first-person point of view is thereby imagining a scenario with phenomenal consciousness.

(3) expresses the principle of imagining subjective properties. It is needed for this argument to go through. If (3) is false, then (5) does not follow, and we therefore avoid the difficult Marcus presents.

Marcus does not devote much of an argument to (3). He makes the brief reference to Kripke’s conceivability argument, and he also notes that subjective properties “are graspable only from a first-person point of view” (Marcus 2004: 482). We should resist (3), because there is an important distinction Marcus does not draw out, one which is detrimental to his argument.

In one sense, it is true that one must imagine the subjective properties of a scenario from the first-person point of view. To imagine what it is like to skydive, for example, I must do so from the first-person point of view. In this sense, it is true to say that subjective properties are only graspable from the first-person point of view. However, I need not imagine a situation from the first-person point of view in order to know whether or not subjective properties are instantiated in it. Consider an example. I imagine my brother skydiving for the first time. No matter the detail I add, no matter the objective properties I imagine being instantiated (the location, time, weather conditions, nature of his jump, etcetera), I also imagine that there is something it is like for him to make the jump. In the sce-
nario there are subjective properties instantiated even though I do not imagine the scenario from the first-person point of view. There is no problem in granting this natural claim. It is not as if I remain in a state of uncertainty about whether my brother as I imagine him has or lacks phenomenal consciousness. From a third-person point of view, I imagine him making the jump and imagine that there is something it is like for him to make the jump — without imagining experiencing those things myself. Marcus holds that one can only know that a subjective property is instantiated if one imagines experiencing or not experiencing that property directly in the imagined scenario. But there are plenty of cases where we can imagine the characters in imagined situations having experiences even if we ourselves are not imagining ourselves having those very experiences. One need not imagine experiencing a subjective property being instantiated in an imagined scenario to be sure that it is instantiated, as my example shows. Therefore, the principle of imagining subjective properties is an implausible principle of imagination.

Some may reply that the principle of imagining subjective properties is needed to protect against modal error. How can I be sure that I have imagined a scenario in which there is something it is like for my brother to skydive if I do not imagine — from his own point of view — what it is like or not like for him? Without the space to offer a theory of modal error, let me examine the scope for error in the current example. Despite my claim to have imagined subjective properties from a third-person point of view, I may have actually misdescribed the situation. I described it as one in which my brother does experience skydiving. Perhaps it is a more complicated case, one in which he does skydive but experiences nothing. Let us suppose he has passed out right before the jump. That would be a situation in which he lacks phenomenal consciousness of the jump. But notice what I have done. I have added a supposition to the situation that explains the lack of phenomenal consciousness. As the situa-

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13 I may even imagine that he feels scared before the jump, feels exhilarated during the jump, and feels relieved and full of adrenaline after the jump from the third-person point of view. These subjective properties are instantiated in the imagined scenario even though I do not imagine myself having these experiences.

14 My thanks to an anonymous reviewer for pressing me on this concern.
tion was initially described — without this supposition — it does not seem possible that I could be mistaken. Indeed we can create different scenarios in which there is no phenomenal consciousness, but these are distinct from the original for they build in new details. Imagination may have some similarities to perception, but one thing is for certain: the scope for error in imagination is much narrower than in perception. Error is no doubt possible, but in order to be mistaken about the phenomenal properties in the skydiving scenario, I would need to build more detail into the scenario that explains how my brother fails to experience anything. I need to, in effect, imagine a distinct scenario.

In conclusion, once we properly appreciate the role that first-person and third-person perspectives in imagination play in Marcus’s argument, we can see exactly where things go wrong: his implausible view of what is required to reveal the existence of subjective properties in imagined scenarios. While I am somewhat skeptical of our ability to conceive of philosophical zombies, we do not fail to imagine them because we fail to imagine the absence of subjective properties from a perspective that necessarily instantiates such properties, for there is no good reason to hold that we must imagine the instantiation of subjective properties in imagined scenarios only from the first-person point of view.¹⁵

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¹⁵ My thanks to two anonymous reviewers for helpful comments.

Making Sense of Freedom and Responsibility is a much expected book, in which Dana Nelkin puts forward a new and rich account of freedom and moral responsibility. In the wake of Susan Wolf’s account, the Rational Abilities view — as Nelkin calls her account — claims that “one is responsible for an action if and only if one acts with the ability to recognize and act for good reasons” (3); a central “striking feature” of this view is that the ability to do otherwise is only needed for actions that are not done for good reasons or are not good, but not for good actions done for good reasons. The idea is that when someone acts for good reasons, she is thereby exercising the ability and it is not required that she be able to act badly or for bad reasons; but when one acts for bad reasons, one needs to be able to act for good reasons in order to be morally responsible.

The book has two parts. Nelkin’s agenda for the first half is to present a convincing account of abilities as well as to argue for the asymmetry between good and bad actions. The second part is an account of “our sense of ourselves as free and responsible”, in which a compatibilist understanding of alternatives is offered. Let us see, in order, how well she does on each of these tasks.

Nelkin begins by addressing the claim that alternative possibilities are needed both for blameworthy and praiseworthy actions. In Chapter 2, she considers the argument from fairness for that view and argues that the parallel between i) the unfairness of blaming someone for a bad action, or an action done by bad reasons, which one was unable to avoid, and ii) the unfairness of praising someone for a good action that one was unable to avoid, is only apparent, since

an opportunity to avoid doing something wrong and blameworthy, thus avoiding harm, seems only fair if we are going to impose such
harm; but it is notable that we don’t speak of the unfairness of lacking an opportunity to avoid acting well and so missing out on a benefit. (33)

However, the seeming plausibility of this response may be just due to a confusion between (Watson’s) two senses of responsibility, i.e. responsibility as ‘attributability’ (aretic or characteriological responsibility) or as ‘accountability’. The latter, which is the sense that more clearly requires avoidability, would be the true sense of responsibility (the ‘desert’ sense) at issue in the moral responsibility debate. But even if this is so, it still seems that there is room for an asymmetry here, insofar as the avoidability requirement is based on the openness to sanctions that blameworthiness appears to entail, but it is not easy to envisage an obvious counterpart for praise (36). It must be a different argument that which is here at work. Indeed, Nelkin contrasts this common rendering of the fairness argument with an interpersonal version of it, according to which an agent could complain that someone else is being praised for an unavoidable action of hers, when he himself failed to act well just because he could not help it — at first sight, it seems that this agent could rightly feel that he has been unfairly treated. Yet Nelkin argues that this argument involves an equivocation, since it hinges on a different notion of fairness: it invokes a distributive notion of fairness. She claims that “there is no contradiction in attributing accountability while acknowledging unfairness in its distribution”, since the interpersonal complaint of unfairness “also applies to accounts of accountability that do require avoidability” (39, her italics), given that capacities are anyway unequally distributed.

However, I cannot see why this last reasoning does not apply to blameworthy actions as well. Once we accept that capacities (and opportunities) are unequally distributed and that this distribution is a matter of luck, but this does not affect — invalidate — praiseworthiness, why does this not apply to blameworthy too? It seems likely that an interpersonal version of the unfairness argument concerning blameworthy actions would call for the same verdict. It is equally serious to mark a student’s paper with an A when this A is undeserved than with an F when this F is also undeserved. One case is not less unfair than the other, regardless of whether the mark is a good or a bad one. And this seems to be independent of whether there are other students in the class. It applies equally if this student
were the only one, and even if no other past and future students were or would ever be registered in that course. Maybe the thing is that interpersonal comparison is always implicitly at work in responsibility judgments (even when there is no other actual person), but then the very distinction between the two (intra- and interpersonal) versions of the fairness argument becomes largely otiose.

It must be said that, demonstrating intellectual honesty, Nelkin calls also into question the very (intrapersonal) fairness argument concerning blameworthy action — which actually supports her asymmetrical view — on the basis of a distinction between blameworthiness and sanction: whether an action ought to be sanctioned is a further question, beyond its blameworthiness, what seems quite right.

The defense of the blame/praise asymmetry is completed in Chapter 5, when Nelkin turns to the Ought-Implies-Can Principle. This principle states that if an agent ought to perform an action, then she can perform it. More specifically,

\[
\text{(OIC) (i) If S ought to perform an action } a \text{, then S could have performed action } a, \text{ and (ii) if S ought not to have performed action } a, \text{ then S could have refrained from performing action } a. 
\]

If we focus on blameworthy actions,

If S is blameworthy for having performed action \( a \), then S ought not to have performed action \( a \).

And from this and OIC,

If S ought not to have performed an action \( a \), then S could have refrained from performing action \( a \).

Which yields

PAP-Blame. A person is morally blameworthy for what he has done only if he could have done otherwise.

Nelkin first explores its grounds and then considers and replies to the most important challenges to it. Her conclusion is that the principle stands criticism, but, again, there is no satisfactory counterpart of it for praiseworthy actions. “There could be another rationale or principle, but not the natural and plausible rationale that supports
alternatives for blame, but not for praise (or neutral cases).” (101) Together with results from Chapter 2, this explains why alternatives are needed for blameworthy actions, but not for praiseworthy actions. Although her reasoning is largely compelling, again my worry about the resulting asymmetry is a general one. I will put it now as a dilemma: either this view takes praise in a less serious way than blame, maybe as desert-independent (on the basis of its supposed harmless character); or once you accept that praise depends on many things beyond the agent’s strict control, why not accepting this for blame as well? Why is it fair for praise but not for blame? On the other hand, it seems to me that the ordinary asymmetry between praise and blame — which is surely a fact of our responsibility practices — is however due to real-life epistemic and pragmatic constraints, and often to good manners too, which do not grant transcending this pragmatic level. The very distinction between blameworthiness and overt blame and sanction (and praiseworthiness and overt praise and reward) blocks the asymmetry’s depth.

As advanced, another of the central aims of Nelkin’s Rational Abilities View is, certainly, to put forward a satisfactory account of rational abilities (Chapters 1, 3 and 4). Here she starts off with the idea of a reason-responsive mechanism, à la Fischer. Moral responsibility requires a capacity to act differently under different circumstances, and a general capacity to act differently given the actual reasons for acting. This general capacity consists of “a set of rational abilities that allow [the agent] to recognize and act on good reasons, where these includes moral reasons” (27). But her account goes beyond this. What is required is not only this “general capacity to do otherwise in certain cases, but [one] also needs not to be interfered with in such a way that [one] cannot exercise it on a particular occasion.” (71) On the other hand, emotional capacities are not excluded from playing an important role in our responsibility-related agency — they might well be necessary for human agency — but this account provides conditions for moral responsibility that are independent from people’s reactions (see Chapter 1). Nelkin’s is certainly a non-Strawsonian account: moral responsibility does not depend on possessing reactive attitudes. It is the appropriateness of holding one responsible (having reactive attitudes) what hinges on one’s being responsible, and not the other way around.
Importantly, the mentioned capacity to do otherwise does not involve having undetermined alternatives — it must be clear that Nelkin’s is a compatibilist view — but only “having alternatives for which our deliberation makes a difference.” (71) And, indeed, this is further developed in the second part of the book. But before going to this, it is worth noticing her surprising and challenging defense of a compatibilist account of agent causation, which according to her does better than its libertarian version at ensuring enhanced control. Her version denies both that agent causation must be undetermined — of course — and that “it is fundamentally different in kind from causation that does not invoke agents” (81; see Chapter 4). As an aside: it seems to me that inasmuch as this notion is deprived from these crucial features it loses most part of its appeal, but this could be a good move in order to neutralize a potential competitor.

Up to this point, the first part of the book. The second half (Chapter 6 and 7) deals with the sense of freedom, famously invoked by Kant and Thomas Reid. What are exactly our commitments when we deliberate to act? Nelkin argues that our experience as free agents who deliberate about what to do only commits us to the belief that our deliberation contributes to how we act, but not to indeterminism, i.e. to having undetermined alternatives. The author engages here in an important ongoing debate about the nature of the alternatives: metaphysical, epistemic, conditional, etc. — and argues for a novel and plausible view: the Explanatory Nexus Thesis.

(EN) Rational deliberators must believe, in virtue of their nature as rational deliberators, that they have multiple alternatives from which to choose, where their deliberation is the explanatory nexus among alternatives. (142)

Our deliberation is, according to this view, the difference-maker among the considered alternatives — plausibly, it should actually make this difference, not only that we believe it does, although not the kind of difference that requires indeterminism as advocated by incompatibilists. In the final chapter, she adds that what our sense of freedom really commits us to is “to the idea that our actions are up to us in such a way that we are responsible for them”, which explains why we choose and act as we do (169). This understanding of such a central feature of our self-understanding allows the compatibilist to integrate a strong motivation for libertarianism, keeping its anti-
skeptical force. Irrespective of its final merits, this proposal is a great contribution to the important debate about the nature of alternatives, worthy of close consideration.

Indeed, most chapters of this book make interesting contributions to particular topics within the debate about free will and moral responsibility and beyond, worth considering by themselves, regardless of the book’s overall argument. I must mention such issues as the fairness of the reactive attitudes, the fairness of inflicting harm and punishment, forgiveness, the responsibility of psychopaths, source and leeway arguments for PAP, or Frankfurt scenarios, just to cite some topics brilliantly addressed by Nelkin which cannot be discussed here. On the other hand, it is true — as the author claims — that the Rational Abilities View is “flexible”, since it is consistent with different implementations of the idea that rational agents are the causes of their actions, different conceptions of the role of emotions in rational agency, and different views of the connection among blame, the reactive attitudes and punishment. And it is also part of this ecumenical tendency, the effort made at incorporating some central incompatibilist intuitions. However, it has its nonnegotiable commitments: compatibilism, asymmetry about the ability to do otherwise, a central role for obligations and reasons for acting, and a particular account of the commitments that we manifest as rational deliberators. Of course one can still bring them apart, sharing some of them and rejecting others. But, as a whole, this is a novel and judicious account of freedom and moral responsibility that challenges both current compatibilist and incompatibilist views, which everybody in the debate needs to take very seriously.

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John Hawthorne and David Manley wrote an excellent book on the many issues surrounding the twin notions of reference and singular thought. The book is divided into two parts corresponding to two main objectives. In Part I, which is titled “Against Acquaintance” and includes Chapters 1-3, they present a first case in favour of what they call liberalism — the view according to which neither reference nor singular thought are constrained by a special relation of acquaintance — and they consider and reject various arguments against it. In Part II, which is titled “Beyond Acquaintance” and includes Chapters 4-6, they challenge the current semantic rift between definite descriptions, indefinite descriptions, demonstratives and names. The hypothesis they defend is that specific indefinites, definite descriptions and demonstratives make the same contribution to truth-conditions while they differ in their presuppositional profile. Names, on the other hand, should be treated somewhat differently but their predicative uses and their referential uses would be strictly related. In the “Afterword” at the end of the book the authors recapitulate the main line of argument and expose some doubts on the very notion of reference and on the existence of linguistic expressions from natural language that are really referential.

Chapter 1 offers an introductory critical review of the central notions of reference, singular thought and acquaintance as they have been characterised in the contemporary debate. The authors survey the themes that are standardly associated with the notion of reference, including object-dependence, exhaustiveness, rigidity and the similarities between the semantic behaviour of referential terms and that of variables whose meaning is fixed relative to an assignment function. They further introduce the existent characterizations of singular thought in terms of singular content, mental files, and relational object-representations as opposed to satisfactual representations. And they distinguish two main notions of acquaintance in terms of discriminating knowledge, which they call epistemic acquaintance, and in terms of a causal relation to the object, which they call causal acquaintance. In section 1.6, titled “Should auld acquaintance be forgot?”, Hawthorne and Manley present a series of examples.
of apparent singular thought without acquaintance, some of which have been originally put forward by anti-acquaintance champions such as Robin Jeshion (e.g. ‘Ways of Taking a Meter’, *Philosophical Studies* 99, 2000, 297-318). Liberalism emerges as an appealing view.

Chapter 2 challenges the causal notion of acquaintance by focusing on a principle the authors call *CONSTRAINT*: “To have a singular thought about an object, one must be acquainted with it” (37). They present and discharge two arguments in favour of this principle, i.e. what they call the *spy argument* and the *Neptune argument*. The spy argument, which deploys an example originally presented by David Kaplan (‘Quantifying In’, *Synthese* 19, 1968, 178-214), begins with the intuitive distinction between (1) and (2):

(1) Ralph believes that at least one person is a spy.
(2) There is one person whom Ralph believes to be a spy.

The explicit premise is that Ralph has only the general belief that there are spies, without suspecting anyone in particular. So, while (1) seems to be a correct report of Ralph’s belief, (2) does not. Hawthorne and Manley explain this difference by introducing two further principles. The first, which they call *HARMONY*, says that: “Any belief report whose complement clause contains either a singular term or a variable bound from outside by an existential quantifier requires for its truth that the subject believe a singular proposition” (38). The second, which they call *SUFFICIENCY*, says that: “Believing a singular proposition about an object is sufficient for having a singular thought about it” (38). Acquaintance theorists can certainly accept both HARMONY and SUFFICIENCY, but they would explain the unacceptability of (2) by appealing to CONSTRAINT: since Ralph is not acquainted with any particular spy he could not believe of any specific person that she is a spy. But Hawthorne and Manley argue that CONSTRAINT is actually irrelevant. One only needs to observe that (2) attributes a singular belief to Ralph while the original premise was that Ralph only has a general belief that there are spies, which is in fact correctly reported by (1). This solution is really straightforward.

The Neptune argument involves Kripke’s controversial notion of the contingent a priori. In the early 19th-century Urbain Le Verrier
postulated the existence of an unknown planet to explain the perturbations in the orbit of Uranus using only mathematics and astronomical observations. Kripke suggests that Le Verrier might have introduced the name ‘Neptune’ through an act of descriptive stipulative reference fixing as the planet responsible for the observed perturbations in Uranus’ orbit. It follows that Le Verrier could know that (3) was true,

(3) If a unique planet is the perturber, it is Neptune.

and on the assumption that ‘Neptune’ is a genuine name contributing its referent to the proposition expressed by (3), Le Verrier would thereby have a piece of singular knowledge. Hawthorne and Manley agree with most defendants of CONSTRAINT that this outcome should be rejected, but again they do not believe that CONSTRAINT has any role to play in an explanation of why the outcome should be rejected. They consider four alternative replies to upholders of CONSTRAINT that they deem insufficient and then claim that even if CONSTRAINT was satisfied in some way (including magic!) this would not eliminate the impression that Le Verrier should not be able to achieve some piece of contingent knowledge by linguistic stipulation. The discussion of this case (and of similar ones) is very rich and it even includes a section on the possible sources of confusion that might generate the notion of the contingent a priori. However, eventually the authors do not offer any explanation of why such a notion is puzzling. What they find puzzling is that the Neptune case and those similar to it “involve epistemic advance due to a kind of semantic good fortune that might seem like it should be irrelevant to one’s stock of knowledge” (64). This is the criticism that upholders of CONSTRAINT make against theories that do not impose any acquaintance constraint on reference and singular thought (see, e.g. Scott Soames, *Philosophical Analysis in the Twentieth Century*, Vol. 2, Princeton 2003, 397-422). However, once we reject CONSTRAINT, what would be really puzzling about the contingent a priori? Why could one not gain a new piece of knowledge by linguistic stipulation? The Neptune argument is not complete unless such an explanation is offered. And one might suspect that since knowledge of contingent truths typically involves some kind of empirical (and so possibly causal) relation to the world, some notion of acquaintance
will be needed to explain what is really puzzling about acquiring a priori knowledge of contingent truths.

Chapter 3 challenges the two paradigmatic versions of the epistemic notion of acquaintance according to which being acquainted with an object means possessing discriminating knowledge of it or knowing that the object exists. The first version has been originally put forward by Gareth Evans (The Varieties of Reference, Oxford: Oxford University Press, 1982) and is inspired by Russell’s principle: “To have a singular thought about an object, one must know which object one is thinking about” (71). Hawthorne and Manley distinguish between the ordinary notion of discriminating knowledge and the theory-laden notion put forward by Evans. They focus on the latter and belabour on six reasons why one should be sceptical of it. They then move to discuss two versions of epistemic acquaintance as knowledge of existence and discharge them on the basis of considerations about the safety-theoretic consequences of knowledge and the connection between understanding and knowledge. This chapter offers an excellent critical discussion of the options available to proponents of an epistemic acquaintance constraint on singular thought and of the specific reasons why one should reject it.

Chapter 4 analyses the linguistic phenomenon of specific indefinites. For example, someone might utter (4) to talk about a specific individual, say Maria, in a context in which some friends are present and some other friends are absent:

\[(4) \text{ A friend of mine is absent.}\]

Intuitively, the truth of (4) depends only on whether Maria is present or absent. An even clearer case would involve the modifier ‘certain’ as when, say, David utters (5) about his daughter Mary:

\[(5) \text{ A certain person is unhappy.}\]

Hawthorne and Manley belabour on three alternative analyses of specific indefinites. According to the bifurcated view, indefinite descriptions are ambiguous between a quantifier interpretation and a referential interpretation corresponding to a non-specific use and to a specific use respectively. A non-specific use of an indefinite descrip-
tion ‘an $F$’ contributes an existential phrase and the property $F$ to the proposition expressed by a sentence containing it. A specific use of the same indefinite description contributes the individual the speaker intends to talk about, but if there is no individual satisfying the description then the indefinite will contribute nothing. According to the simple view, there is no difference in truth-conditional content between specific and non-specific uses of indefinites but different contents can be conveyed through pragmatic mechanisms. According to the domain restriction view inspired by Roger Schwarzschild (‘Singleton Indefinites’, *Journal of Semantics* 19, 2002, 289-314), specific uses and non-specific uses of indefinites are given a quantificational analysis but a specific use involves the semantic mechanisms of quantifier domain restriction. This is the option preferred by Hawthorne and Manley. A quantifier domain restrictor is a property determined by an overt noun, e.g. ‘person’ in (5), in combination with some covert material. The combination of the overt predicate and the covert material is called the restrictor and the property they combine to express is called the restrictor property. The extension of the restrictor at a world is given by the intersection of the extension of the property expressed by the overt predicate and the property expressed by the implicit material. A restrictor with a singleton extension is called a singleton restrictor. Hawthorne and Manley claim that specific indefinites involve a specific class of covert quantifier domain restrictors that they call specific restrictors. These can be non-rigid, i.e. they determine a different individual at each different world, or they can be rigid, i.e. they determine the same individual at all possible worlds where that object exists. A non-rigid restrictor might contribute a qualitative property such as being David’s oldest daughter. A rigid restrictor might contribute a property such as being identical to Mary, which is the authors’ preferred solution, or a rigidified property such as being David’s actual oldest daughter, which the authors reject because it might generate the wrong truth conditions. In the latter case the speaker might intend to talk about a specific individual but the covert material would pick out somebody else entirely or, possibly, nobody. The authors further distinguish between candid restrictions, which are accessible to an audience, and coy restrictions, which are often private and not immediately accessible to the audience. Specific indefinites usually involve coy restrictions.
Hawthorne and Manley criticise the bifurcated view and the simple view on different grounds, but ultimately they do not give (and do not intend to give) any knock down argument against them. One problem that they mention for the domain restrictor view concerns the notion of understanding that they put forward. So, for example, since covert restrictors are part of the semantic content of (4) and (5) but they are not immediately accessible to the audience it remains to be explained how one can fully understand what they express. The explanation of understanding that they offer in section 4.8, which is titled “Acquaintance again”, is merely sketched, but it involves a modified version of Kripke’s notion of communication chain through which the referent of a name is transmitted from speaker to speaker. As they write: “It is indeed quite true that our ability to think and talk about a particular object often proceeds thanks to engagement with other members of a linguistic community who in turn have that ability thanks to further engagements of that sort, and so on; and where ultimately the chain of inheritance is anchored by some individual who thinks and talks about an object via direct encounter with that object (or its traces).” (138). The authors modify Kripke’s original proposal in claiming that this picture can work independently from whether we use a name or, say, a specific indefinite (which is certainly correct) and that it can be stated independently of the notion of acquaintance. The main problem of this explanation of understanding is that ultimately Hawthorne and Manley seem to fall back into deploying the notion of acquaintance when they appeal to the direct encounter with the object that is at the origin of the chain of reference transmission. A direct encounter is nothing less than the direct perception of an object, which is a paradigmatic case of causal acquaintance. Furthermore, according to Kripke’s original account, the transmission of this original causal relation to the object at the origin of the practice is what guarantees that speakers participate in the same communication chain, and hence that they think and talk about the same object. Hawthorne and Manley should articulate this idea in a way that does not (even implicitly) appeal to the notion of acquaintance, but unless they do this they cannot claim to have offered an account of how we understand specific indefinites.

In Chapter 5 and Chapter 6 the authors extend their proposal to definite descriptions, demonstratives, nouns and proper names.
In particular, they suggest that while specific indefinites imply coy restrictors definite descriptions typically (although not always) imply candid restrictors. Developing on previous work done especially by Jeffrey King (*Complex Demonstratives*, Cambridge, MA: MIT Press, 2001), Hawthorne and Manley extend the domain restriction view to complex and simple demonstratives. In section 6.3, titled “Salience”, they argue that the use of a demonstrative is different from that of a definite description in that the former relies on supplemental salient information helping the audience in identifying the object. The authors focus on the view that proper names are predicates, and consider two further views, what they call the *bifurcated view* and the *minimal view*. According to the predicate view, a proper name contributes a property to truth-conditional content. According to the bifurcated view, it contributes a predicate to the presupposition set and an individual to truth-conditional content. According to the minimal view, the truth conditional contribution involves a covert existential and a singular restrictor. In the end the authors tend to reject the predicate view and favour the other two, although they do not decide on either. This last chapter is as rich in details as the others, but its argumentation is mostly explorative and its conclusions are merely tentative.

The book is very well written, its style is engaging and the discussion extends to cover some of the most central issues surrounding the notion of reference and singular thought in an innovative and original way. The authors offer an excellent critical discussion of the options available to proponents of an acquaintance constraint on singular thought and reference and of the specific reasons why one should reject it. But some aspects of their original proposal are still open to further improvement and in the end one might suspect that the authors have not really emancipated themselves from even the weakest notion of causal acquaintance. The linguistic analysis of indefinites, definite descriptions, demonstratives and names is extremely rich and almost complete. On a conclusive remark though, one might wonder about the special case of non-referring names (such as fictional names, mythical names and names of false scientific posits) and how they should be treated within this framework. Hawthorne and Manley’s account is still open to further interesting developments.
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