

Representation and the Modern Correspondence Theory of Truth*

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The traditional theories of truth, especially the correspondence theory and the coherence theory as they were explored at the end of the 19th and beginning of the 20th centuries, were fundamentally metaphysical theories. They were closely allied with metaphysical (and epistemological) positions from realism to idealism, and sometimes monism. They also sought to answer the basic questions about truth: what sort of property is truth, to what does it apply, and in virtue of what do those things bear the property? We may group these together as the *nature question* for truth. The nature question is itself a basically metaphysical question, asking about the fundamental nature of an important property.

In the years since, we have seen a flight from metaphysics by theories of truth. This is, of course, most striking for the many varieties of deflationism about truth, which among other things deny there is any interesting metaphysics of truth, or connections between truth and other metaphysical issues. Truth, to deflationists, is metaphysically light-weight. But we see the same thing with current substantial, anti-deflationary theories. These too take a step back from metaphysics. One way they do that is by replacing metaphysics with semantics in some form or another. The general outlook of this

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sort of substantial theory is that truth is a fundamental semantic property, and it is to semantics, rather than metaphysics proper, that we should look to understand its nature.

This approach to substantial theories of truth has seemed puzzling to some. It has sometimes appeared to be a confusion of semantics and metaphysics, or at least an attempt to avoid some of the hard metaphysical questions about truth. I think the approach is basically right. My goal in this paper is to articulate a version of it, and to explain why and how an approach to substantial theories of truth becomes closely connected with semantics. I am not, in this paper, going to offer any direct arguments in favor of the position I articulate. Even so, understanding what the position is and how it works, and what its connection to semantics is, will forestall a number of objections to the theory. I thus hope to put the theory on better footing.

I shall begin this paper by articulating one of the main contemporary approaches to a substantial theory of truth, which I dub the ‘modern correspondence theory’. This theory is implicit in a great deal of current thinking about truth, but it rarely receives a full articulation or discussion on its own. I shall first present this theory as a development of the same intuitions which motivated the traditional correspondence theory. I shall then compare the modern version with its traditional forbearer, and show that it is a worthy successor. The modern version, like the traditional one, is really a theory of truth, which seeks to answer the nature question. The modern version is an improvement, as it relieves the correspondence theory of some contentious metaphysical commitments, which is a virtue.

I shall then turn to the connections between the modern correspondence theory and semantics. I shall argue that the modern theory is not confusing the two, but it does genuinely shift the part of the substance of the theory from metaphysics to semantics. I shall show that this is well-motivated. I shall pause to explore what this shift really amounts to. I shall isolate a notion of *representation*, that is at work in some approaches to content both in mind and language. What the modern correspondence theory does, I shall argue, is employ this notion to support a theory of truth. It does not confuse metaphysics and semantics, but it does rely on a fundamental notion of representation to develop its approach to truth. So, according to the modern correspondence theory, representation and truth are indeed closely linked.

Finally, I shall turn to the question of how the study of semantics fits into the development of the modern correspondence theory. Here, I shall follow the lead of Davidson, and argue that for properties as fundamental as truth,

and as closely linked to basic notions like representation, we often have to study them by observing how they work in certain key cases. This helps us to see the connections between basic properties, and what their crucial features are. Again following Davidson's lead, I shall note that one way we can do this is to study the semantics various languages, including natural languages, and see how truth work in semantics. We can indeed learn about truth from studying semantics.

This paper will thus proceed in three sections. The first will present the modern correspondence theory. The second will discuss the traditional correspondence theory, and why the modern version is an improvement. The third will discuss the roles of semantics and representation in the modern correspondence theory.

1 The Modern Correspondence Theory

The correspondence theory of truth starts with some seemingly simple ideas. They are perhaps embodied in a widely cited passage from Aristotle (*Metaphysics* 1011b25–27):¹

To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, and of what is not that it is not, is true. . .

This sounds simple and reasonable. It might even be a platitude. It is often taken to express the seemingly platitudinous idea that what we say or think is true if and only if things are as it says; or if you like, '*S*' is true if and only if things are as '*S*' says they are.²

Like many seeming platitudes, this one makes some assumptions which may well mean it is not really a platitude. More importantly, it can be developed in a number of ways, many of which constitute substantial theories,

¹The translation is from Barnes (1984). My friends who know about ancient philosophy tell me that this passage is in fact very hard to translate, and has much more subtlety than we modern readers often see. But since it was quoted in Tarski (1944), it has been a starting-point for contemporary discussions of the correspondence theory. I shall treat it as such, even if that means I miss some of the important substance of Aristotle's and other classical ideas about truth.

²For discussion of the status of these sorts of principles as platitudes, see Wright (1992).

and not platitudes at all. I shall sketch one way of developing the platitude, which captures a common approach to truth.³ The idea is to cash out the platitude in a little more detail, using developments in logic, especially, Tarski’s theory of truth and its subsequent refinements.

The basic idea is still simple. Let us start with a simple sentence in subject-predicate form, like ‘Bai Yun sleeps’. It will hardly surprise anyone to note that what this sentence says is true if some object, a particular, which in this case happens to be a particular panda, has some property, which in this case happens to be the property of sleeping. We check, see the cute furry bear lying asleep, and conclude the sentence is true.

Putting aside, for the moment, the metaphysics of properties and objects, this sounds like common sense, and seems to go well with our platitude. How things are is what we check when we check if the panda has the property of sleeping. That tell us whether things are as we said, or not, and so tells us if what we said was is true.

But how far does this go towards giving us a viable theory of truth? Seminal work of Tarski (Tarski, 1935, 1944) shows us that this bit of common sense can be systematized, and it can be part of a very powerful theory.⁴ We capture a great deal of what we just said, more formally, by familiar clauses of a Tarskian truth theory. In familiar form:

- ‘Bai Yun’ refers to Bai Yun.
- x satisfies ‘sleeps’ iff x sleeps.

Following Tarski, we might think of these as describing properties of a language with the structure familiar from first order logic. If we do, we can complete the Tarskian characterization in the usual way, by adding clauses like:

- $\ulcorner Pa \urcorner$ is true iff what $\ulcorner a \urcorner$ refers to satisfies $\ulcorner P \urcorner$.

We also have recursion clauses like:

- $\ulcorner \phi \wedge \psi \urcorner$ is true iff $\ulcorner \phi \urcorner$ is true and $\ulcorner \psi \urcorner$ is true.

³A good example is Devitt (1984), or more recently Lynch (2009), who also discusses some of the issues about representation we will turn to below. I take the idea here to be implicit in a great deal of the contemporary discussion of truth.

⁴Interpreting Tarski is fraught with complications. For good historical work, see Paterson (2012).

Of course, there is more to the story. To build a theory suitable for a whole first order language, we would need to work with satisfaction rather than truth throughout, for instance.

All this is entirely familiar. I review it, to remind us that in a way, the Tarskian apparatus expresses formally the common sense ideas that motivate the modern correspondence theory. It formally captures the idea that we refer to objects and properties, and how those objects and properties combine determines whether what we say is true.⁵ Tarski's apparatus allows us to make the idea of how they combine more precise, and importantly, allows us to implement the idea in a compositional way that determines truth for all the sentences of a language. As is well-known, it does so only relying on a finitely axiomatized theory. (More technically, it establishes an upper bound on the complexity of a truth predicate for a first-order language). Technicalities aside, Tarski's apparatus shows us how to make some important common sense ideas about truth work.

For all its success, Tarski's theory, unadorned, is not all there is to the modern correspondence theory. This theory also builds on some of the developments since Tarski, many of which emerged from efforts to evaluate how successful Tarski's theory really is.

The most pressing question, for us, is whether the Tarskian apparatus, as just sketched, is really telling us anything important about truth, at the level of atomic sentences. The disquotational nature of the clauses for terms and predicates has led many to think that it does not. One particularly sharp version of this challenge comes from important work of Field (1972).⁶

There is *something* unsatisfying about the disquotational aspects of Tarski's theory. After all, if we were really unsure to what 'Bai Yun' referred, to be told that it refers to Bai Yun may be an unsatisfactory answer, even if a correct, and non-trivial one. Field's work helps us to see what the problem here really is. Disquotation, he notes, essentially *lists* relevant

⁵I shall talk casually about reference to properties, and sometimes treat satisfaction clauses as fixing the properties to which predicates refer. It is well-known that many dispute whether such reference is really needed, and many see satisfaction clauses as avoiding properties. We do not need to resolve this issue here. What is important is that enough relations are set up to the right things in the world to determine truth. Just what the list of those things needs to be, we can leave to another occasion.

⁶Many other philosophers have raised problems for Tarski's work, taken as a philosophical theory of truth. Notoriously, Hilary Putnam (Putnam, 1985–86, p. 333) declared that, "As a philosophical account of truth, Tarski's theory fails as badly as it is possible for an account to fail."

facts. A set of disquotation clauses for terms and predicates lists facts about reference and satisfaction. What is wrong here, Field points out, is that a theory can correctly list facts but still be a bad theory. Most importantly, it can list facts but still fail to offer any kind of explanation of the underlying phenomena. Field, famously, illustrated this point by asking us to consider two theories of valence (from chemistry). One simply lists the valences of various elements, while the other is the current quantum theory. The latter is a good theory, and indeed, a model of a theoretical reduction (of chemistry to physics).⁷ The former, though it states facts about valence correctly, is not a good theory, since it fails to explain those facts.

If the disquotational clauses in Tarski's theory amount to failures of explanation, what might do better? Field proposes that we need to *supplement* the Tarskian apparatus with a substantial account of reference and satisfaction in order to get a good theory of truth. Tarski himself told us how to do the rest, by telling us how to combine facts about reference and satisfaction to get truth, and how to recursively pass those facts up a sentence. Yet, Field notes, we need to say something more about the basic facts about reference and satisfaction than disquotation provides.

In 1972, Field envisaged a physicalist reduction of the notion of reference, along the lines of the causal theory. The subsequent years have seen a huge amount of work on this and related issues about reducing intentional notions. This is not the place to review them, but it should be noted that they have not achieved universal acceptance. In hindsight, we should not, I propose, tie Field's idea that we need some more substantial, and more explanatory, theory of reference and satisfaction too closely with any particular reductive project.⁸

Stepping back from the specifics of reduction, what the Field approach really requires is that we have some reasonable grip on some fundamental word-to-world relations, particularly, reference and satisfaction, and that ultimately, a reasonable theory of those relations can be articulated. If we have that, or if we merely presuppose that we will eventually be able to provide it, then using Tarskian apparatus, we can build up a theory of truth for a whole language. Such a theory would inherit much of its explanatory power from whatever account it provides of reference. But all the same, the Tarskian

⁷Field's discussion focuses more on reduction than on explanation. I believe the putting the matter in terms of explanation makes the point more general, but is reasonably faithful to Field's motivations.

⁸For review of some of these projects, see Loewer (1997).

apparatus is not inert. It shows how truth is determined by reference and satisfaction, and how it *projects* up complex structures, and how it interacts with various elements in language, like, for instance, negation.

Field's emendation to Tarski provides, in essence, what I am calling the modern correspondence theory of truth.⁹ The theory has several parts. The first is that it assumes there are substantial word-to-world relations, which provide reference and satisfaction for terms and predicates (and so on for other sorts of expressions). It then shows how truth for atomic sentences is determined by the worldly objects and properties which these relations provide. Finally, it shows how truth projects up to more complex sentences. In doing so, it gives some substance to the idea that what we refer to, and their properties, determine whether our sentences are true. It also shows how word-to-world relations underlie truth. In doing these things, the modern correspondence theory gives substance to the platitude with which we began.

I mentioned that this theory seems to be supposed, more or less explicitly, by many philosophers who accept a substantial notion of truth. It does raise a number of questions. In a moment, I shall turn to questions about the relation of truth to semantics that the theory makes vivid. But before doing so, I shall pause in the next section to ask whether we should really call this theory a correspondence theory.

2 The Traditional Correspondence Theory

Why call the theory I sketched in the last section a correspondence theory, modern or not? The main reason is that it develops the platitude with which we began section 1, by relying on word-to-world relations, between terms and objects and predicates and properties, to build up the property of truth. In doing so, it gives substance to the idea that truth or falsehood is a matter of how things are in the world, which is a core idea behind the correspondence theory. Hence, it does deserve the name. But those of a scholarly bent will note that it is in important respects different from canonical forms of the correspondence theory of truth as it appeared historically. To help us better understand how the modern theory works, I shall briefly review some aspects of the traditional correspondence theory, and point out places where the

⁹My own view is that Field got things pretty much right in 1972. He himself does not think so, and has since changed his mind about truth. He now advocates a form of deflationism (e.g. Field, 1994).

modern form shifts the burdens of the theory, from metaphysics to philosophy of mind and language. That is, I shall suggest, and improvement, but one that raises questions all its own.¹⁰

The crucial point here is that for correspondence theories, the right *relations* ground truth. In the modern version, it is reference and satisfaction relations that do so. The traditional theory implemented this idea quite differently, and that is perhaps the most significant difference between the traditional and modern variants of the correspondence theory.

Rather than taking ‘the way things are’ to be a matter of objects and properties, and letting the compositional aspects of truth tell us how to put those together, the traditional theory supposed that there are *facts*. What we say is true if it stands in the right relation to a fact.¹¹ Of course, the nature of facts is itself a large issue. Facts are themselves particulars. In simple cases, where the claim in question is in subject-predicate form, like ‘Bai Yun sleeps’, then we might well suppose the corresponding fact is composed of the object Bai Yun and the property of sleeping. Questions arise immediately: what is the nature of the property or universal? How are they composed? How may we generalize this to more complex facts? I shall not pursue these here. A number of theories, from structured ‘state of affairs’ theories to trope theories, have tried to address them. But, according to each, a fact—the relatum of the truth relation—includes aspects of an object and properties it bearers. As it is sometimes put, they are ‘thick’ particulars.¹²

Whatever the nature of facts, commitment to them or similar sorts of entities is a significant part of the traditional correspondence theory, and marks one of the most important difference with the modern theory.¹³ The

¹⁰The correspondence theory of truth has a long history, and has appeared in many forms over the years. See David (2009) for an overview. I will concentrate on one of its most important manifestations, in the work of Moore (e.g. Moore, 1902, 1953) and Russell (e.g. Russell, 1910, 1912). This version of the correspondence theory was the starting point for a great deal of subsequent thinking about truth, and is a reasonable representative of the traditional correspondence theory.

¹¹Russell (1956) describes the existence of facts as a ‘truism’.

¹²Facts enter into the early Moore (1953) and Russell (1910). A somewhat different treatment of facts appears in the later Russell (1956), much influenced by Wittgenstein (1922). For more recent discussions of facts, see Armstrong (1997) and Neale (2001). Trope theory stems from Williams (1953).

¹³The traditional correspondence theory in the hands of Russell and Moore is clearly a fact-based theory. Even so, not every theory that has been dubbed ‘correspondence’ is. Aquinas is often credited with a non-fact-based correspondence theory. See David (2009)

traditional correspondence theory needs facts to be particulars we find in the world. It is a fact that Chicago is on a lake, and so, that fact exists. This makes facts ‘small’, i.e. not the whole world. They are things in the world. Of course, saying this raises a number of complications about what it is for a fact to obtain. We will assume it is simply for it to exist, but more Meinongian options have also been explored.

What we say is true if it stands in the right relation to a fact, a small thick particular which acts as a truth-maker. It is ‘the way things are’, but it is also a particular itself. So, for the traditional correspondence theory, truth is a relation between a truth bearer and a fact. We should pause to note that for the traditional theory, the nature of truth bearers was a very significant issue. In particular, the status of *propositions* as bearers of truth was hotly debated. At key moments, the alternative to propositions was taken to be *beliefs*.¹⁴

The modern theory is not so concerned about this. In many formal settings, following Tarski, we take truth bearers to be sentences (with the usual provisos about context dependence). To implement the modern correspondence theory, we do need truth bearers to have a structure which supports compositionally determining truth from reference and satisfaction. Sentences do this well, especially sentences of formal languages, or suitable logical forms of natural language sentences. If we assume enough structure, we could equally well use sentences of some kind of language of thought. The modern theory is somewhat ambivalent about this, unlike its traditional predecessor.

The traditional theory took a truth bearer—sometimes a belief—to be true if there exists a fact to which it stands in the right relation. The relation, of course, is correspondence. The nature of the correspondence relation is another of the key issues for the traditional correspondence theory. To fix ideas, here is one version, slightly anachronistic, but relatively easy to work with. We start with the idea that facts have internal structure. To illustrate, suppose that the fact that Mary smokes has the structure of an object and a property, like $\langle \text{Mary}, \text{SMOKES} \rangle$. Now, the easiest way to illustrate what a correspondence relation should look like is to assume that truth bearers have similar structure. If we think about *Russellian propositions* (Russell, 1903), for instance, we find complex objects that also look like combinations

for a review of some of this history.

¹⁴For instance, as Russell and Moore move from the identity theory of truth to the correspondence theory, it becomes important to them that truth bearers cease to be propositions, and are taken to be beliefs.

of an object and a property. (Here we are definitely being anachronistic.) For such truth bearers, correspondence can be derived from two factors: identical constituents and isomorphic structures. Of course, there are other options. If truth bearers are not Russellian propositions, for instance, we would expect the constituent-by-constituent match-up not to be identity. Even so, we have one illustration of what a correspondence relation might be at least for a simple case.

Of course, there are a huge number of complications that this picture raises. The metaphysics of the constituents of facts and of propositions remains complicated and contentious. (We have not considered Fregean propositions, or Russell and Moore's favored beliefs as truth bearers, for instance.) The simple picture of isomorphism and identity gets complicated very quickly, especially when we look at logically complex propositions.¹⁵ I shall not go into further detail here, but note that the traditional correspondence theory (in some forms) supposed both a metaphysics of facts and some kind of *structural correspondence* relation. Hence, simplifying somewhat, the theory tell us that a truth bearer (proposition, belief, etc.) is true just in case there is a fact to which it stands in the structural correspondence relation.

With these features of the traditional theory in mind, we can return to the comparison with the modern theory. As we already observed, the modern theory is not fact-based. Were the traditional theory calls for facts, the modern theory makes do with the objects and properties that compose facts. It also dispenses with the structural correspondence relation. But here, we can see how the modern theory does much the same work, by different means. The modern theory needs neither facts nor structural correspondence, because the work they do is taken up by the compositional mechanisms of the Tarskian apparatus. We start with reference to objects and properties, which does the work of identity of constituents. But rather than looking for a thing built out of those to which the truth bearer relates, we project truth compositionally up the structure of the sentence. This does the same work as the isomorphism condition for structural correspondence.

The modern and traditional theories thus do much the same thing, but there are several advantages to the modern way of doing it. First, the modern theory in a way has a more parsimonious ontology.¹⁶ Second, whereas the

¹⁵Hence, Russell (1956) seeks to avoid logically complex facts. There are also approaches that try to avoid this kind of correspondence relation altogether (e.g. Austin, 1950; Vision, 2004).

¹⁶This is not to say that the modern theory is totally devoid of metaphysical commit-

structural correspondence relation has proved difficult to spell out accurately, the compositional mechanisms the Tarskian apparatus uses are understood quite well. For instance, it is a standing problem for fact theories and structural correspondence theories what to do with negative propositions and facts, while on the modern approach these are simply matters of the compositional behavior of negation. I thus conclude that the modern theory is an improvement over its traditional cousin, doing much the same job, but better.

So, the modern theory replaces facts and structural correspondence with reference to objects and properties, and compositional principles. But, it keeps some of the core ideas with which correspondence theories start. It keeps the idea that it is how things are in the world that determines truth or falsehood of what we say, but dispenses with the ontology in which how things are in the world are themselves particulars. It also keeps the idea that truth is relational. It is the relations between what we say and the world which makes truth bearers apt for truth. But again, it does so without requiring facts as relata. As I said, I believe the modern theory is thus better, but it also captures the ideas that motivated correspondence quite well. It is, I think, a better correspondence theory.

The modern correspondence theory enjoys, if implicitly, an important place in current debates about truth. It is, perhaps, the prototype of a ‘substantial’ theory of truth. It seeks to answer what above I labeled the nature question for truth, much as the traditional correspondence theory did, and much as its traditional competitors such as the coherence theory did as well. As we have seen, the modern theory answers the nature question along much the same lines as the traditional theory. The nature of truth consists in what we say fitting how things are. It spells out this idea rather differently, and I suggested better, than the traditional theory, but preserves an important idea about the nature of truth.

The main contrast here is with various forms of deflationism. Deflationists, in effect, reject the nature question. In caricature form, deflationists might say that there is no such property as truth to begin with, so the question is not well-formed. Real deflationist positions often are subtle on this point. But if we consider the popular disquotational approach (Beall, 2005;

ments. It assumes a rich ontology of objects, and in some forms may well assume the existence of properties as well (though with Quine we might see the clauses for predicates as ontologically non-committal).

Field, 1994), we see that the main idea is that truth is an expressive device, allowing for generalizations we often cannot make without it. If one accepts this, then the nature question as the traditional views approached it is misguided.¹⁷

Some deflationists (e.g. Soames, 1984), see one of the main jobs of deflationism to be relieving truth of the heavy metaphysical burdens it has been made to carry. Traditional answers to the nature question, from both correspondence and coherence theories, were metaphysically quite demanding. Joachim's coherence theory (Joachim, 1906) involves forms of monism and idealism, while the traditional correspondence theory relies on a metaphysics of facts. We have seen that the modern theory lightens the metaphysical load of the correspondence theory, though it does not eliminate it outright. One of the virtues of the modern correspondence theory is that it captures the seeming platitudes that motivate the correspondence theory without any more substantial metaphysical commitments than are really necessary. It thus offers a good alternative, its defenders claim, to deflationism. This is not to say it is clearly metaphysically neutral. We already observed that it makes some modest metaphysical demands on objects, and perhaps properties. Some have suggested it has further metaphysical commitments. At least according to some, the combination of a substantial notion of reference and the standard compositional principles embodies a form of metaphysical realism.¹⁸ A substantial theory of truth need not be metaphysically neutral, and I doubt the modern correspondence theory is. But it is better to get metaphysical consequences from the theory, rather than simply to build in heavy metaphysical demands as presuppositions of the theory. The modern theory does this fairly well, and so again, appears to be an improvement over its predecessor.

3 Semantics, Representation, and Truth

So far, I have presented the modern correspondence theory, and described some of its virtues. I have suggested that it seems to be an improvement over the traditional version. It does the main jobs that the older theory did. It answers the nature question, and offers a substantial theory of truth. But

¹⁷My discussion here draws heavily on my joint work with Jc Beall (Beall and Glanzberg, 2008).

¹⁸For different takes on this, see for instance Devitt (1984) and Dummett (1959, 1991).

it does this job with lighter-weight metaphysical commitments, and without many of the problems that plagued the notion of correspondence.

Of course, the modern correspondence theory raises some difficult questions. I shall focus on two in this section, and show how they can be answered. As I mentioned, I am not going to offer any direct argument for the modern correspondence theory, but showing how it can respond to two important challenges will help support the theory.

The first challenge pertains to the roles of semantics and metaphysics in the modern correspondence theory. Much of the substance of the modern theory seems to be about semantics. The Tarskian apparatus seems to show us the semantics of various elements of a simple language. Especially, it provides semantics for truth-functional connectives, and provides mechanisms of semantic composition. Where Field calls for more, it is more about the fundamental reference and satisfaction relations, which again are semantic relations. We start off looking for a substantial theory of truth, which answers the nature question for truth, but we might worry that what we get is just some semantics. How can that be a substantial theory of truth?

The second challenge, which turns out to be related to the first, is whether the modern correspondence theory really answers the nature question as well as I claimed it did. The traditional version offers a direct answer, in terms of correspondence to facts. The modern version offers a story, relying on reference and composition, and some intuitive ideas about what they do. But it does not offer one simple statement starting ‘truth consists in . . .’. I believe both of these concerns can be answered, by some more care about where and how semantic theories and related apparatus fits into the theory of truth, and about how we should go about studying it. It is to those issues we now turn.

To further explain these challenges, and answer them, it will be helpful to first review some ideas about semantics, and clarify how the term ‘semantic’ is being used. I shall use this term to speak of properties of words and phrases of a particular language which give them meaning. Following a long tradition, I shall take these properties to include referential properties. Reference for names of a language, and satisfaction for its predicates, are important semantic properties, as are truth conditions for its sentences. I shall take the core case of semantics to be the semantics of natural languages—the languages we speak. This makes semantic properties an empirical matter. It is an empirical matter what referents the words of any particular language

have, for instance.¹⁹ We can, and do, stretch the notion of semantics in various ways. We apply it to formal languages, where the semantic properties of expressions are stipulated, for instance. Indeed, when we work with theories of truth, we often focus on these languages. For purposes of theories of truth, I shall assume these are being offered as toy models of the more rich languages we speak, and that the non-empirical nature of their semantics is derivative from the semantics of our natural languages. After all, the sentences of such formal languages are offered as proxies for ‘what we say’. We can also in some cases apply the notion of semantics to thought rather than language, though this is easiest if we assume thoughts have language-like structure. At the risk of being stipulative, I shall reserve ‘semantics’ for the empirical subject and its various derivative extensions.

With this in mind, let us return to our first challenge: the modern correspondence theory seems to be about semantics, rather than truth. After all, what we seem to specify when we write down a Tarski-style theory are the semantic properties of expressions, and how they combine to fix the semantic properties of sentences. The disquotation clauses of a Tarskian theory state basic referential properties of terms and predicates, and the compositional clauses are just that: compositional. They tell us how the basic semantic properties compose to produce semantic properties of phrases and sentences. For sentences, they provide truth conditions. This all looks like semantics.

Why is that a worry? Because if we think that semantics describes the empirical properties of natural languages, then it is hard to see how we could extract an substantial theory of truth out of it. The modern correspondence theory is supposed to be just such a theory, and so, we have a puzzle.

To be fair, our modern correspondence theory includes more than we might normally think of as the empirical domain of semantics. It includes some account of relations like reference and satisfaction. This is a more foundational project than the one most semanticists find themselves engaged in. But this does not really make the puzzle go away. Our modern theory still seems to be examining the empirical semantic properties of languages, and their foundational underpinnings. Again, it seems fair to ask, as the first challenge does how that can be a theory of truth?

¹⁹I myself take this to be in many ways a matter of psychology, following the tradition in generative linguistics. I am also inclined to take idiolects as the basic object of study. See my (forthcomingb) for some discussion of the position I prefer. But all that is important here is that semantics is empirical. Just what underlies the facts it describes will not concern us.

A partial answer to this challenge can be gleaned from the discussion of a related, though somewhat different, problem for semantic theories in the Davidsonian tradition. As is well-known, early on Davidson (1967) seemed to suggest using a Tarskian truth *definition* as a semantic theory. (That is, the kind of explicit definition of truth Tarski provides, rather than the kinds of theory we reviewed above.) Then, as a number of authors have pointed out (e.g. Etchemendy, 1988; Soames, 1984), what purport to be empirical facts about a language turn out to be necessary truths of mathematics.²⁰

In the years since Davidson's early papers on this matter, a straightforward response to this apparent problem has emerged. For purposes of semantics, we take the property of truth as given and use it in semantics. Accordingly, we do not use a Tarskian explicit definition of truth; rather, we use the kinds of clauses we noted above. Thus, when we write down a semantic theory using the apparatus of Tarski, in Davidsonian style, we treat the truth predicate as a primitive of the theory. There is no problem with such a primitive expressing a concept with empirical content.²¹

As far as the role of truth in semantics goes, this reply seems to me to be entirely correct. But it does not answer our challenge, and if anything, it makes the problem for the modern correspondence theory all the clearer. The modern correspondence theory cannot take the route many semantic theories do, of simply helping itself to the property of truth. After all, the goal in theorizing about truth was not to do empirical work in semantics, but to understand the nature of truth itself. Simply supposing that property, and going on to do something with it, like semantics, hardly seems like a way to meet this goal. Even so, the modern correspondence theory cannot take the Tarskian route of providing an explicit definition of truth. As the old objection pointed out, this would make facts about truth mathematical facts, and so would leave no place for the word-to-world relations which make the modern correspondence theory a correspondence theory.

This does not preclude the modern correspondence theory from using the sort of Tarskian theory we discussed above. It can do so without offering an explicit definition of truth in the manner of Tarski. The result is a theory, in which the term for truth is taken as a primitive. Such a theory will

²⁰For more on what role the explicit definition of truth plays in Tarski's work, see Heck (1997).

²¹It may well be that there was some confusion about this in Davidson (1967), but it was fairly quickly cleaned up. Davidson himself is clear about this, in Davidson (1990), among places. See the review of the issues in my (2013).

presumably state lots of empirical facts about semantics. But at the same time, we can see the theory as implicitly characterizing its primitive terms, and so, as implicitly characterizing truth. There is nothing unusual about this. Lots of theories can introduce a primitive term, and state lots of empirical facts via them, but also implicitly characterize the basic notions the primitive terms pick out. Take, for instance, magnitudes like force or mass in classical mechanics. At least in some formulations, they are primitives of the theory. They are implicitly characterized by the various equations that constitute classical mechanics, but these also state facts about the physical world. $F = M \times A$ is part of an implicit characterization of the fundamental magnitudes of classical mechanics, but also tells you an important fact about the physical world. There is no general problem with such implicit characterizations.

So, there is no problem with a theory implicitly characterizing its fundamental concepts, and so there is no problem with a semantic theory helping us to characterize fundamental concepts for semantics. They can do so implicitly, explicitly, or a combination of both. In offering Tarskian theory and account of reference and satisfaction, the modern correspondence theory offers us a combination of both. As I mentioned early on, according to the modern correspondence theory, Truth really is a fundamental semantic property. We thus learn about it through the kind of implicit characterizations of their fundamental notions semantic theories provide.²²

By embracing the idea that truth is a fundamental semantic property, the modern correspondence theory can make sense out of how it can be implicitly characterized by a semantic theory. But this does not fully answer our challenge. The main worry was not whether we could make sense of a theory of such a property, but whether truth really is that kind of property. The kind of theory we are imagining is still at heart a theory about semantics: empirical properties of languages and their foundations. Why is that the right place to find even an implicit characterization of a property like truth?

In response, the modern correspondence theory insists that this really the right place. We have already seen that it takes the idea that truth is a semantic property to be part of its motivation. We have also seen some important results of this view. The modern theory, I argued, improved over the tradi-

²²In joint work with Jc Beall (2008, we note that the idea that truth is a fundamental semantic property guides many current approaches to substantial theories of truth, and stands in contrast to the motivations of deflationist theories.

tional one by having semantics take up some of the tasks done by metaphysics in the traditional theory. Semantics replaces structural correspondence. It also offers an explanation of the word-to-world relations that are crucial to a correspondence theory. So, the modern correspondence theory can just insist that semantics is the right place to look for a characterization of truth.

Let me elaborate this perspective a little further. According to the modern theory, truth is the result of word-to-world relations of reference and satisfaction, and how they project compositionally. Those are fundamental semantic properties, and so, to the modern theory, is truth. It should not really be a surprise that truth winds up being so closely associated with semantics. After all, a truth bearer is true in virtue of what it says, as well as what the world is like, and ‘what it says’ is a semantic matter. The modern correspondence theory starts with the ‘platitude’ that what you say or think is true depending on whether things are as it says. But it fills that out, and it does so in terms of the apparatus of reference, satisfaction, and semantic composition. So, the modern correspondence theory holds, the challenge is mistaken.

This is the basic response to the first challenge on the part of the modern correspondence theory. But the challenge can still be pressed. Even if we grant that in some way truth relates to the content of what we say, it may be objected, is truth not a highly general property, not tied so closely to natural languages and their semantics? Certainly the property of truth is not tied to any particular language, with its particular empirical semantic features. But Tarskian truth theories are limited to a single language. So, if the modern correspondence theory looks to semantic theories in a Tarskian vein to implicitly characterize truth, will it not wind up with too narrow a property? More specifically, will it fail to capture any of the general, cross-language aspects of truth?

In response, the modern correspondence theory needs to do two things. First, it needs to broaden its perspective on semantics. Second, it needs to explain more fully how it can implicitly characterize such a broad notion. The second point will bring us to the second of our challenges. But before turning to that, we need to address the first point.

We started with the idea that semantics is at core an empirical subject. But, as we already noted, it can be extended in many ways. To make sure the modern correspondence theory makes truth suitably general, it should try to find a suitably general notion of ‘semantic’. And in fact, we can already see some such general notion at work in the modern correspondence theory.

Even if Tarskian truth theories are restricted to particular languages, that is not all that goes into the modern theory. It also includes (the promise of) accounts of the basic relations of reference and satisfaction. Though these will apply to the terms of any particular language, they are more general notions. In his original article, Field imagined the explanations of reference and satisfaction would be in terms of a causal theory, and that can provide a good illustration of what such a theory might possibly be like. The causal theory, clearly, is not about the properties of any one language. It describes a general way that expressions can relate to objects, that makes them refer to those objects. So, the modern theory is already partially equipped to place truth in a more general setting. We need to see how it can do so more fully.

Reference and satisfaction, as they figure in the modern correspondence theory, are instance of a general family of relations. They are *representational* relations. Let us pause to explore this idea of representation. The notion of representation is a very broad one. For example, Stalnaker (1984, p. 6) glosses it by saying, “Some things in the world—for example, pictures, names, maps, utterances, certain mental states—*represent* or *stand for*, or are *about* other things—for example, people, towns, states of affairs.” Such a broad notion is not tied to any one language or its semantic properties. The modern correspondence theory, I shall suggest, treats truth as a fundamental property of certain kinds of representational systems. This indeed makes it a fundamental semantic property; but it makes it more general as well, by placing truth within the same domain as representational relations.²³

With this general notion more clearly in view, we can refine the claim of the modern correspondence theory that truth is a fundamental semantic property. It is, as I said, a fundamental property of certain kinds of representational systems. But not all kinds, according to the modern theory. The modern correspondence theory starts with (the promise of) an account of the representational relations in which certain basic expressions stand, like terms and predicates. It then offers a theory of how those relations project compositionally, and how that determines truth. Abstracting away from any particular language, what this requires is a system of atomic representations, which combine to form things appropriate to be contents of utterances or thoughts. As has been stressed by a number of authors (e.g. Field, 1978; Fodor, 1975, 1987), this is to require a system of representations that is in important ways

²³I shall not try to review the huge literature on mental representation. For a survey and references, see Pitt (2013), as well as Loewer (1997).

language-like (though it need not have the structure of a human language), where the atomic representations combine to form sentence-like objects. The contents of those sentence-like objects are the result of composing the representational properties of the atomic elements, according to the structure provided. We will also assume that some of the atomic representations enter into reference and satisfaction relations. It is a nice question just what other relations for term or predicate-like representations might count as genuinely representational, but we will simply assume we have genuine reference and satisfaction. To give representational systems like these a label, let us call them *atomic-referential-compositional representational systems*. To shorten this horribly complicated name, we can call them *ARC-systems*.²⁴

With this terminology in hand, we can refine the view of the modern correspondence theory, making it that truth is a fundamental property of ARC-systems. It is a fundamental semantic property, in the sense that it makes the sentence-like objects have the contents they do. This is stretching the notion of ‘semantic’ outside the domain of natural languages proper, and provides the kind of generalization we were seeking.

There is one point about this proposal which needs to be clarified. It is in part terminological, but also in part substantial. As we are using the term ‘representational’, truth is not a representational property, even of ARC-systems. As we defined representation, it is a relation of things standing for other things. Hence, if the sentence-like objects of an ARC-system represented, there would have to be some *things* for them to represent. These would be facts, or something like them, and of course, one of the main advances of the modern theory is avoiding facts. The point is clearly made by Davidson (2005, p. 41):

If this [rejecting facts] is right, and I am convinced it is, we ought also to question the popular assumption that sentences, or their spoken tokens, or sentence-like entities or configurations in our brains, can properly be called “representations,” since there is nothing for them to represent.

The modern correspondence theory rejects facts, and that was one of the ways I claimed the modern theory improves upon the traditional one. So, as we are using representation, the modern theory needs to say that truth

²⁴The terminology here is ugly but not all that unusual. For instance, Stalnaker (1984) describes the view of Field (1978) as atomic.

is a fundamental property of ARC-systems, it is semantic (in our extended sense), but not itself a representational property.²⁵

To some extent, this is simply a matter of keeping our terminology straight. Many authors define representational in a more general sense, to mean something like ‘having content’, and then we could say that truth is a representational property.²⁶ I have employed the terminology as I did in part because it is in keeping with authors like Davidson, who are important in the literature on truth. But our terminology does allow us to highlight an important feature of the modern correspondence theory. Truth is not simply a word-to-world relation for the modern theory. It was for the traditional variant, and most other fact-based theories, but not for the modern theory. Rather, as we have already seen, the idea is that truth is the result of the combination of Tarskian compositional mechanisms together with word-to-world relations. Keeping representation proper and other broadly semantic notions separate helps to make this point clear.

The general idea of the modern correspondence theory is that truth is a fundamental property of certain kinds of representational systems: ARC-systems, whose atomic elements stand in representational relations like reference and satisfaction, and can compose to build sentence-like objects. Those sentence-like objects are true or false, in virtue of the word-to-world representational properties of the atomic representations, and how they compose. As this is a property of sentence-like objects, that makes them describe the way things are, we can happily call it a semantic property in an extended sense (though not technically a representational one). Truth, in such systems, conforms to the platitude that what you say or think is true depending on whether things are as it says. We have thus abstracted away from the idea that truth is a semantic property of any particular language, to the more general position that it is a feature of a broad category of representational

²⁵Davidson himself is much more thoroughly anti-representational. For him, radical interpretation grounds content, not any kind of representation relation. In a telling passage he writes (Davidson, 1999, p. 668), “I do, however, bridle at the idea that any expression *represents* any object or event. The only direct manifestation of language are utterances and inscriptions, and it is we who imbue them with significance. So language is at best an abstraction, and cannot be a medium through which we take in the world or an intermediary between us and reality.”

²⁶For instance, Dretske (1988, p. 52) writes, “By a representational system (RS) I shall mean any system whose function is to indicate how things stand with respect to some other objects, condition, or magnitude.” Truth is presumably a representational property by this broader notion.

systems.²⁷

This, I believe, answers our first challenge, which asked how a semantic theory can really be a substantial theory of truth. It can because truth is a fundamental semantic property, and so, it can be characterized implicitly by a semantic theory. We should not expect theorizing about such properties to be separated from semantic theories. But truth is not simply a property of any given language; rather, it is a general property that applies widely to representational systems. So, truth is a fundamental semantic property, but not one limited to any single language.

In adopting this position, the modern correspondence theory encounters the second challenge, that asks whether it really answers the nature question for truth. We can now put that challenge in a more specific form. The modern theory holds that truth is a general property of a range of representational systems. But a substantial part of what it offers is a bunch of theories, in Tarskian style, for specific languages, together with the promise of a foundational account of reference and satisfaction. How can the Tarskian theories, for specific languages, describe the general property of a wide range of representational systems?

We already introduced the idea that Tarskian theories describe truth implicitly, as they state semantic properties of particular languages, or other ARC-systems. So, truth was already something that at best gets indirectly characterized by the modern theory. We can now see another sense in which the characterization is indirect. No one theory will fully state all the features of truth, as no one theory will fully describe all languages, much less all ARC-systems. When we write down a semantic theory, for a natural language, an interpreted formal language, or any other ARC-system, we can see features of truth in action. In particular, such theories help us to understand the ways that truth is projected compositionally from atomic representations, and that is one of the key components of truth. Looking at a simple language, like the language of first-order logic, does this very well. Hence, it is no surprise that Tarski's pioneering work is central to how the modern correspondence theory seeks to characterize truth. But each such theory does only that: by showing the semantic properties of some ARC-system, it helps us to see the nature of truth. The characterization of truth remains implicit, and the full

²⁷The idea that the correspondence theory is a representational theory is arguably already anticipated by Field, especially if you read Field (1972) together with Field (1978). It is stated explicitly by Jackson (2006), and articulated especially clearly by Lynch (2009).

characterization will go beyond what any one such theory could show. We supplement those theories with the general observation that representational and compositional properties combine to determine truth in ARC-systems, but that presupposes we have some grip on what those representational and compositional properties are. That was just what we got, implicitly, by looking at various specific theories.

The observation that truth is a fundamental property of ARC-systems, determined by their representational and compositional properties, together with the specific theories that go with this observation, comprises the modern correspondence theory's answer to the nature question for truth. Its answer is thus implicit, in just the ways its characterization of the property of truth is. Our second challenge asked if the modern theory really answers the nature question. Presumably, the challenge is demanding an explicit statement of a full answer to the nature question, which would involve a full, and explicit, characterization of truth in one theory, rather than our family of implicit characterizations of aspects of truth. In answer to this challenge, I believe the modern correspondence theory should say that no such theory is forthcoming, and the kind of implicit answer it provides is the best there can be. There is no theory that fully characterizes all ARC-systems in such a way as to lead to an explicit characterization of truth. There are many reasons for this. Well-known limitations from the Liar require Tarskian theories to be restricted to particular languages.²⁸ But even putting those considerations aside, I am doubtful that we should expect any kind of revealing theory of all ARC-systems all at once, and I am especially doubtful that any such theory would really offer a full characterization of truth. The best we can do, with a property like truth, is to study it in action in individual restricted settings, and learn as much as we can about it as we go.

Here, I come to the same conclusion as Davidson, that we should not expect any explicit definition or full characterization of the general property of truth. He elegantly sums up the position in the following passage (Davidson, 2005, p. 55):

It is a mistake to look for an explicit definition or outright reduction of the concept of truth. Truth is one of the clearest and most basic concepts we have, so it is fruitless to dream of eliminating it in favor of something simpler or more fundamental. Our procedure is rather this: we have asked what the formal properties of

²⁸For a review of my own take on these issues, see my (forthcominga).

the concept are when it is applied to relatively well-understood structures, namely, languages. Here Tarski's work provides the inspiration. It remains to indicate how a theory of truth can be applied to particular speakers or groups of speakers. Given the complexity of the structures the concept of truth helps characterize, comparatively anemic bits of evidence, applied at a potential infinity of points, can yield rich and instructive results.

On the view that Davidson offers, and I am endorsing, there is a substantial property of truth. We learn about it mainly by its connections to other property to which it is closely allied. Those include other semantic properties. We can further illuminate it by applying it in some domain where we can observe its properties at work. For truth, the natural domains are ARC-systems. Natural languages stand out as familiar and readily available ARC-systems, so we can learn about truth by watching how it works in the languages we speak. Formal languages stand out for having clear structure, and so we can, and do, learn much about how truth works by watching its behavior in simple formal languages. These, especially, help to make clear what Davidson calls the formal properties of truth. But for the modern correspondence theory, the domains where we can study truth are broader than just these. Following Field, and departing from Davidson, the modern correspondence theory sees representation as crucial to truth. We can study truth by studying fundamental properties of representation for ARC-systems, as well as by studying specific languages.²⁹

It might be best to think of each particular theory as providing a 'model' in which we can observe truth at work. Not 'model' in the sense of logic, but in the sense used in the life sciences. A model is a setting where we can see something at work and learn how it functions. (Think of a model of a disease a setting where we can safely observe it in action.) We can use these to learn about some more general phenomenon. Our models show us truth at work in some language or ARC-system, or in some aspect of representation. From

²⁹I should stress that though I am endorsing Davidson's general outlook about defining truth, Davidson does not accept the modern correspondence theory. His anti-representationalism puts him clearly at odds with it, as the quote above indicates. For Davidson, truth is not correspondence-like even by generous measures. Reference, for Davidson, is merely 'immanent', and there is no substantial role for it in our theories. One moral of this is that the kind of answer the modern correspondence theory gives to the nature question is specific enough to be clearly distinct from Davidson's own view. This helps us to be sure that it is a substantial theory.

that, we can learn much about how truth works in general. With complex phenomena, this is sometimes the best tool available.

The modern correspondence theory draws some particular morals from this sort of exercise. It sees, in the basic compositional apparatus from Tarski and the ideas (perhaps still to be worked out) of how representation works, the basic mechanisms that make our thoughts about things in the world and makes them answerable to how those things are for truth. It thus does offer a kind of answer to the nature question. It is not, as the Davidsonian approach reminds us, a simple definition. It is something we wind up illustrating with our formal apparatus. This is, no doubt, an indirect answer to the nature question. But it is an answer to the question. Hence, the modern theory holds that it does answer the second challenge, as much as it can be answered.

The modern correspondence theory, as I argued in section 2, is a worthy successor to the traditional correspondence theory. It departs from the traditional theory, by having semantics take up some of the burdens carried by metaphysics in the traditional theory, and by relying on representational notions to substantiate word-to-world relations. Truth is, for the modern theory, a fundamental semantic property. It is one that we see at work in characterizing the meanings of sentences of our spoken languages, and more generally, in characterizing the workings of a broad class of ARC-systems. We can study truth in many settings. With Tarski, we can study this by looking at formal languages, or with the tradition of current work in natural language semantics, we can study it by looking at the way natural languages work. With Field, we can also study it by studying foundational accounts of representation. As I promised at the outset, I have not offered any direct arguments in favor of the modern correspondence theory, but I have tried to present the theory in a way that shows its virtues, and how it can answer certain objections. That should, at least, give us reason to count the modern correspondence theory as a serious contender among theories of truth.

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