Title

In Search of a Substantive Theory of Truth

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IN SEARCH OF A SUBSTANTIVE THEORY OF TRUTH*

The layman...expects philosophers to answer deep questions of great import for an understanding of the world.... And the layman is quite right.... Yet he finds most writings by philosophers of the analytical school disconcertingly remote from these concerns.... The complaint...is understandable.... [A]nalytical philosophy passed, comparatively recently, through a destructive phase.... During that phase, it appeared as though demolition was the principal legitimate task of philosophy. Now most of us believe once more that philosophy has a constructive task; but, so thoroughly was the demolition accomplished, that the rebuilding is of necessity slow. ——Michael Dummett[1]

I s a substantive theory of truth feasible? What would be the scope, structure, and content of such a theory? My idea of "a substantive theory" has the everyday connotation of "a theory that provides an explanatory, constructive, and systematic account of a rich, significant, and fundamental subject-matter." "A substantive theory of truth" in this sense contrasts with "a deflationist theory of truth." Where deflationists say that "truth is entirely captured by the...triviality...that each proposition specifies its own condition for being true,"[2] advocates of a substantive theory of truth (henceforth, *substantivists*) say that truth is not entirely captured by this triviality; where deflationists say that "the truth predicate exists solely for the sake of a certain logical need"[3] (that is, indirect reference to, and generalization over, propositions), substantivists say that it exists for other needs as well; where deflationists say that truth is not a deep notion, substantivists say it is; and

[1] *The Logical Basis of Metaphysics* (Cambridge: Harvard, 1991), p. 1.

[2] Paul Horwich, *Truth* (Cambridge: Blackwell, 1990), p. xi.

[3] Horwich, p. 2. (A compilation of two sentences in inverted order.)

where deflationists say that a theory of truth cannot be, or need not be, genuinely explanatory, substantivists say it can and should be. Substantivists accept the deflationist claim that truth is not mysterious, but they believe truth yields itself to substantive inquiry. My notion of a substantive theory of truth is close to what some call an "inflationary theory,"[4] but "substantive," in its everyday usage, better captures the ordinary, common-sense considerations that motivate me. Like Michael Dummett, I believe that philosophy should take on important "questions...for...understanding...the world," and, like the early Hartry Field, I think that "we'd be crazy to give...up in [philosophy]...a methodology [of substantive theorizing] that has proved extremely fruitful in science."[5]

The attempts to construct a substantive theory of truth, however, have come upon great difficulties, and many philosophers have given up hope of ever producing such a theory. Field, for example, has renounced his plan for a substantive theory of truth (based on a causal account of reference), and today he, along with many adherents of his original plan, is an avid champion of deflationism. Not all contemporary philosophers, however, are satisfied with the prevalent trend. Donald Davidson, Michael Devitt, Anil Gupta, Michael Lynch, Hilary Putnam, Crispin Wright, and others (including me in an earlier article) have dissented, to a greater or lesser extent, from mainstream deflationism.[6]

[4] See, for example, Hartry Field, "Deflationist Views of Meaning and Content," *Mind*, CIII (1994): 249–84.

[5] Field, "Tarski's Theory of Truth," this JOURNAL, LXIX, 13 (July 13, 1972): 347–75, here p. 363. The full sentence is: "This is a methodology that has proved extremely fruitful in science, and I think we'd be crazy to give it up in linguistics." Field treats the theory of truth as part of linguistics, but what he says is directed to whatever discipline the theory of truth belongs to, that is, on our demarcation, philosophy. He specifically refers to reductionist theories which, he says, are pointless unless substantive. I think it is reasonable to presume that he extends this point to scientific theories in general. Note: some philosophers identify "substantive theory of truth" with "correspondence theory of truth"; I prefer to distinguish between the two. Although I will eventually advocate a substantive correspondence theory of truth, I do not want to rule out in advance the possibility of either a substantive noncorrespondence theory of truth or a nonsubstantive correspondence theory.

[6] See Davidson, "The Structure and Content of Truth," this JOURNAL, LXXXVII, 6 (June 1990): 279–328, and "The Folly of Trying to Define Truth," this JOURNAL, XCIII, 6 (June 1996): 263–78; Devitt, *Realism and Truth*, 1st/2nd edition (Cambridge: Blackwell, 1984/91); Gupta, "Minimalism," *Philosophical Perspectives*, VII (1993): 359–69, and "A Critique of Deflationism," *Philosophical Topics*, XXI, 2 (1993): 57–81; Lynch, *Truth in Context* (Cambridge: MIT, 1998); Putnam, *Reason, Truth, and History* (New York: Cambridge, 1981), and *The Many Faces of Realism* (La Salle, IL: Open Court, 1987); Wright, *Truth and Objectivity* (Cambridge: Harvard, 1992), and "Truth: A Traditional Debate Reviewed," in Simon Blackburn and Keith Simmons, eds., *Truth* (New York: Oxford, 1999), pp. 203–38; and Gila Sher, "On the Possibility of a Substantive Theory of Truth," *Synthese*, CXVII (1998–99): 133–72.

Here I will further pursue the attempt to construct a substantive theory of truth by investigating some of the challenges facing it and offering a few ideas about how to meet them. In particular, I will connect the methodological challenges facing the theorist of truth with those facing the natural (and social) scientist. This will enable me to place the debate on truth in a new, broader perspective, and point to new ways of approaching the issues. I will concentrate on two complementary challenges: the challenge of *disunity,* and the challenge of *unity.* In the case of truth, these are the challenges of (i) recognizing the diversity, complexity and multidimensionality of truth, and (ii) uncovering its unifying principles.

This article is divided into two sections: (I) Disunity and (II) Unity. Section I presents two disunity challenges: a radical challenge, conducive to deflationism, and a moderate challenge, compatible with a substantive theory. I argue that the radical challenge is unsound but the moderate challenge is a genuine challenge, confronting any theory of a broad and diverse subject matter. To meet this challenge, I propose a few commonsensical guidelines, and I note a few similarities and differences between my approach and that of earlier philosophers (specifically Kant, James, and Wittgenstein).

One ramification of the disunity challenge is moderate pluralism. Moderate pluralism with respect to truth has recently been advanced by Wright and Lynch. Wright, for example, raises the possibility that truth in physics is based on correspondence while truth in mathematics is based on coherence. My own analysis suggests a different kind of pluralism: pluralism within the bounds of correspondence. The idea is that truth both in physics and in mathematics is based on correspondence, but since physics and mathematics involve different aspects of language and the world, their correspondence principles differ. This kind of pluralism brings us closer to the ideal of a balanced theory: a theory balancing the demands of unity with those of diversity. Two problems for any pluralist conception of truth are: (i) In what sense are diverse principles of truth principles of the same thing, namely, truth? and (ii) How can logical inference transmit truth from sentences governed by one type of truth to sentences governed by another? Solutions to both problems are offered in section II.

Section II: The debate on unity and diversity in science sometimes gives the impression that recognition of diversity and a search for unity are incompatible. Like many philosophers, I believe that unity and diversity complement rather than exclude each other, and neither has priority over the other. Wright, too, accepts this view, but his conception of the unifying principles differs from mine. While Wright's conception is minimalistic (the unifying principles are mere

"platitudes"), I believe the unifying principles can and should be substantive. Unity is linked to substantiveness through its role in explanation, and the question is not whether substantive unification is possible, but what kind(s) of substantive unifiers are available in our field. I point out two types of such unifiers, *core unifier* and *specialized unifier*, and I formulate two theses exemplifying these types of unifier, the *Immanence Thesis* and the *Logicality Thesis*. The first thesis has implications for correspondence and skepticism; the second yields a new solution to the problem of logical inference across types of truth.

I. THE DISUNITY OF TRUTH[7]

I.A. Radical Disunity Challenge. A well-known argument against the feasibility of a substantive theory of truth says that since every thought (proposition, belief, cognition, judgment, sentence of a given language) has its own unique truth condition, a general and substantive account of truth is impossible. I will call this argument "the radical disunity argument." One formulation of this argument is:

> [C]ompare 'is true'...with a genuine target of philosophical analysis....
> We know *individually* what makes ['is true'] applicable to the judgements
> or sentences of an understood language. 'Penguins waddle' is a sentence
> true, in English, if and only if penguins waddle. It is true that snow is
> white if and only if snow is white. The reason the first sentence deserves
> the predicate is that penguins waddle, and the reason why the judgement
> that snow is white deserves the predicate is that snow *is* white. But these
> reasons are entirely different. There is no single account, or even little
> family of accounts, in virtue of which each deserves the predicate, for
> deciding whether penguins waddle has nothing much in common with
> deciding whether snow is white. There are *as* many different things to
> do, to decide whether the predicate applies, as there are judgements to
> make. So how *can* there be a unified, common account of the "property"
> which these quite different decision procedures supposedly determine?[8]

The theoretical principle underlying the radical disunity argument is clearly expressed by Kant in the introduction to "Transcendental Logic" of the *Critique of Pure Reason*. Inquiring whether it is possible to go beyond a minimalist characterization (literally, name clarification) of truth as agreement of a cognition with its object and provide

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[7] This part of the article continues my earlier discussion of the disunity of truth in "On the Possibility of a Substantive Theory of Truth." It is, however, self-sufficient.

[8] Simon Blackburn, *Spreading the Word* (New York: Oxford, 1984), p. 230. This argument may also be interpreted as an argument against the existence of a *property* of truth, but here I am interested in it as an argument against the possibility of a substantive account of truth. Blackburn, it should be noted, does not endorse this argument.

a criterion that determines the precise conditions under which each cognition is true, Kant reasons:

> If truth consists in the agreement of a cognition with its object, then this object must thereby be distinguished from others; for a cognition is false if it does not agree with the object to which it is related even if it contains something that could well be valid of other objects. Now a general criterion of truth would be that which was valid of all cognitions without any distinction among their objects. But it is clear that since with such a criterion one abstracts from all content of cognition (relation to its object), yet truth concerns precisely this content, it would be completely impossible and absurd to ask for a mark of the truth of this content of cognition, and thus it is clear that a sufficient and yet at the same time general sign [Kennzeichen] of truth cannot possibly be provided. Since above we have called the content of cognition its matter, one must therefore say that no general sign of the truth of the matter of cognition can be demanded, because it is self-contradictory.[9]

A somewhat different formulation of this line of reasoning appears in Kant's logic lectures:

> A universal material criterion of truth is not possible; it is even self-contradictory. For as a *universal* criterion, valid for all objects in general, it would have to abstract fully from all difference among objects, and yet at the same time, as a material criterion, it would have to deal with just this difference, in order to be able to determine whether a cognition agrees with just that object to which it is related and not just with any object in general, in which case nothing would really be said.... [I]t is absurd to demand a universal material criterion of truth, which should abstract and at the same time not abstract from all difference among objects.[10]

The point is that a general and substantive criterion of truth would give rise to an irresoluble conflict between generality and particularity. Using 'theory of truth' for 'theory that provides a criterion of truth', we may express the radical disunity argument as follows:

(a) Truth consists in the particular agreement of a thought with its unique object.
(b) A general theory of truth must, in order to be general, abstract from the particularity of this relation.
(c) But a substantive theory of truth cannot (if it is to be substantive) abstract from its particularity. Hence:

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[9] *Critique of Pure Reason*, 1st/2nd edition, 1781/87 (New York: Cambridge, 1998), A58–9/B83.

[10] *Lectures on Logic*, "The Jäsche Logic," 1800 (New York: Cambridge, 1992), p. 558.

(d) A general and substantive theory of truth is impossible.[11]

Now, on some level, this argument is persuasive. Not only is it formally valid, but its conclusion is, in some sense, correct: it is absurd to think that the theorist of truth could come up with a general and substantive criterion (or necessary and sufficient condition) that would determine, all by itself, the truth value of each and every truth bearer. But in a deeper and more important way the radical disunity argument is unsound. The argument assumes an altogether unreasonable conception of a substantive theory of truth as consisting of, or offering, a Kantian criterion of truth. There is no reason that a theory aiming at a philosophical explanation of truth be interested in, or be required to provide, such a criterion. Achieving a genuine understanding of truth does not mean detecting all the minute differences between any distinct truths, or determining what exactly has to be done in order to find out whether such sentences as 'Penguins waddle' and 'Snow is white' are true. There is a whole array of intermediate projects between the minimalist (deflationist) project of name clarification of truth and the maximalist project of providing a Kantian criterion of truth. And a substantive theory of truth aims at (some of) the intermediate projects. A comparison with the theory of knowledge might help. No one, least of all Kant, would require a substantive theory of knowledge to provide a full and detailed criterion of knowledge—a criterion determining, all by itself, with respect to each and every judgment, whether it should be included in our corpus of knowledge. Why should the theory of truth be required to provide such a detailed criterion of truth? One might answer that truth is special: the truth of a thought *is* dependent on its specific content and object. But does not the same hold for knowledge? (Are not the knowledge conditions of 'Penguins waddle' and 'Snow is white' just

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[11] My reading of Kant's argument is different from James Van Cleve's in his *Problems from Kant* (New York: Oxford, 1999), chapter 13. Van Cleve regards Kant's argument as a version of the *diallelon*, an ancient argument which, based on circularity considerations, says that one cannot determine whether a cognition agrees with its object; one can only determine whether it agrees with another cognition of that object. While Kant's argument does appear in a section whose opening sentence mentions circularity—"The old and famous question with which the logicians were to be driven into a corner and brought to such a pass that they must either fall into a miserable circle [in the second edition, *Dialexis*; in the first, *Dialele*, that is, reasoning in a circle (editors note)] or else confess their ignorance, hence the vanity of their entire art, is this: **What is truth?**" [A57–8/B82]—attention to the *content* of his argument shows that it makes an altogether different point from the *diallelon*. I should indicate that I agree with other aspects of Van Cleve's analysis, for example, his claim (contra Putnam and Norman Kemp Smith) that this argument does not signal Kant's withdrawal from the correspondence view of truth.

as particular and just as diverse as their truth conditions?) Should we conclude, then, that a substantive theory of knowledge is also impossible?[12]

The radical disunity argument is, in my view, best interpreted as a *reductio ad absurdum* of the criterial, maximalist view of a substantive theory of truth. Substantive theories are, in general, selective; they abstract from, that is, overlook, some aspects, features, and differences of objects in their domain.[13] The choice is not between a deflationist theory and a criterion of truth; the choice is between the former and a substantive account of the *major principles* and *facets* of truth.

It is not clear whether Kant himself drew a false dilemma between (what we call today) a deflationist theory and a criterion of truth. On the one hand, in introducing his argument he does appear to contrast the mere "name clarification" of truth (his conception of a deflationist theory) with a criterion of truth.[14] On the other hand, elsewhere he repeatedly affirms the existence of substantive accounts of various facets of truth and makes substantive claims about truth. For example, he declares that general logic provides a universal negative criterion of truth; he characterizes Transcendental Analytic as "a logic of truth" (saying it sets negative but not narrowly logical conditions on the possibility of truth); he claims that "transcendental truth, which precedes all empirical truth and makes it possible, consists in the general relation [of cognitions to the entirety of all possible experience]"; he suggests that an account of "the formal conditions of empirical truth" is possible; he proclaims that the principle of causality is a condition of empirical truth; he argues that the possibility of experience is a necessary condition for truth; he implies that a "sufficient mark of empirical truth" is possible; and he contends that his own theory, unlike Berkeley's, is capable of providing a "certain criterion for distinguishing truth from illusion" (in a more reasonable sense of 'criterion' than in the introduction to "Transcendental Logic").[15] Be

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[12] Note that for a while analytic philosophers did expect the theory of knowledge to provide something akin to a full and detailed definition, namely a necessary and sufficient condition of '*x* knows that *P*'. But this is no longer the goal of (most) current epistemologists, nor was it Kant's goal. Note, too, that the chaotic results of the search for a necessary and sufficient condition of knowledge (reflected in the incessant stream of counter- and counter-counterexamples) undermined many philosophers' confidence in the possibility of a substantive analytic epistemology.

[13] One exception might be mathematics, whose objects are already abstract and incomplete (in Alexius Meinong's sense).

[14] See *Critique of Pure Reason*, A58/B82.

[15] See *Critique of Pure Reason*, A59–60/B83–84 and *Lectures on Logic*, 280–01, 455–56, 558–60; *Critique*, A62/B87 and A131/B170; A146/B185; A191/B236; A202/B247; A489/B517; A651/B679; and *Prolegomena to Any Future Metaphysics*, 1783 (New York: Macmillan, 1950), p. 124.

that as it may, the dilemma raised by the radical disunity argument is a false dilemma. The radical disunity argument rejects the possibility of a substantive theory of truth by arguing against an absurd conception of such a theory.

Furthermore, the radical disunity argument assumes that the theory of truth has only one goal: account for the truth conditions of sentences (cognitions, and so forth). But the theory of truth has other goals as well: explain the normativity of truth, determine its applicability to various fields of discourse, adjudicate between different conceptions of truth (correspondence, coherence, and so forth), elucidate the relation between truth and other topics of philosophical investigation, and so on. The radical disunity argument does not question the feasibility of any of these goals.[16]

But while the radical disunity challenge is a false challenge, the tensions between generality and particularity, unity and diversity, abstraction and detailed investigation, to which it directs our attention, do pose a genuine, if not insurmountable, challenge to knowledge. This challenge was taken up by Kant (in another section of the *Critique of Pure Reason*), James, and Wittgenstein, but I prefer to approach it through a more contemporary venue—the ongoing debate on disunity in science. It seems to me that many of the issues raised in this debate pertain to substantive theories in general, and the challenge facing the theorist of truth would be better understood by a judicious comparison with the one facing the scientist.

I.B. Moderate Disunity Challenge. Challenges to substantive theories of truth may be of three kinds: (a) challenges to substantive theories *in general*, (b) challenges to substantive *philosophical* theories, and (c) challenges to substantive theories of *truth*. The moderate disunity challenge falls under the first category, and to discuss it I will turn to the literature on disunity in science.[17]

The disunity of science is commonly conceived either as a disunity of theories or as a disunity of their subject matter, namely, nature.

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[16] For further criticisms of the radical disunity argument, see Wright, "Truth: A Traditional Debate Reviewed," and Sher.

[17] See, for example, P.W. Anderson, "More Is Different," *Science*, CLXXVII (1972): 393–96; Jerry Fodor, "Special Sciences," *Synthese*, XXVIII (1974): 77–115; Patrick Suppes, "The Plurality of Science," *Philosophy of Science*, II (1978): 3–16; John Dupré, *The Disorder of Things* (Cambridge: Harvard, 1993); Ian Hacking, "The Disunities of the Sciences," in Peter Galison and David Stump, eds., *The Disunity of Science* (Stanford: University Press, 1996), pp. 37–74; Nancy Cartwright, *The Dappled World* (New York: Cambridge, 1999); R.B. Laughlin and David Pines, "The Theory of Everything," *Proceedings of the National Academy of Sciences of the USA*, XCVII (2000): 28–31, and Laughlin, *et al.,* "The Middle Way," pp. 32–37.

These two types of disunity are interconnected, but the former places a greater emphasis on conceptual differences, the latter on "the disorder of things" (to borrow the title of John Dupré's book). The disunity of theories challenges the unification of science on three levels: (i) total unification (that is, construction of a "theory of everything"), (ii) intertheoretic unification (for example, reduction of psychology to biology), and (iii) intratheoretic unification (for example, elimination of the particle-wave duality in physics). The disunity of nature challenges the ability of science to systematize its subject matter. It is an open question how much order there is in nature and, as a result, whether nature can be subsumed under general laws. Now, it seems to me that both challenges can be generalized to other fields of knowledge, including philosophy with its broad, diverse, and highly complex subject matters—knowledge, ontology, meaning, and truth. Among the more general considerations raised by scientists and philosophers of science are:[18]

(1) *The complexity of the world:*
   (a) The world exhibits different complexities and interdependencies on different levels, and at each level of complexity entirely new properties appear (P.W. Anderson).
   (b) There are both higher and lower organizing principles, and in the course of investigation we sometimes have to add new levels of basic entities, concepts, and principles (Dupré, R.B. Laughlin and David Pines, Laughlin *et al.*).
   (c) The behavior of objects and properties is sensitive to a multiplicity of factors governed by multiple principles (Dupré, Nancy Cartwright).
(2) *The limitations of our cognitive powers:*
   The great complexity of the world on the one hand, and our cognitive limitations on the other, limit our ability to comprehend it by a single, unified principle or theory (Comte[19]).
(3) *The partiality of knowledge:*
   Human knowledge is, by its nature, partial: (i) universal principles and explanations are, due to their high level of abstraction and idealization, inherently partial, covering certain aspects of the phenomena under discussion while leaving others uncovered; (ii) as concepts and knowledge are extended, universal principles become partial, so that what was thought, at one point, to be complete,

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[18] The points listed below constitute a pastiche of multiple ideas by multiple authors. At the end of each point I will indicate some of its sources. For fuller references, see the last footnote and the following footnotes.

[19] See Hacking, pp. 38–39.

turns out, later on, to be unfinished (Patrick Suppes, Noam Chomsky,[20] Ian Hacking, Stephen Hawking,[21] Laughlin and Pines).

(4) *Richness of interests, multiplicity of perspectives, human creativity:*
There are many legitimate ways of dividing things into units and many advantageous points of view on things; these, given our creativity, give rise to a multiplicity of theories, a multiplicity which enriches our understanding rather than impedes it (Jerry Fodor, Suppes, Dupré).

(5) *Other methodological considerations:*
   (a) In any field of knowledge we are continuously confronted with new situations and new problems; as new problems arise, new theories and new methods of investigations are often required (Suppes, Hacking).[22]
   (b) There can be many unifiers, of different interest, in any field of knowledge; hence, there may be room for more than one unifying theory (Hacking).
   (c) Generality is not always a guide to a better theory. A small collection of simple principles is preferable to a single, highly complex, universal principle (Hacking).

None of these considerations has to do with the specific features of science, and all are either directly applicable or easily extendable to philosophy. In the field of truth, they have the potential of changing our perspective on existent theories, suggesting further developments, and pointing to new solutions to old problems. I will not be able to work out the details of these influences here, but a few examples might indicate the direction of change.

Consider the equivalence schema. Deflationists claim that the equivalence schema (or something like it) exhausts the topic of truth. But from the present perspective the equivalence schema describes only one, high-level, principle of truth, and as such it provides a *partial* account of truth, to be complemented by other accounts, centering on other principles of various levels of generality.

One example of a lower-level account of truth is given by Alfred Tarski's theory.[23] While the equivalence schema treats all sentences on a par, Tarski's theory distinguishes them along a given parameter—logical structure. Sentences exhibiting distinct logical structures have

[20] "Language and Interpretation: Philosophical Reflections and Empirical Inquiry" (1988), in John Earman, ed., *Inference, Explanation, and Other Frustrations* (Berkeley: California UP, 1992), pp. 99–128.
[21] See Hacking, p. 54.
[22] Partly a citation from Suppes, pp. 14–15.
[23] "The Concept of Truth in Formalized Languages" (1933), in *Logic, Semantics, Metamathematics* (Indianapolis: Hackett, 1983), pp. 152–278.

different Tarskian truth conditions, whereas those exhibiting the same logical structure have essentially the same truth condition. From the present perspective, Tarski's theory provides an account of a special factor of truth—the *logical factor*—and as such it is a mid- (or low-) level theory.[24] Most importantly, Tarski's theory, like the equivalence schema, offers a *partial* account of truth (logical structure is not the only thing that determines the truth value of sentences), and a "complete" account of truth must go beyond it.

One way of going beyond Tarski's theory was suggested by Field.[25] While Tarski's theory does not distinguish the truth conditions of atomic sentences in any informative manner, Field envisions an informative account of their truth conditions. The realization of Field's vision has, however, come upon great difficulties, and these are commonly attributed to a special feature of his approach, namely, its physicalistic orientation. (Field wants to base the account of atomic truth on a physicalistic theory of reference, application, and fulfillment—in short, satisfaction—for our nonlogical vocabulary.) The disunity perspective points to a different explanation. The problem, from our perspective, lies in an implicit assumption of Field's project, independent of physicalism, namely, that the satisfaction conditions of the entire vocabulary of human thought (minus a small part of this vocabulary—the logical vocabulary) are based on one and the same principle, or kind of principle. From our perspective this assumption is unwarranted: the totality of extralogical expressions exhibits an enormous diversity, and one cannot take it for granted that physical and moral expressions, biological and philosophical expressions, psychological and mathematical expressions, expressions pertaining to religion and expressions pertaining to technology, are all governed by the same satisfaction principle, or the same kind of principle.

Field's reaction to the difficulties faced by his project was a retreat to deflationism. But the right lesson from our perspective is not deflationism, minimalism, or quietism. A more productive lesson is openness and flexibility in devising our methodology. The theorist of truth, like the scientist, must adjust his methodology to the peculiarities of his subject matter, and to do so effectively he should take a cue from his fellow theorists and follow such straightforward, commonsensical, and workable guidelines as:

   (A) In constructing a theory of truth, do not legislate in advance the form the theory shall take. Whether the study of truth will lead to

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[24] For a relevant discussion of Tarski's theory, see Sher.
[25] "Tarski's Theory of Truth."

the discovery of a single, universal principle (definition, schema, necessary and sufficient condition), or to a number of partial principles, is an open question, the answer to which largely depends on features of our subject matter, that is, on things that will emerge in the course of, not prior to, investigation. The answer also depends on our resources and capacities, but they, too, cannot always be determined at the outset of inquiry.

(B) Do not think of the study of truth as focused on a single problem. Truth is a broad, complex, and diversified topic, and as such it poses a plethora of problems rather than a single problem. Today, it is common to center the study of truth on the subject of truth conditions, but although this undoubtably is a central subject, it does not exhaust, or even come close to exhausting the topic of truth. Other subjects include the normativity of truth, the role of truth in knowledge, the relation between truth and correspondence, skepticism and relativism with respect to truth, the interplay between mind and world in creating a standard of truth, and so on.

(C) In developing a theory of truth, aim at a fruitful balance between universality and particularity, similarity and diversity, abstraction and attention to detail, systematicity and applicability. Freeman Dyson's dictum that "every theory needs for its healthy growth a creative balance between unifiers and disunifiers"[26] applies not only to scientific but also to philosophical theories.

(D) Think of the development of a theory of truth as a dynamic process, in the course of which the theory is likely to expand, contract, undergo revision, change direction, stall, make leaps of progress, yield unexpected results, and so forth. The question is not whether the theory of truth *is* (atemporally or eternally) a unified or a disunified theory; the question is what steps can we take to increase its unity without sacrificing its substantiveness.

These guidelines suggest that we need not conceive the theory of truth as either a Tarski-style definition, or an equivalence-like schema, or a Kantian criterion. Tarski's characterization of truth with its emphasis on logical structure is extremely fruitful in logic, where it is incorporated in the definition of logical consequence and, through it, makes an invaluable contribution to logical semantics. But it is not clear that to understand whether, why, and how truth applies to, say, ethics we need a Tarskian definition of truth for moral discourse. A similar point applies to correspondence. Obviously, if we start with the usual paradigms of correspondence associated with simple observational statements ('Snow is white', 'Grass is green', 'The cat is on the mat'), we are likely to conclude that correspondence is out of

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[26] *Infinite in All Directions* (New York: Harper and Row, 1988), p. 47.

the question in ethics. But if we investigate the moral domain without prejudice, if we take it by its own measure, we open up the possibility of new insights into correspondence, insights that would liberate us from the naive, simple-minded view of true thought as a *mirror of* (or as *isomorphic to*) reality.

The disunity challenge, as a challenge to knowledge in general and/or to philosophy in particular, was discussed by a number of philosophers. To further clarify my view, I will indicate a few points of similarity and difference with the views of three of these: Kant, James, and Wittgenstein.

Kant. In "On the Regulative Use of the Ideas of Pure Reason" (first *Critique*), Kant says:

> To the logical principle of genera which postulates identity there is opposed another, namely that of **species**, which needs manifoldness and variety in things despite their agreement under the same genus, and prescribes to the understanding that it be no less attentive to variety than to agreement. This principle (of discrimination, or of the faculty of distinguishing) severely limits the rashness of the first principle (of wit [an innate talent of the mind for comparing and assimilating things that are superficially different]); and here reason shows two interests that conflict with each other: on the one side, an interest in the **domain** (universality) in regard to genera, on the other an interest in **content** (determinacy) in respect of the manifoldness of species.
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> Reason thus prepares the field for the understanding: 1. by a principle of **sameness of kind** in the manifold under higher genera, 2. by a principle of the **variety** of what is same in kind under lower species.... We can call these the principles of the **homogeneity** [and] **specifica-tion**...of forms.
>
> The first law...guards against excess in the manifold variety of original genera, and recommends sameness of kind; the second, on the contrary, limits in turn this inclination to unanimity, and demands that one distinguish subspecies before one turns to the individuals with one's univer-sal concepts.[27]

Like Kant, I regard the disunity problem as a problem of balance, but Kant's construal of the problem strikes me as too narrow. Kant tries to fit the disunity problem into a neat and orderly picture of our system of knowledge as a hierarchical, species-genera structure, but the tension between unity and diversity, as I see it, is more com-plex, intricate, and multidimensional than the species-genera picture

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[27] A654/B682 (explanation in square brackets based on editors' footnote 117, p. 749), A657–58/B685–86, A660/B688.

suggests. Accordingly, I regard our system of knowledge as a polymor-
phic structure rather than a regular tree-structure, as envisaged by
Kant.

James. In his lectures on pragmatism, James subsumes the disunity
problem under the classical puzzle of "the one and the many":

> If...we talk in general of our intellect and its needs, we quickly see that
> unity is only one of them.... What our intellect really aims at is neither
> variety nor unity taken singly, but *totality*. In this, acquaintance with
> reality's diversities is as important as understanding their connexion.

> The...point is to notice that the oneness and the manyness are absolutely
> co-ordinate here. Neither is primordial or more essential or excellent
> than the other.[28]

While James, too, regards the disunity problem as a problem of
balance, his solution to the problem is fundamentally unbalanced.
James recommends a shift toward radical pragmatism, a pragmatism
that requires, at least in philosophy, rejecting the rational, the abstract,
and the theoretical in favor of the experiential, the concrete, and the
practical. I agree with James that balancing the demands of unity and
diversity requires a certain amount of pragmatic "juggling." But I
see no reason why this should conflict with rational, abstract, and
theoretical reasoning. The disunity challenge is a challenge to the
design of theories, not to theorizing itself; it necessitates the introduc-
tion of pragmatic considerations into philosophy, not the elimination
of theoretical, rational, and abstract considerations from philosophy.[29]

Wittgenstein. Wittgenstein's disunity challenge is expressed in his
"family resemblance" remarks. Wittgenstein objects to what I have
elsewhere called "the myth of the common denominator," namely,
the view that to understand a concept is to identify the common
denominator of all objects falling under it, or to formulate a necessary
and sufficient condition for falling under it (*op. cit.*). Many concepts,
according to Wittgenstein, have no single defining characteristic (or

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[28] "Pragmatism" (1907), in *Pragmatism and Other Writings* (New York: Penguin,
2000), pp. 1–132, citations from pp. 59 and 62.

[29] A similar point was made by Robert Brandom with respect to Putnam's pragma-
tism—"Hilary Putnam: *Renewing Philosophy*," this JOURNAL, XCI, 3 (March 1994):
140–43. It should be noted that not all interpreters view James's pragmatism as
constricting in the way I described (see, for example, Yemima Ben Menachem,
"Pragmatism and Revisionism: James's Conception of Truth," *International Journal of
Philosophical Studies*, III (1995): 270–89). But the tendency to associate pragmatism
with a negative attitude towards abstract, rational theorizing is sufficiently prevalent
to make it worthwhile to point out that an adequate solution to the disunity problem
does not require such an attitude.

a small set of such characteristics); instead, they exhibit "a complicated network of similarities overlapping and criss-crossing: sometimes over-all similarities, sometimes similarities of detail."[30] This is the case, in particular, with concepts representing the traditional subject matters of philosophy: language, thought, number, and, significantly, truth.[31]

I share many of Wittgenstein's views: that philosophy tends to pro-duce "network" rather than "one characteristic" concepts, that its theories face a serious disunity challenge, that its vulnerability to disunity is due to the breadth, complexity, and multidimensionality of the problems it seeks to resolve, and so forth. I also support Witt-genstein's conclusion that philosophers should increase the element of "looking" in their investigations: "Do not say: 'There *must* be some-thing common, or they would not be called ['truths']'—but *look and see* whether there is anything common to all." "[D]o not think, but look!" (*op. cit.*, §66). Wittgenstein, however, goes too far. Like James he concludes that philosophy "may not advance any kind of theory," that it "must do away with all *explanation*," (*op. cit.*, §109)[32] and that it should abandon any aspirations to systematicity. These conclusions, I believe, are *nonsequitur.* It is an open question how much disunity there is in various branches of philosophy; whether this disunity rules out the existence of structure, hence of theory and explanation; and how resourceful philosophers will be in facing this disunity.[33] The tensions between unity and plurality, generality and particularity, ab-straction and attention to detail challenge philosophy but need not stifle it. In fact, they create a fertile ground for theory construction, since what is it to construct a theory but to systematically connect elements that, prior to the construction, are disparate, varied, disor-derly, and disconnected? Just as important, there is no real conflict between looking and thinking. Much of thinking is looking, and in many fields (for example, meta-logic) looking is abstract (for example, looking at a proof system to see whether it is complete). Philosophers ought to increase the element of "looking" in their methodology: carefully examine the objects of their inquiry, be open-minded and nondogmatic, aim at correctness, provide justification, be mindful of

[30] *Philosophical Investigations,* 3rd edition (New York: Macmillan, 1953), §66.

[31] See Juliet Floyd, "On Saying What You Really Want to Say: Wittgenstein, Gödel, and the Trisection of the Angle," in Jaakko Hintikka, ed., *Essays on the Development of the Foundations of Mathematics* (Boston: Kluwer, 1995), pp. 373–425.

[32] See also §126: "Philosophy simply puts everything before us, and neither explains nor deduces anything."

[33] This point was also made by G.P. Baker and P.M.S. Hacker, *Wittgenstein: Under-standing and Meaning* (New York: Blackwell, 1980), p. 327.

counter-evidence, and so forth. But this does not conflict with theory and explanation.

The idea that truth might be based on multiple principles suggests a *moderate pluralism* with respect to truth. The idea is that the theory of truth may profitably be constructed as a *family* of theories, rather than a single theory. Each theory in the family would investigate some area, aspect, or factor of truth, and together these theories would produce (in the ideal limit) a comprehensive account of truth. This pluralism is moderate since, on the one hand, it does not rule out the possibility that a single, exhaustive, and substantive theory of truth can, in principle, be constructed; on the other hand, it holds that such a theory (though desirable) is not a *sine qua non* for a thorough and genuine (that is, substantive) understanding of truth.

Moderate pluralism has recently been advocated by a number of philosophers, for example, Wright and Lynch.[34] Wright, like me, argues that universal principles might not exhaust the topic of truth and if they do not, they may be complemented by other, more specific, principles. But for Wright this means that different fields of discourse (physics, mathematics, ethics, the comic, and so forth) might be governed by altogether different types of truth, say, physical discourse by correspondence truth and mathematical discourse by coherence truth. This is a rather radical division, and it is important to note that pluralism may come in more moderate versions. First, the plurality of truth may lie within the bounds of a single type of truth, say, correspondence. In that case, truth in all areas of discourse would be based on correspondence, but the principles underlying correspondence in physics would differ from those underlying correspondence in, say, mathematics. (Later on, I will argue that truth is in fact based on correspondence, and the potential multiplicity of principles of truth is indeed a multiplicity of correspondence principles). Second, the plurality of truth need not center on "fields" of truth; it might center on "factors" of truth. The point is that truth might be based on a multiplicity of factors, but the same factor may operate in diverse fields of truth. Thus consider the "moral" sentence 'All humans are good', and the "biological" sentence 'All humans are two-legged'.

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[34] Other contemporary philosophers who consider pluralism with respect to truth (or cognate subject matters) are Davidson, Dummett, Resnik, Devitt, and Putnam, to name but a few. See Davidson, "Reality without Reference," *Dialectica*, XXXI (1977): 247–53; Dummett, "Realism," in *Truth and Other Enigmas* (Cambridge: Harvard, 1978), pp. 145–65; Michael Resnik, "Immanent Truth," *Mind*, XCIX (1990): 405–24; Devitt; and Putnam, "Sense, Nonsense, and the Senses: An Inquiry into the Powers of the Human Mind," this JOURNAL, XCI, 9 (September 1994): 445–517.

The truth values of these sentences are determined by (at least) three factors—the logical factor (which is reflected in the satisfaction conditions of the universal quantifier and the conditional), the biological or physical factor (which is reflected in the satisfaction conditions of 'is human' and 'is two-legged'), and the moral factor (which is reflected in the satisfaction conditions of 'is (morally) good'). Two of these factors are relevant to the truth value of both the moral and the biological sentence, and only one distinguishes between them. A pluralism based on factors of truth is finer and more nuanced than one based on fields of truth, yet it recognizes (and can account for) differences among truths in different areas of discourse.

Two objections to pluralist conceptions of truth naturally arise:

(1) If truth is based on multiple principles, in what sense are these principles principles of the same thing, namely, truth?

(2) If two statements are governed by different types of truth (or their truth is determined by different factors) how can logical inference transmit truth from one to the other? For example, how can a comical conclusion follow logically from a physical premise (or from a set of premises which essentially contains a physical premise)?[35]

Solutions to both problems will be offered in section II.

II. THE UNITY OF TRUTH

II.A. Unity Challenge. The unity challenge is the challenge of finding as significant, as comprehensive, as informative, and as enlightening unities as possible. Unity, as many philosophers have pointed out, is a condition as well as a goal of knowledge. One aspect of unity, namely, its contribution to the explanatory power of theories (a major mark of substantive theories), is especially relevant to the present inquiry. The connection between unity and explanation has been emphasized by several philosophers of science (Carl Hempel, Michael Friedman, Philip Kitcher, and others[36]), and much of what they say

[35] See, for example, Christine Tappolet, "Mixed Inferences: A Problem for Pluralism about Truth Predicates," *Analysis*, LVII (1997): 209–10, and "Truth Pluralism and Many-Valued Logics: A Reply to Beall," *Philosophical Quarterly*, L (2000): 382–85. A similar question was raised by Cora Diamond ("Unfolding Truth and Reading Wittgenstein," manuscript, 1999) with respect to the view that truth is relative to language games.

[36] Hempel, *Aspects of Scientific Explanation* (New York: Free Press, 1965), and *Philosophy of Natural Science* (Englewood Cliffs, NJ: Prentice Hall, 1966); Friedman, "Explanation and Scientific Understanding," this JOURNAL, LXXI, 1 (January 17, 1974): 5–19; and Kitcher, "Explanatory Unification," *Philosophy of Science*, XLVIII (1981): 507–31, and "Explanatory Unification and the Causal Structure of the World," in Kitcher and Wesley Salmon, eds., *Scientific Explanation* (Minneapolis: Minnesota UP, 1989), pp. 410–505.

about the role, forms, and problems of unity applies to philosophy as well: philosophical unification, like scientific unification, may be local or global (unification of disparate elements of a single philosophical field, unification of hitherto distinct philosophical fields, unification of all fields of philosophy, and unification of philosophy with other fields of knowledge). It may center on elements of different kinds: laws and principles, theories, arguments, concepts, methods of inquiry, justification procedures, and so forth. Its goals, like those of scientific unification, may vary: decreasing the overall number of tenets and principles, creating reliable styles (patterns) of argumentation, harmoniously integrating disparate elements, and so forth. Philosophical unification may be stricter or looser: reduction versus supervenience, supervenience versus (mere) integration, hierarchical integration versus holistic integration, and so forth. Among the reductionist projects in philosophy are idealism, materialism, physicalism, logicism, the *Aufbau* project, the "linguistic turn," and extreme naturalism; all major philosophical systems and movements—rationalism, empiricism, transcendental idealism, moderate naturalism, and so on—aim at harmonious integration of some issues, principles, problems, and/or methods.

Two well-known pitfalls of scientific unification are *spurious* unification and *exclusionary* unification. Spurious unification trivially reduces multiple laws to fewer laws without gain in understanding. One example (due to Hempel and Paul Oppenheim[37]) is conjunction: unifying *A* and *B* by constructing their conjunction, *A&B*. In the field of truth, deflationists often define truth by an infinite list, or an infinite conjunction, of T-sentences (instances of the disquotational schema). Such a definition arguably provides a spurious unification of diverse truth conditions. Field's criticism of Tarski's theory is also one of spurious unification, directed at Tarski's list-like specification of the truth conditions of atomic sentences.

Exclusionary unification is a flaw in attitude: to think that the success of, say, string theory would leave no worthwhile scientific questions unanswered, or would rule out the usefulness of all other unifiers, is to yield to this pitfall. Disquotationalism arguably suffers from this flaw as well. It is not uncommon for a disquotationalist to say that *all* there is to truth is disquotation, meaning *all* worthwhile philosophical questions about truth are answerable by the disquotational schema, and the *only* genuine unifier of truth is this schema.

The connection between unity and explanation in science has been

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[37] "Studies in the Logic of Explanation," *Philosophy of Science*, xv (1948): 98–115.

recently challenged by Margaret Morrison.[38] Morrison argues that the highest degree of unification is achieved by structural explanations, but the best scientific explanations are causal rather than structural. I will not get into the issue of structural versus causal explanation here. The claims that structural explanations are not the only unifying explanations, that different kinds of explanation are unifying in different ways, and that the most general explanations do not automatically impart the greatest degree of understanding, I find congenial. But the implicit suggestion that science admits only one type of effective explanation (namely, causal explanation), and the sweeping declaration that "general principles fail to be explanatory in any substantive sense" (*ibid.*, p. 33), I regard as unfounded. The latter, in fact, is refuted by Morrison herself, since many of her causal principles are in fact highly general. The search for a substantive theory, as I understand it, is first and foremost a search for explanatory unifiers, on various levels of generality.

The view that in spite of its diversity truth can be unified by general principles is supported by Wright.[39] Wright proposes a series of universal principles of truth, including:

(P1) To assert is to present as true.
(P2) Any truth-apt content has a significant negation which is likewise truth apt.
(P3) To be true is to correspond to the facts.
(P4) A statement may be justified without being true, and vice versa.[40]

My own conception of the universal principles differs from Wright's in one respect. While Wright regards the universal principles as "platitudes," and as such as minimalistic, that is, deflationist, I see no reason why the universal principles could not be substantive (informative, explanatory, and so forth). The key to a balance between unity and diversity is, in my view, not platitudiness (with its implication of triviality), but *partiality*. The universal principles are partial in the sense of not exhausting the topic of truth, that is, leaving room for other principles, on various levels of generality.[41] Below I will propose two

[38] *Unifying Scientific Theories* (New York: Cambridge, 2000).
[39] *Truth and Objectivity*, and "Truth: A Traditional Debate Reviewed."
[40] *Truth and Objectivity*, p. 34 (almost verbatim).
[41] It should be noted that Wright's claim that the unifying principles are minimal is made in a particular context, namely that of showing that truth aptness does not carry a commitment to a full-fledged realism. Construing the unifying principles as minimalistic is one way of showing this. It should also be noted that Wright does not rule out the possibility of substantive unifying principles. Thus he says, concerning the assertibility platitude: "On reflection,...[i]t is not necessary to insist that there is *no* suitable notion of deep assertoric content. It suffices that there is, at any rate, at least a more superficial one, carried by surface syntactic features; and that a minimal

substantive and universal principles of truth: *Immanence* and *Logicality*. The former is related to Wright's (P1) and (P3), the latter is somewhat related to his (P2).

II.B. Substantive Unifiers of Truth. 1. Two types of universal and substantive unifiers. Consider a broad and multidimensional concept, *C*, that (due to its breadth and multidimensionality) cannot be fully captured by either a single definition or a necessary-and-sufficient condition. This situation leaves open at least two possibilities for (substantive) universal unifiers of *C*: (i) a "core" unifier—a unifier that traces the roots of *C* to some general principle(s) of human thought and/or the world (without purporting to exhaust *C*), and (ii) a "specialized" unifier—a unifier centering on a particular factor of *C* (one among many) that, due to its special features, applies to all instances of *C* (or to many instances of *C* in every area to which *C* applies). Below I will delineate two universal and substantive unifiers of truth: a core unifier, *Immanence*, described by the "Immanence Thesis," and a specialized unifier, *Logicality*, described by the "Logicality Thesis."

2. Immanence Thesis. The Immanence Thesis (upper-case 'I') traces the roots of our concept of truth to three basic principles of human thought: *immanence* (lower-case 'i'), *transcendence*, and *normativity*.

A. Immanence. The immanence principle says that one basic mode of human thought is the *immanent* mode. By 'immanence' I understand something akin to, but more general than, W.V. Quine's notion of immanence.[42] Quine says that to speak immanently is to speak from within a theory, where speaking from within a theory is speaking literally and assertively, that is, declaring that a certain object or *n*-tuple of objects (mentioned in a sentence) possesses a certain property (also mentioned in it), or more generally that things are (literally) thus and so. For me, an immanent thought is not necessarily assertive or literal. A thought is immanent if it attributes some property to some object(s) or says (assertively or unassertively) that things are one way or another. In other words, any thought attachable to Frege's content stroke is immanent in my sense.

The Immanence Thesis says that truth is immanent in three ways: (i) truth is a property of immanent thoughts, (ii) the question of truth arises for all immanent thoughts, and (iii) truth statements—that is, statements of the form '*X* is true/false' (or 'It is true/false that *X*')—are immanent. Thus: (i) If truth is a property of *X*, *X* is a thought

truth predicate is definable on any surface-assertoric discourse"—*Truth and Objectivity*, p. 29.

[42] "Ontological Relativity," in *Ontological Relativity and Other Essays* (New York: Columbia, 1969), pp. 26–68.

that attributes some property to some object, or says how things are. ('Snow is white', for example, of which truth is a property, is a thought—a sentence—and it attributes some property (the property of being white) to some object (the stuff snow).) (ii) If X is an immanent thought, the question of truth, that is, the question 'Is X true?', arises with respect to X. (The question 'Is it true?' arises with respect to 'Snow is white', 'Coal is green', and so forth.) (iii) If X is a truth statement (for example, the statement '"Snow is white" is true'), then X attributes some property (namely, the property of being true) to some object (in our example, the sentence 'Snow is white').

The range of immanent thoughts is vast and diverse: immanent thoughts may take the form of a sentence or a theory, they may be realistic or fictional, contingent or law-like, directed at objects and properties of one kind or another (physical, mathematical, philosophical, moral), syntactically simple or syntactically complex (logical compounds, modal compounds, subjunctive conditionals), and so on. The vastness, diversity, and inner complexity of the immanent domain partly explain the breadth, complexity, and diversity of our concept of truth.

B. Transcendence. The principle of transcendence is a generalization of Tarski's principle of meta-linguistic predication. This principle says that a second basic mode of human thought is the transcendent mode: we transcend a given thought, or domain of thoughts, in order to *reflect* upon it. "Transcendence" has fallen into disrepute lately. To say that truth is transcendent is (so it is claimed) tantamount to saying that we have a "God's eye view" on the world, that we have access to "things in themselves," and so forth. *Transcendence, as I use this term here, has neither of these connotations.* What I mean by 'transcending' is casting a reflective look at a thought, or at a region of thought, from a standpoint external to it, yet within the domain of (human) thought. Transcendence does not rule out immanence. On the contrary, most transcendent thoughts are immanent: they attribute properties to thoughts, draw relations between thoughts, say this is how things are with respect to thoughts.[43] The Immanence Thesis says that truth is a transcendent property of thoughts and that truth statements are (immanent) transcendent statements.

C. Normativity. The principle of normativity says that a third basic mode of human thought is the normative mode, a mode closely

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[43] For an earlier articulation of the notion of immanent transcendence, see Sher, "Is There a Place for Philosophy in Quine's Theory?" this JOURNAL, XCVI, 10 (October 1999): 491–524, p. 523.

related to the human proclivity for critical reflection. This is how Christine Korsgaard (who studies normativity in the moral domain, but draws analogies to other domains as well) explains it:

> Normative concepts exist because human beings have normative prob-lems. And we have normative problems because we are self-conscious rational animals, capable of reflection about what we ought to believe and do. That is why the normative question can be raised in the first place: because even when we are inclined to believe that something is right and to some extent feel ourselves moved to do it we can still *always* ask: But is this really true? And must I really do this?... It is...because we are normative animals who can question our experience, that normative concepts exists.... [I]t is always possible for us to call our beliefs and motives into question.[44]

In the present case, it is our disposition to question whether things are as our thoughts say they are, that leads to the concept of truth. The critical question is: 'Is it so as a given thought says it is?' and truth is a *standard* for a positive answer to this question. The question 'Is it so?' is an especially broad and basic question: it applies to any immanent thought, and is included in other critical questions (for example, critical questions concerning knowledge). The Immanence Thesis says that the concept of truth is a normative concept, and its breadth is associated with the universality of the critical question 'Is it so?' in the (vast) domain of immanent thought.

D. Immanence Thesis. Truth, according to the Immanence Thesis, lies at the juncture of three basic principles of human thought: imma-nence, transcendence, and normativity. Given an immanent thought, t, the critical, transcendent question 'Is it so as t says it is?' arises with respect to t, and truth is a standard for a positive answer to this question, a standard for *it being so as t says it is*: object o has the property P, objects $o_1,..., o_n$ stand in the relation R, and so forth. Truth, of course, is not the only standard for immanent thoughts; other standards (associated with other critical questions) include coherence, justifica-tion, empirical verification, explanatory value, utility, and so forth. But the critical question 'Is it so?' is one of the more basic questions of human thought, and truth, therefore, is a fundamental standard of thought. A theory of truth explains this standard, specifies its principles, and works out its connections to other standards of hu-man thought.

In developing a theory of truth it is important to recognize that the domain of immanent thought is an ever expanding, ever changing

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[44] *The Sources of Normativity* (New York: Cambridge, 1996), pp. 46–49.

domain. The dynamic nature of this domain is connected to our tendency to create new concepts, acquire new interests, develop new perspectives, raise new problems, revise our concepts and theories, devise new cognitive tools, and so on. One task of the theory of truth is to study how changes in the domain of immanent thought affect our concept of truth. Other tasks are to determine whether the concept of truth actually applies to a given domain of thought, how it applies to it (for example, directly or indirectly), and so forth. Expressivists, for example, argue that truth does not apply to ethics; Russell argues that truth applies to sentences containing definite descriptions indirectly, through sentences that do not contain such descriptions; physicalists argue that truth conditions for any statements must be reformulated in physicalistic terms; and so on. Much more remains to be said about the Immanence of truth and the three principles underlying it, but the main idea should be clear: truth is a transcendent standard, or a family of standards, for immanent thoughts—a standard for a positive answer to the critical question 'Is it so?' directed at such thoughts.

The Immanence Thesis is rich in consequences. Two of its consequences concern (a) correspondence, and (b) skepticism and relativism with respect to truth.

(a) *Correspondence*. Truth, according to the Immanence Thesis, is a standard for a positive answer to the question 'Is it so, as a given immanent thought says it is?' Given the content of this question, a positive answer carries us outside the given thought into things external to it, things it is about—"the world" in a broad sense of the word. The question is whether the objects the thought is about have the properties it attributes to them or, more generally, whether the world is as it says it is. This, of course, is a correspondence question, and in this way the Immanence Thesis implies a correspondence view of truth—the view that for an immanent thought to be true there must be some positive correlation between what it says (literally or nonliterally) and how things are. But while the Immanence Thesis affirms correspondence, the view it affirms does not suffer from the rigidity, simplism, and dogmatism that correspondence views are often charged with. The reason is that, as we have seen above, the thesis is sensitive to expansions, changes, and variations in the domain of thought, both internal and transcendent, and this sensitivity protects it from commitment to an overly simplistic, one-dimensional view of correspondence.

Correspondence, from the standpoint of the Immanence Thesis, is a *research program* rather than a *dogma*. Among the questions raised by this program are: What correspondence principles govern truth in logic? Mathematics? Physics? Psychology? (Or what are the logical,

mathematical, physical, and psychological factors of correspondence?) What are their similarities and differences? Is there correspondence in ethics? What kind of correspondence? (Are we misled by the surface structure of ethical thoughts?) All these are open questions, and a judicious response to them requires an understanding not just of correspondence per se, but of the specific field of knowledge in which it is realized (to which its various factors belong). Below I will offer an account, or rather an outline of an account, of one type (aspect, factor) of correspondence, the *logical* one, based on prior investigations of logic.[45]

(b) *Skepticism with respect to truth.* Skepticism is often divided into two kinds: *local skepticism* and *global skepticism.* Local skepticism with respect to truth questions the existence of a standard of truth in a specific area; global skepticism questions the existence of a standard of truth in any area. Local skeptical challenges are part and parcel of a critical approach to knowledge; global skepticism is a barrier to knowledge. The Immanence Thesis affirms the legitimacy of skepticism, leaving the success of local skepticism (in particular cases) an open question, and posing counterchallenges to global skepticism.

Skepticism is sanctioned by the same principles that sanction truth itself: immanence, transcendence, and normativity. Given a "truth thought," *t*, that is, a thought that attributes truth/falsity to some thought (or truth aptness to some domain of thought), the critical transcendent question 'Is it so?' arises with respect to *t*, and one possible answer to this question is the skeptical answer: there is no way to determine whether things are as *t* says they are; there is no standard of truth for *t*.

Local skepticism. Consider the following local skeptical statements, expressing three degrees of skepticism with respect to *moral* truth:[46]

(1) Moral statements have a standard of truth, but this standard is a standard of psychological truth, not of *sui generis* moral truth. Explanation: although the surface structure of moral statements is '*X* has moral property *Y*', their deep structure is 'Speaker *Z* has

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[45] See Sher, *The Bounds of Logic* (Cambridge: MIT, 1991); "Semantics and Logic," in Shalom Lappin, ed., *Handbook of Contemporary Semantic Theory* (Cambridge: Blackwell, 1996), pp. 509–35; "Did Tarski Commit 'Tarski's Fallacy'?" *Journal of Symbolic Logic,* LXI (1996): 653–86; "Is Logic a Theory of the Obvious?" *European Review of Philosophy,* IV (1999): 207–38; "The Formal-structural View of Logical Consequence," *Philosophical Review,* CX (2001): 242–61; and "Logical Consequence: An Epistemic Outlook," *Monist,* LXXXV (2002): 555–79.

[46] These statements are loosely based on discussions of moral expressivism in contemporary literature—see, for example, Allan Gibbard, *Wise Choices, Apt Feelings* (Cambridge: Harvard, 1990).

attitude *Y** toward *X*', where '*Y**' stands for a psychological attitude, mental state, or feeling correlated with *Y* (for example, '*Y*' stands for 'good' and '*Y**' for 'approbation'). The standard by which the truth of moral statements is measured is, therefore, a standard of psychological truth.

(2) Moral statements have a standard of truth (either a standard of *sui generis* moral truth or a standard of some other kind of truth), but this standard is not their primary standard of success. Explanation: while moral statements do attribute properties to objects (actions, intentions, and so forth), their main goal is to express, support, or arouse feelings or attitudes. Their primary success standard is therefore a standard of persuasiveness or expressivity, not a standard of truth.

(3) Moral statements have no standard of truth whatsoever, either primary or secondary. Explanation: moral statements are not immanent. They do not attribute any properties to any objects or purport to say how things are. They *merely* express attitudes or feelings, and expressions of feelings are not subject to a standard of truth.

The Immanence Thesis is compatible with all three degrees of moral skepticism, leaving their correctness an open question. That is, from the point of view of the Immanence Thesis it is an open question whether moral statements are literal, whether truth is their main standard of success, and whether they are immanent.

Global skepticism. Global skepticism says that there is no standard of truth for any thought whatsoever. The Immanence Thesis challenges the global skeptic to defend his view by showing either (1) that there are no immanent thoughts, or (2) that the critical transcendent question 'Is it so as *t* says it is?' does not apply to any immanent thought *t*, or (3) that there are no standards for a positive answer to this question with respect to any *t*. These challenges are not easy to meet. All of them involve negative existential claims which, especially in philosophy, are notoriously difficult to establish. Furthermore, each of them poses a special difficulty: to meet (1) the skeptic has to show that the skeptical statement itself is not immanent, and do so without using any other immanent statement—a self-defeating task according to many philosophers, for example, Thomas Nagel.[47] To meet (2) the skeptic has to explain how the question 'Is it so?' cannot apply to a thought that says that things *are* thus and so—something that goes against both grammar and semantics. And to meet (3) the skeptic has to establish not just that a certain truth standard does not apply to any thought, but that no truth standard at all (either one that has

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[47] *The Last Word* (New York: Oxford, 1997).

already been considered or one that might some day be considered) does—a formidable task indeed.

While the Immanence Thesis answers the first critical question posed at the end of section I—What makes the (potentially) diverse principles of truth principles of the same thing, namely truth?—in a traditional manner, that is, by pointing to a *core* principle underlying all truths, the Logicality Thesis offers a nontraditional answer to this question. The Logicality Thesis identifies a *highly specialized* factor of truth and shows that it is due to its specialty that it is universally applicable in the domain of truth. (Its specialty renders it so abstract that it overlooks all, or most, differences between fields of truth.)

3. Logicality Thesis. The Logicality Thesis says that one central factor of truth is *the logical factor*, a factor having to do with the role played by *logical structure* in rendering sentences true (false). The logical factor applies to truths and falsehoods in all areas of discourse and all fields of knowledge; at the same time, it is just one among a whole array of factors of truth, and its contribution to truth is specific and sharply delimited. The logical factor is, thus, an example of a factor of truth that, while substantive and universal, is partial and highly specialized—an example, in fact, of a factor whose substantiveness and universality are closely related to its partiality and specialization.

A comprehensive discussion of the logical factor in truth is beyond the scope of the present article.[48] Briefly, however, and without going into detail, my conception of the logical factor is the following:

The distinctive characteristic of the logical factor is its *formality*, which is most clearly expressed in the semantics of the logical constants. Logical constants are *formal* in the sense of *not distinguishing between objects (properties, relations) that are structurally the same*, or more precisely, not distinguishing between *argument structures* (see below) that are structurally the same. To see what this amounts to, consider three logical constants: identity ('='), the universal quantifier ('∀'), and conjunction ('&'). An argument structure for '=' is a pair, $<A, <b,c>>$, where A is a universe (that is, a nonempty set of individuals, either actual or possible) and b,c are individuals in A; an argument structure for '∀' is a pair, $<A,B>$, where A is as above, and B is a subset of A; and an argument structure for '&' is a pair $<A, <X,Y>>$, where either A is as above and X,Y are subsets of A, or A is a universe of propositions (with a truth value) and X,Y are members of A. (The former is the case when '&' functions as an operator on predicates

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[48] For further discussion, see Sher, "On the Possibility of a Substantive Theory of Truth."

(open formulas); the latter is the case when '&' functions as an opera-
tor on propositions.) Let us call an argument structure whose universe
is a set of individuals 'an objectual argument structure' and an argu-
ment structure whose universe is a set of propositions 'a propositional
argument structure'. Say that (i) two objectual argument structures
for a given constant are *structurally the same* if and only if they are
isomorphic, that is, if and only if each is obtainable from the other
by a 1-1 replacement of the members of their universes[49]; (ii) two
propositional argument structures for a given constant are structurally
the same if and only if they are "*T-isomorphic*," that is, their correspond-
ing elements have the same truth values.[50] Now, '=' does not distin-
guish between isomorphic argument structures in the sense that if
$<A_1,<b_1,c_1>>$ and $<A_2,<b_2,c_2>>$ are isomorphic, $<b_1,c_1>$ satisfies '='
in A_1 if and only if $<b_2,c_2>$ satisfies it in A_2. '∀' does not distinguish
between isomorphic argument structures in the sense that if $<A_1,B_1>$
and $<A_2,B_2>$ are isomorphic, B_1 satisfies '∀' in A_1 if and only if B_2
satisfies it in A_2. And similarly for '&'. Since formality is preserved
under combinations of logical constants, logical structures in general
are formal.

The formality of the logical constants explains their universality,
that is, their applicability in any field of discourse. If a logical constant,
C, applies to an argument structure $<A,\alpha>$, where A is a universe of
objects/propositions of any type (physical, psychological, cultural,
mathematical, and so forth), then it applies to any isomorphic image,
$<B,\beta>$, of $<A,\alpha>$, no matter what type the objects/propositions in
B are. That is, if C applies to one type of object/proposition, it applies
to all types of object/proposition. Moreover, the satisfaction condi-
tions of C do not change from one type of object/proposition to
another; that is, if $<A,\alpha>$ is isomorphic to $<B,\beta>$, the conditions
under which α satisfies C in A are exactly the same as those under
which β satisfies it in B. In short, C abstracts from all (nonformal)
differences between domains of objects/propositions.

Now, generally the logical factor does not determine, all by itself,
the truth value of sentences, but it combines with other factors to

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[49] Formally, the structures $<A,\alpha>$ and $<B,\beta>$ are isomorphic if and only if there
is a bijection f from A onto B such that β is the image of α under f. For the origins
of this criterion, see *The Bounds of Logic*, pp. 61–65.

[50] Formally, the propositional structures $<A,\alpha>$ and $<B,\beta>$ are T-isomorphic if
and only if β is the image of α under some truth-preserving bijection f from A onto
B (that is, a bijection f that assigns to every a in A a proposition b in B with the same
truth value).

determine their truth value. For example, the truth value of 'Wet cats are funny',[51] formulated (in order to display its logical structure) as:

(1) $(\forall x)[(\text{Wet } x \text{ \& Cat } x) \supset \text{Funny } x]$,

is determined by three factors—the physical factor, P, reflected in the satisfaction conditions of 'Wet' and 'Cat', the comical factor, C, reflected in the satisfaction conditions of 'Funny', and the logical factor, L, reflected in the satisfaction conditions of '$\forall$', '&', and '$\supset$'.[52]

While the L-factor plays only a partial role in determining the truth value of (1), it determines, all by itself, the truth value of

(2) $(\forall x)(\text{Cat } x \vee \sim\text{Cat } x)$.

And in general, the L-factor is the only relevant factor in the truth (falsity) of logical truths (falsehoods). When we turn to logical inferences, the L-factor is the only relevant factor for their *validity* but not for their *soundness*. Consider, for example, the logically valid and, let us assume, sound inference,

(I) (1) $(\forall x)[(\text{Wet } x \text{ \& Cat } x) \supset \text{Funny } x]$
     (3) $(\exists x)(\text{Wet } x \text{ \& Cat } x)$
     ———————————————————————————
     (4) $(\exists x)(\text{Cat } x \text{ \& Funny } x)$.

The validity of (I) is guaranteed by the L-factor alone, but the soundness of (I) is guaranteed by the L-factor *together with* the P- and C-factors.

We can now answer the second critical question raised at the end in section I: How can logical inference transmit truth across fields of discourse? For example: How can logical inference transmit truth from the physical domain to the domain of the comic?

The answer is: the logical factor plays a role in determining the truth value of sentences in all areas of discourse, including the physical and the comical, and this common role enables it to transmit truth from sentences in one area to sentences in another. More specifically:

(a) The truth value of sentences is generally determined by a multiplicity of factors, including factors that are not distinctive of the field of discourse to which these sentences belong.

(b) Due to its strong invariance property the logical factor can operate

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[51] Tappolet, "Mixed Inferences: A Problem for Pluralism about Truth Predicates," p. 209.

[52] I use 'satisfaction' here as a generic term for 'application' and 'fulfilment', which apply to predicates, including quantifiers (2nd-level predicates) and functions, respectively.

in all areas of discourse, that is, combine with all sorts of other factors in determining the truth conditions of sentences.

(c) The logical factor sets formal conditions on the truth of logically-structured sentences, and these conditions interact with other conditions, set by other factors, in determining the truth conditions of these sentences. For example, (3) is true if and only if the formal condition of nonemptiness is satisfied by the formal structure of intersection, applied to two collections of objects satisfying the physical conditions of being a cat and being wet, respectively.

(d) Due to connections between the formal elements of the truth conditions of sentences, the satisfaction of one constellation of formal conditions—that applicable to the premises of a given argument—may guarantee the satisfaction of another constellation of formal conditions—that applicable to the conclusion of this argument and, in so doing, tie the truth of the premises to that of the conclusion.

(e) In the case of (I), the logical factor guarantees that for any predicates, Φ, Ψ, Ω, and any factors, X, Y, Z, dominant in their satisfaction, the occurrence of the formal patterns

All objects which X-satisfy Φ and Y-satisfy Ψ also Z-satisfy Ω

and

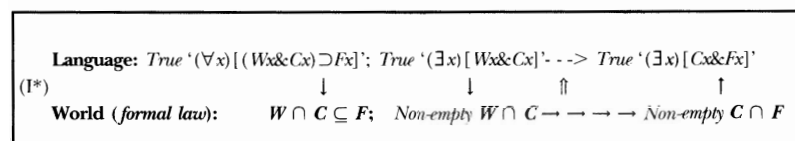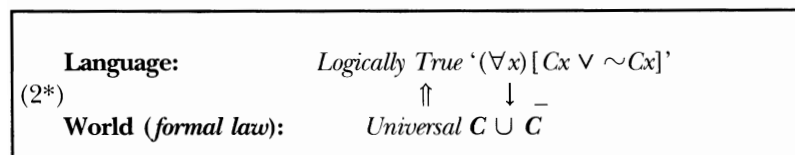Some object X-satisfies Φ and Y-satisfies Ψ

is always accompanied by occurrence of the formal pattern

Some object Y-satisfies Ψ and Z-satisfies Ω.

And it is this guarantee that enables us to infer the truth of the comic (yet logically structured) sentence (4) from the truth of the comic and physical (yet also logically structured) sentences (1) and (3).

Logical Correspondence. The Immanence Thesis implies that truth, in general, is based on correspondence. In what sense is logical truth (and logical consequence) based on correspondence? Our analysis suggests the following explanation: truth has to do with how things are in the world, and things in the world have formal properties in addition to physical, comical, and other kinds of properties. The two main principles of logical correspondence are: (i) Logical constants are denoting constants: they denote formal objects (properties, relations, functions) in the sense of formality explained above. (For example, '$=$' denotes the identity relation in any universe, '$\exists$' denotes the second level property of nonemptiness (of 1st-level properties) in any universe, and '$\&$', applied to predicates, denotes the operation of intersection, or more generally Cartesian product, in any universe.) (ii) Logical truth and consequence are based on formal laws governing and connecting structures of objects, the structures of objects (proper-

ties, relations) delineated by the sentences involved.[53] We can represent the workings of logical correspondence in the logical truth (2) and the logical inference (I) by the following diagrams:

$$
\begin{array}{ll}
\textbf{Language:} & \textit{Logically True} \text{ '}(\forall x)[Cx \vee \sim\!Cx]\text{'} \\
(2^*) & \qquad\qquad \Uparrow \qquad \downarrow_{\;\_} \\
\textbf{World (\textit{formal law}):} & \textit{Universal } C \cup \overline{C}
\end{array}
$$

$$
\begin{array}{l}
\textbf{Language:} \; \textit{True} \text{ '}(\forall x)[(Wx\&Cx)\supset Fx]\text{'}; \quad \textit{True} \text{ '}(\exists x)[Wx\&Cx]\text{'}\text{-}\,\text{-}\text{-}> \;\textit{True} \text{ '}(\exists x)[Cx\&Fx]\text{'} \\
(I^*) \qquad\qquad\quad \downarrow \qquad\qquad\quad \downarrow \qquad\quad \Uparrow \qquad\qquad \uparrow \\
\textbf{World (\textit{formal law}):} \quad W \cap C \subseteq F; \quad \textit{Non-empty } W \cap C \to\to\to\to \textit{Non-empty } C \cap F
\end{array}
$$

The truth of (2) is based on correspondence in the following way: (2) is true because (a) it attributes the property of being universal to the union of the set of cats and its complement (in the given universe of discourse), and (b) the union of these sets is in fact universal (in that universe). But (2) is not simply true, it is logically true. And its logical truth is due to the fact that the correspondence responsible for its truth is of a special kind, connecting the *logical structure* of (2) with a *law* governing the *formal* behavior of the properties denoted by its predicates.

The transmission of truth in (I)—assuming the premises to be true—is based on correspondence in the following way:

(A) Materially, the transmission of truth is due to the fact that: (a) the truth of (1) guarantees that the intersection of the set of cats and the set of wet things is (in fact) included in the set of funny things; (b) the truth of (3) guarantees that the intersection of the set of cats and the set of wet things is (in fact) not empty; (c) it is a regularity (that holds in the actual world) that whenever a nonempty intersection of a set of cats and a set of wet things is included in a set of funny things, the intersection of the set of cats and the set of funny things is not empty; (d) the nonemptiness of the intersection of the set of cats and the set of funny things (materially) guarantees the truth of (4).

(B) But the transmission of truth in (I) is not just materially, but

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[53] As I use the term 'law' here, laws contrast with accidental generalizations: a biological law holds in all biologically-possible structures of objects, a physical law holds in all physically-possible structures of objects,..., and a formal law holds in all formally-possible structures of objects. Formal laws apply to all structures of objects, regardless of their nonformal properties.

also logically guaranteed. And its logical guarantee is due to the fact that the regularity mentioned in (c) is not accidental, but an instance of a *formal law*: the law that whenever a nonempty intersection of two sets is included in a third set, the intersection of the second and third sets is not empty.

It is in this way that the truth of (2) and the validity of (I) are based on correspondence, not physical or comical correspondence, but logical, or formal, correspondence: a systematic connection between the logical structure of linguistic entities on the one hand and patterns of objects-possessing-properties-and-standing-in-relations that constitute formal laws on the other.[54]

III. CONCLUSION

In this article, I have examined the prospects of a substantive theory of truth and some of its challenges. Those who deny the feasibility of such a theory tend to construe its problems as relatively narrow, that is, as problems specific to the theory of truth (or at least to philosophy). My countersuggestion is that the problems facing the theory of truth are, in the first place, general methodological problems, problems arising for any theory of a broad, complex, and multifaceted subject matter in any field of knowledge, and that it is important to realize the universality of these problems in order to deal with them effectively.

I have concentrated on two interrelated problems facing the theorist of truth: unity and disunity. The challenge facing the theorist of truth, like that facing the scientist, is finding a fruitful balance between the unity and diversity of his subject matter—truth. That is, the theorist of truth must balance recognition of the multiplicity of principles of truth (the variety of ways truth is realized in different fields of knowledge) with a search for order, common principles, and systematic interconnections. The key to a balanced theory is, I suggested, partiality. We may think of the theory of truth as a family of theories, each investigating one central aspect or factor of truth, and all being connected by a network of unifying principles, on various levels of generality. The theory of truth, on this conception, is not a deflationist theory. Like other theories in other branches of knowledge it aims at a genuine and deep understanding of its subject matter, and this it tries to achieve by renouncing unhelpful preconceptions (for example, that of capturing the whole topic of truth by a single definition or schema) and by committing itself to an open-minded and undogmatic

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[54] For further discussion, see the works mentioned in note 45.

investigation. My approach to a substantive theory of truth involves a new, moderate version of pluralism. This pluralism subsumes all truths under the correspondence principle, but correspondence itself it construes as a network of interconnected (sub-)principles.

Turning to unity, I have emphasized the importance of unity for substantiveness (through explanation) and I distinguished two types of substantive unifiers: "core unifiers" and "specialized unifiers." The first type is exemplified by the Immanence Thesis, the second by the Logicality Thesis. The Immanence Thesis identifies a common source of our concept of truth in a combination of three basic principles of human thought: immanence, transcendence, and normativity. The Logicality Thesis identifies a special unifying factor of truth—the logical factor—a factor that, due to its unique features, partakes in the determination of truth in all areas of discourse regardless of their differences. Together, the Immanence and Logicality theses provide an answer to the two critical questions: (i) What is common to all truths? (ii) How is logical inference across diverse fields of truth possible?

Much work remains, of course, to be done. But I hope the general lessons from science, the idea of a moderate pluralism of correspondence principles, and the steps toward unraveling the substantive unifiers of truth, demonstrate (or make some progress toward demonstrating) the feasibility of a substantive philosophical theory of truth.

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