

Epistemology

Discussion

Reply to Roderick T. Long, “Reference and Necessity: A Rand-Kripke Synthesis” (Fall 2005)

The ‘Grotesque’ Dichotomies Still Unbeautified

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In my book, *Necessary Factual Truth*, I argue for positions on some of the issues discussed by Leonard Peikoff in “The Analytic-Synthetic Dichotomy,” and on a large majority of the points he discusses (both the ones I deal with in my book and the ones I do not deal with there) our stands agree. Those issues concern the necessary-contingent dichotomy, the analytic-synthetic dichotomy, the a priori-a posteriori dichotomy, and related dichotomies, which Rand (1990, 77) would presumably include under the heading of the “grotesque devices” undercutting the cognitive function of concepts. These issues are particularly important philosophic topics. Moreover, they are, I believe, of central importance to Rand’s philosophy, a fact that is sometimes not appreciated. In particular, as I will argue below, it is because of Objectivism’s position on these issues that Rand can do ethics the way she does and Rand’s economics can be largely harmonized with Ludwig von Mises’s economics. Much criticism of her positions and Peikoff’s, and of my position on these issues, results from not seeing the correctness of these positions, which in turn stems largely from not fully understanding them in the first place.

Roderick T. Long’s article shows appreciation of some of what I say, but misunderstands me, and sometimes Peikoff, on several other major points. Let us look at the main ones.

I. Points on Which I Agree with Rand and Peikoff

1. Intensions of Deep Kinds

Long (2005, 217–18) states: “Browne (2001, 191–92) differs from Kripke-Putnam, and arguably from Rand-Peikoff as well, in thinking that in specifying Deep Kinds our semantic intentions mean to pick out *all* the common properties of our paradigm exemplar, and not just the *explanatorily fundamental* ones. I cannot regard this innovation as a happy one. . . . Presumably when the word ‘water’ was first coined, all the samples of water that formed the paradigm shared the property of being located in the same general geographic area as the linguistic community of the coiner(s). Browne’s account would seem to entail that nothing could then count as water unless it too were located in that same region—which is certainly *not* what we mean by water.”

However, Long here misinterprets both my view, and that of Rand-Peikoff as well. Being located in a certain region is a spatiotemporal attribute, and so is not a qualitative attribute, and non-qualitative attributes are not included among the necessary attributes of a kind, its essence or its intension, according to my criterion. As I say in the passage Long refers to (Browne 2001, 192): “. . . when these terms for Deep Kinds are first used and the concepts for them first formed, it is intended that the term apply to all and only those possible things that share the common qualities of the paradigm set—*all* of the members and *all* of the (common) qualities of the paradigm set (providing that they are non-disjunctive qualities and provided that they are necessary to those individuals).” So the attributes must be qualities—qualitative attributes. And I count as qualities all attributes except spatiotemporal positions, irreducible haecceitases (if any such attributes exist; e.g., Bergmann’s bare particulars) and the attributes of mere class membership (for example, Bill Clinton’s attribute of being a member of the class whose members are the Eiffel Tower, Bill Clinton, and Mount Everest) (70). So location would be excluded from the intension of the kind and so would not be a requirement of membership.

Furthermore, Long misinterprets Rand and Peikoff on this matter as well. As the above passage indicates, he implies that in specifying what I call “Deep Kinds” our semantic intentions mean to pick out just the *explanatorily fundamental* properties (attributes) of our paradigm

exemplars. Rand and Peikoff do believe that the attributes that are included in a correct definition are the explanatorily fundamental ones, but they believe that a concept does not mean merely its definition (Rand 1990, 97). Now Long (2005, 217–18) denies that this supports my position: “It is one thing to say that a concept refers to all of the properties common to the members of a class, and quite another to say that class membership is determined by all of the properties common to the original paradigm sample” However, if this were so, then only some of the common properties (attributes) of the members of the paradigm set would determine membership in the class, and since the class in question is a kind and membership in the kind is determined by shared qualities, which qualities are all the ones necessary to the kind, this presumably entails that only some of the common attributes of the paradigms are necessary for membership in the class. Well, I do concede that common attributes which are non-qualitative, disjunctive, or not necessary to the individuals do not count as necessary to the kind, and maybe Peikoff would, but what other common attributes should be considered not necessary, and why? To suppose that some further ones should be excluded reintroduces the kind of dichotomy that Peikoff wants to get rid of: a necessary-contingent dichotomy within kinds. He accepts a necessary-contingent dichotomy (though only as applied to facts, not truths, and he does not like those terms), but he includes only free will choices of individual humans on the contingent side; so he leaves all truths about kinds on the necessary side, as do I.

Moreover, trying to separate the fundamental (necessary) attributes from the other (necessary) attributes is valueless in the current context anyway, because the former entail the latter. So if all of the fundamental attributes are required for membership in the class, all the others are required as well.

Long further misinterprets me when he considers the two cases, described by a member of one of Rand’s epistemology workshops, of two men, one of whom had seen millions of glasses, but all of one type, and the other of whom who had seen only a few dozen glasses, but of many types (217–18). Long thinks that I would say that the two men had different concepts of glass (presumably because they have different paradigm sets), and that “by ‘glass’ the first man can only mean glass of that type.”

I say two things to this. First, the word “glass” is a term from a public language and its meaning—including what the relevant paradigm set is—is assigned by the linguistic community. Of course individuals can misunderstand the community’s meaning (and presumably this is what happened: the first man simply did not understand what his linguistic community—the speakers of English—meant by “glass”), or they can have their own idiolect (individual dialect or language), and in that case they will have different concepts with different extensions, but normally they will correctly use the community’s meaning and so have the same concept. Secondly, I think that glasses are Shallow Kinds, not Deep Kinds, since they are a kind of artifact and, as I argue in my book, such kinds are Shallow Kinds (Browne 2001, 195–96), and so their membership is not picked out by paradigms, anyway.

Yes, as Long (2005, 218) points out, Rand does say that a concept does not include the nonessential variations and she is right to do so, but that does not conflict with anything I have said. Variations obviously cannot be essential or necessary to a kind or even common to the kind members, and necessary attributes must be common attributes. But of course this still leaves open the question of just which are necessary, which we have been discussing, and so her statement does not conflict with the view I have been expressing.

2. Truth By Convention

Long objects to my denial that truths about Shallow Kinds are true merely by convention, as he thinks that I should consider the possibility that convention alone is enough, without contributions from “the world.” He claims that “Browne says little to allay the not unreasonable worry that there might turn out to be simply nothing to determining the meaning of the term ‘bachelor’ over and above determining the rules for the term’s correct usage—in which case there would not be two distinct jobs but only one, and so, it can easily seem, nothing left after all for the world to contribute over and above the role of convention” (220).

Actually, I say quite a bit about this in Chapter XI (Browne 2001, 269–310). My most important point is that because Shallow Kinds are shallow, we know all of their necessary attributes (at least implicitly) once we learn the meaning of the term referring to them

(or, what amounts to the same thing, once we learn the term's Nominal Definition, or once we understand the corresponding concept), and since meanings are the product of convention (or, occasionally, stipulation), many have been misled into thinking that the essences of a Shallow Kind (by which I mean the set of all of its necessary attributes) are the product of convention (or stipulation), from which they often infer that such truths are themselves products of convention.

I will add to this that it may be true in these cases that the world contributes nothing over and above what convention contributes, but only because in learning the convention we already learn some facts about the referents and therefore learn something about the world, even if it is only trivial.

3. Open-Endedness

Long (2005, 216) notes that I try to defend such Shallow Kind concepts, saying “it is in his account of Deep Kinds that Browne is closest to the Rand-Peikoff view, since for Rand (1990, 66) ‘a concept is an “open-end” classification which includes the yet-to-be-discovered characteristics of a given group of existents’ . . . [W]hat Browne has arguably shown, however, is that not *all* concepts must be Deep Kinds; there is nothing inherently illegitimate about formulating Shallow-Kind . . . concepts.”

Long is right but I should point out that I am closer to Rand's view on open-endedness than this comment implies. This is because Rand means two different things by “open-ended.” In some places, as in the above quote, she uses “open-ended” to indicate that a concept included the yet-to-be-discovered attributes (see also Rand 1990, 26–28, as well as Peikoff, in the same book, 98–100). For example, the concept of water included the attribute of having the atomic structure expressed by the formula H_2O , before that structure was discovered. I call open-endedness in this sense “open-bottomedness.” However, other times Rand uses “open-ended” to indicate that a concept can have a potential infinity of referents. For example: “A concept is like an arithmetical sequence of *specifically defined* units, going off in both directions, open at both ends and including all units of that particular kind. For example, the concept ‘man’ includes all men who live at present, who have ever lived or who will ever live” (Rand,

1990, 17–18, emphasis hers; see also 147, 257–58). I call open-endedness in this sense “open-sidedness.” Well, while I would say that only the concepts of Deep Kinds (and of Narrow Classes and individuals) are open-bottomed, I say that the concepts of all kinds, Deep and Shallow, are open-sided. Open-sidedness goes with width (kinds being Wide Classes) whereas open-bottomedness goes with depth.

(Long also attributes to me the view that there is nothing inherently illegitimate about formulating Narrow Class concepts, but I am reluctant to talk of concepts of Narrow Classes, except in the very broad sense of having a thought associated with them, the thought of the members of the class, and that is not a typical concept as most people think of concepts, nor is it anywhere near what Rand would call a “concept.”)

4. Conceptual Claims and Causal Claims

Long refers to a distinction made by Eric Mack. Mack thinks that Rand alternates between “conceptual claims” and “causal claims” in her ethical reasoning. Long believes that my distinction provides a foundation for Mack’s distinction (presumably with “conceptual” claims being ones concerning Shallow Kinds and “causal” claims being ones concerning Deep Kinds), and does so without having to either appeal to a theoretical network, as Mack does, or rely on the analytic-synthetic distinction, which Mack wishes to avoid doing (Long 2005, 216–17).

However, I would not equate the two distinctions, because I would not accept the causal/conceptual distinction at all. And neither would Rand and Peikoff. It is the sort of distinction that all three of us want to get rid of. Rather, I say causal connections are conceptual, as I believe in an entailment theory of causality (Browne 2001, 153–55), and I would say this even if the causal connections involve Deep Kinds. Presumably Rand and Peikoff would agree with me on these points, too, as they believe that identity determines causality.

So I say that there are causal connections involved in Shallow Kinds as well as Deep Kinds, and that there are conceptual connections involved in Deep Kinds as well as Shallow Kinds. For example, Newton’s Axioms are the basis for many causal connections, and, I have argued, they involve Shallow Kinds and conceptual connections. Now let’s look at objections to this argument.

5. Some Objections to My Case for the Necessity of Newton's Axioms

a. Long objects to my interpretation of some of the terms I analyze in my attempt to show the necessity of Newton's Axioms. Specifically, Long maintains that (1) inertia, in a broad sense, is part of the meaning of "body," but being constant is not obviously part of the meaning of "inertia" and (2) an object that could pass through all other objects would not be called a "body," but two objects that could pass through each other yet not pass through any other body surely would be called a "body" (Long 2005, 222).

I deny both of these claims.

However, as Long himself acknowledges (223), I say that whether my interpretations of the meanings of these words are correct or not is not a very important issue, because I believe that I have proved that they are true of any beings that have the attributes to which I believe these terms refer (Browne 2001, 367). My point here is analogous to the point I make in the case of Deep Kinds, that even if it turns out that H_2O is not the referent of "water" in ordinary language, H_2O is still a Deep Kind (188). Nonetheless, I would point out that such beings as those that I have called 'bodies' exist and are typical referents of the term 'bodies.'

Long (2005, 222) points out that Rand condemns "'prescribing the conditions of what something not known to you now has to be' (Rand 1990, 293)." This is to be condemned, under at least some senses of the terms. However, in the cases of the subjects of Newton's Axioms, they are bodies, considered in the most general way, in respect to attributes that we do know something about. If we were dealing with Deep Kind truths it would be true that we would need to be more cautious, because Deep Kinds can have hidden inner structures. But since, I believe, the Axioms are Shallow Kind truths, and the concepts involved are concepts of macroscopic attributes that are typically measurable with the unaided senses (e.g., mass and force), we can justifiably proceed with the same confidence as we proceed with in, say, geometry. And even in the case of Deep Kind truths, as we acquire knowledge of causal connections, we may start predicting effects from causes. In none of these cases are we talking of something wholly unknown, such as the supposed Kantian "thing-in-itself."

b. Long says that “If Browne’s way of arguing for the necessity of Newton’s law is a compliment to Newton, it is one that Newton would not welcome. Newton took himself to be discovering new truths about familiar entities people already knew about and were referring to” (223). This remark makes two points that must be dealt with separately.

First, Long maintains that Newton would not like my method of arguing for his laws because he took himself to be discovering new truths.

Perhaps Long thinks that I deny that Newton discovered new truths, and if he thinks that it is presumably because I regard them as Shallow Kind truths. If he does think this, then he is wrong, in a sense, because of course Newton discovered truths we did not know before—that is, truths we did not *explicitly* know before. I can say this and still say that they are Shallow Kind truths, since, as I argue in the book, not all Shallow Kinds truths are obvious or trivial. Indeed, as I note, even the Logical Positivist A. J. Ayer concedes that such truths (the truths of logic and math, which he calls “tautologies”), which he wrongly thinks are non-factual, nonetheless can be surprising and interesting (Browne 2001, 314–16). For example, consider some of the theorems of geometry about the equalities among angles on opposite sides of a line. However, it is true that such truths must be implied by truths we already knew or could have derived from concepts we already knew, and so I do maintain that we knew them *implicitly*, and this *is* something Newton would presumably deny, in regard to his axioms or the propositions he deduces from them.

Further, if Long means to imply that Newton would not like my treating his Axioms of Motion as necessary truths deducible from concepts, I agree, and do not mistake Newton for an ally on this particular issue. Indeed, I regard Newton as a major contributor to the misunderstandings that led philosophers to postulate the dichotomies that Peikoff and I reject, as I said in my book. Newton, as far as I know, regarded the Axioms as inductive generalizations, and though I have not encountered Newton talking about necessity, I assume that, if asked whether his Axioms are necessary or contingent, he would classify them as contingent. And I think that his friend John Locke would do the same. I believe that Newton and Locke’s treatment of the laws of physics as, in effect, contingent, was one of the three main

steps taken in the direction of Hume's denial of necessary factual truths (coming after Descartes's treatment of necessity in terms of conceivability, which, in effect, denied Deep Kinds and the existence of necessary truths about them, and coming before Hume's treatment of necessary truths as mere relations of ideas, which contracted the alleged range of necessary truths still further and condemned the remainder to be regarded as non-factual). Note, however, that it is possibly a misinterpretation of Locke or Newton, or both, to think that they would have adhered to this classification. However, I will not pursue this matter here.

The second point Long makes is that Newton would not like my method of arguing for his laws because Newton took these laws to be truths about entities which people already knew about and were referring to. However, I did not deny this; indeed, I took pains to argue that the referents of the terms Newton and I both used, such as 'bodies' and 'force,' as we interpreted those terms, were the same as the things referred to by those terms in ordinary language (333–54, 367–69). Long seems to be thinking rather of my discussion of Einstein, about whom I claim that he used some of the terms of physics in a way different from the way Newton, I and ordinary speakers of the language used them. To this matter I turn next.

6. Meaning Change in Einstein and the Commensurability of Theories

Long objects to the way I defend Newton's Axioms of Motion against the charge that Einstein's Relativity Theory has refuted them. Specifically, he objects to my claim that Einstein, in arguing for claims which implied that some parts of the Axioms need modification, achieved his goal only by changing the meanings of some of the terms in the theories (e.g., "time" and "mass"). This implies that in some cases Newton and Einstein were not always talking about exactly the same referents (though I do realize that, as Long maintained on 223, Einstein *believed* he was talking about the same referents as Newton). Long takes this to mean that I disagree with Putnam's claim that scientists in different Kuhnian paradigms can still be talking about the same things, and thereby disagree with Rand and Peikoff's related claim that growing scientific knowledge does not invalidate concepts (Long 2005, 223–24).

However, Long misinterprets me; in fact, I do strongly agree with Putnam and with Rand and Peikoff on this matter: disagreement among theories and change of theory does not mean that theories cannot be about the same referents. And, in the case of some Deep Kinds, different theories have been put forth about the same kind.

Nonetheless, even though scientists at different times and using different theories *can* still be talking about the same things, they do not always *actually* do so, because sometimes scientists are more or less careless with terminology, as are other people. This seems to me to be true of Einstein. Similarly, the different theories of different scientists *need not* clash with each other, because they can talk about different aspects of the same subject—but this does not mean that the theories *never do* clash.

On top of all that, I will add that it seems to me that in the case of terms such as ‘time,’ ‘mass,’ etc., the terms are terms for Shallow Kinds anyway, and it is much harder for people to have different theories about the same Shallow Kind.

In the process of making this objection, Long greatly misinterprets me in another way, by simply misreading me. He says (223): “Indeed Browne (2001, 329) claims that if we revise our views about any of a thing’s properties ‘we are no longer talking about the same subject, because it involves essential change’.” What I said in that passage (which concerned a discussion of Imre Lakatos’s theory of “research programmes” and their “hard core”) is: “I say that it points to the fact that if we revise some statements we are no longer talking about the same *subject*, because it involves *essential* change.” The key word is “some.” I said that *some* of the statements are necessary (essential), and so if they were changed we would have a different subject, but I did not say that *all* of the statements are necessary. My distinction is simply Aristotle’s way of grounding the distinction between necessary and contingent (non-necessary) attributes, in substantial (essential) change and non-substantial (accidental) change. For example, death of an organism is a substantial change because that “substance” (thing or entity) ceases to exist, whereas maturation of an organism is non-substantial change because the organism survives the change. As another example, if your DNA were different, then you would be a different person, whereas if you had made a different free will choice about something from the one you

in fact made, you would still be the same person. A substantial change in a thing involves the loss of an attribute the thing cannot exist without—which is what a necessary attribute is, whereas non-substantial change involves the loss of an attribute the thing can exist without—which is what a contingent attribute is.

In support of his objection, Long (2005, 224) again brings up his claim that Deep Kind members only share fundamental properties of the paradigms, not all of the properties, which claim I have answered above.

In addition, as part of this objection, Long says: “What Browne’s theory needs is a way of making sense of continuity of *extension* across changes of *intension*, which in turn would require a sense/reference distinction of the classical Fregean sort. For Browne, as we have seen, the intension of a term is identified with the *actual* properties of its intended referents; what is needed, however, is the sort of intension that is identified with the *intended* properties of its intended referents” (224). Long has already (214) objected to my claim that intensions are truly in reality (being the set containing the attributes of an individual or the common attributes of the members of a class) and encourages me to consider more favorably the traditional view that they are in the mind, because this helps to explain how people can have different concepts of the same thing.

To this I say, first, that there is room for disagreement about exactly what Frege meant a sense to be. Second, we can have the concept of intended properties, without equating them with the intension: we can simply say that they are the intended intension, as opposed to the (actual) intension, and then say that while the kind is the same the intension is the same, but the intended intension may change. Or we can say that the intended properties are those in the concept of the intension, and then say that while the kind is the same the intension is the same, but concepts of it can change. In this way, we are dealing with the problem while avoiding the tendency, resulting from treating intensions as mental, to treat essential attributes and necessary attributes as mental, and so treat necessary truths as in the mind or created by the mind and so non-factual.

7. Family-Resemblance Concepts

As a further recommendation for dealing with this problem, Long

(218, 225) urges me to give further consideration to Wittgenstein's family-resemblance concepts. He says (218) "there is good reason to suppose that people often have the semantic intension to specify a class in terms neither of all nor of the most fundamental properties of the paradigm exemplar(s), but rather in terms of overall similarity to the paradigm prototype."

However, whatever good things there may be to say about the notion of family-resemblance concepts, it still has the fatal difficulty I point out in my book: that the concepts which are supposed to be family-resemblance concepts are, in effect, concepts of kinds, but a family-resemblance concept cannot pick out a kind, because kinds can have different memberships in other possible worlds, while a family-resemblance concept cannot pick out a definite extension beyond the actual world, since it does not have necessary and sufficient conditions for something being a referent (Browne 2001, 189–90).

It may be objected that believers in family-resemblance concepts may consider indefinite boundaries to be no defect. To this I say that the terms which are said to have family-resemblance concepts are terms for kinds, and that kinds are real classes (i.e., as real as classes ever are) existing independently of our language or mind, and so have boundaries independent of our faltering attempts to conceive of them, but family-resemblance concepts, with their indefinite reference, cannot pick out kinds.

It is significant that Long does not know which the family-resemblance concepts are more like, concepts of Shallow Kinds or concepts of Deep Kinds (Long 2005, 219). The postulating of open-textured concepts (which include family-resemblance concepts and cluster concepts) seems to me to be an attempt by those in the Dichotomist tradition (i.e., those who believe in the dichotomies Peikoff discusses) to respond to implicitly felt difficulties with Dichotomism, which result from its failure to acknowledge Deep Kinds.

Long also advises me to take a second look at the Network theory of meaning, saying about both it and the theory of family-resemblance concepts: "such theories allow continuity of reference across scientific revolutions because the meaning of, e.g., time, is determined by *overall* continuity of intension rather than by *total* continuity of intension. In other words, time is whatever turns out to satisfy *most*,

but not necessarily *all*, of the properties we initially took to be definitive of ‘time’” (225); this account also fits cluster concepts.

To this I will say that I have discussed the Network theory extensively (Browne 2001, 244–60 and 323–32) and I will add that the class of things that satisfied most but not all criteria is not a kind such as words in ordinary language refer to, and that it would not be very useful to have the concept of such a kind, as there is nothing that all of the members would have in common other than over-all similarity to a paradigm, and interesting generalizations could not be safely made about the members.

And, in any case, Rand, Peikoff, Kripke and I have managed to accept continuity of extension across changes of intension without finding it necessary to invoke the Network Theory of meaning, or open-textured concepts, because we realize that the different theories are simply seizing upon different (and sometimes non-overlapping) subsets of the set of necessary attributes of the Deep Kind, which is deep enough to possess all of those attributes.

8. A Priori Argument for Newton’s Axioms of Motion?

Long (2005, 221–22) describes my attempt to show that Newton’s Axioms of Motion are necessary truths about Shallow Kinds as an attempt to justify them “a priori.”

However, I reject the a priori/a posteriori dichotomy, as does Peikoff, and regard all truths as knowable a posteriori (empirically), and I consider my discussion an a posteriori attempt at proof. Though I do not discuss this dichotomy or the analytic/synthetic dichotomy as much as the necessary/contingent and factual/non-factual dichotomies in my book, I did indicate that I reject the dichotomy. The position I took in the book was that all truths that we know are knowable a posteriori (empirically), and yet, in a sense, all truths that we know are knowable a priori, if only we are given enough information about the subject (Browne 2001, 18 n. 26), though the concept of the a priori is so incoherent I recommended discarding it (7). I say that all truths that we know are knowable a posteriori (empirically), because, first, I am an empiricist, as Rand and Peikoff are. Now I grant that when someone is called an “empiricist” what is meant is that they believe in *conceptual empiricism*—the claim that all concepts (ideas) are empirical (derived from experience). Since

today most scientists and most philosophers in the English-speaking world, including Rand and Peikoff, are conceptual empiricists, I will not argue for conceptual empiricism here. However, this is not the same as *propositional empiricism*—the claim that all truths can be justified empirically—and most empiricists have not gone so far as to embrace this claim, since they believe in a priori knowledge (e.g., Hobbes, Locke, Hume and the Logical Positivists). However, I am an empiricist who *does* embrace propositional empiricism. Those other empiricists can count some truths as a priori only because they count any truth known by analyzing concepts as known a priori, and not a posteriori (not empirically)—and they say this even if the concepts in question are empirical: in short, they are saying that knowledge from empirical concepts is non-empirical, because it is conceptual. I find this absurd. I say that knowledge from empirical concepts must still be empirical knowledge because the source of this knowledge is empirical. Therefore, since, as an empiricist, I deny the existence of non-empirical concepts, I conclude that all knowledge is empirical. It seems that by “a posteriori (empirical) knowledge” these philosophers simply mean knowledge from perception, and by “a priori knowledge” they simply mean knowledge from concepts. If so, they should simply call these two types of knowledge “perceptual knowledge” and “conceptual knowledge,” respectively. However, regarding the a posteriori/a priori distinction, they should do as I do and just count all knowledge as a posteriori (empirical). Peikoff, too, seems to count all knowledge as a posteriori.

So I say that my attempt to show that Newton’s Axioms of Motion are necessary, which is based on analysis of concepts such as those of bodies and forces, is an attempt at an a posteriori (empirical) justification, because the concepts are empirical.

I am rather surprised that Long applied the term “a priori” to my attempt at justifying the axioms, as if he took for granted that the dichotomy is valid, and that the boundary between the a priori and a posteriori was obvious. I am surprised because Peikoff’s attack on it in “Analytic-Synthetic Dichotomy” should have at least called the distinction into question for readers of Peikoff and Rand, and so we should regard the burden of proof as being on those who believe in it.

Apparently, Long believes that Shallow Kind truths are known a

priori, while Deep Kind truths are known a posteriori, and perhaps that Shallow Kind truths are analytic while Deep Kind truths are synthetic. If this were true, my typology of kinds would justify those two dichotomies, as Long supposes that they justify Mack's causal/conceptual dichotomy. However, it justifies none of them and is not intended to. My distinction is not those dichotomies by another name—for those dichotomies are, I believe, invalid, and I have rejected them on grounds similar to those on which Peikoff rejected them (212).

My attempted proof of the necessity of Newton's Axioms is an attempted demonstration. Demonstrative reasoning is reasoning starting from premises that are certain, and proceeding by valid deduction, which thereby results in conclusions that are certain. Philosophers from Aristotle through at least Leibniz believed that genuine science was demonstrative, at least at its best.

Now many have assumed that demonstrative reasoning must always be a priori. In particular, critics of demonstrative science sometimes assume that the only way to do it is *more geometrico* (in the manner of geometry)—in which the basic premises are conceptual truths derived from analysis of concepts of what I call "Shallow Kinds," which are simple concepts that we learn in their entirety (at least implicitly) when we learn the meaning of the term referring to the Shallow Kind. The critics then further assume that truths arrived in that way must be known a priori, and since they reject a priori reasoning, they reject all demonstrative reasoning. However, as the work of Kripke and Putnam has suggested, it is possible to have a demonstrative science for Deep Kinds, though not done *more geometrico*. Rather, the concepts used in the premises have to be completed by discovering the attributes through investigation, which may be laborious and time consuming, and the definitions formulated accordingly (with the ultimate goal being to discover the fundamental attributes and so construct what was called the "Real Definition" by the Aristotelians, whose ideal method this was). Then, and only then, can conceptual analysis produce the premises, from which theorems can be deduced. Nonetheless, this method is as demonstrative as reasoning *more geometrico*. And it is generally agreed that Deep Kind truths are known a posteriori. So demonstrative science can be done empirically in the case of Deep Kinds. I think that Rand and Peikoff

would agree with all this.

However, I go further than this, for I maintain that even when demonstrative reasoning is applied to Shallow Kinds, and so is done *more geometrico*, it is empirical. This is because I reject the claim that reasoning *more geometrico* is a priori. As I have said, I believe that all concepts are empirical and any thing deduced from an empirical concept (that is, deduced from a truth derived from an empirical concept) must itself be empirical. Now it seems Peikoff and Rand may be suspicious of reasoning *more geometrico*, and so I will turn to this topic in the next section.

II. Points on Which I May Diverge from Rand and Peikoff

Finally, I wish to address a theme running through several objections, that my own view is at variance with that of Rand and Peikoff on several points. While in some cases I have argued that the alleged difference is unreal, I do think that there is an important tendency in their philosophy with which I disagree.

It is that they tend toward an excessive aversion, common among empiricists, to certain varieties of “rationalism”—in particular Continental Rationalism of the seventeenth and early eighteenth centuries. In particular, it seems that Rand and Peikoff would dislike reasoning *more geometrico*.

I think that their aversion to this is, as I have said, excessive. They are right to reject innate ideas and the belief that some knowledge must be non-empirical, but they should not be averse to demonstrative science done *more geometrico*, as long as it is done empirically, as I have argued that it can be done. Surely reasoning *more geometrico* is appropriate for geometry, and for other branches of mathematics and logic. And Rand and Peikoff should be wary of conceding the value of this method for logic and mathematics, but denying its value in all other fields, because this suggests that logic and mathematics are radically different from all other fields, and that is what the Logical Positivists claimed in setting up their series of dichotomies, which Peikoff so rightly attacked. Rather, I think they should concede that this method is valid for all Shallow Kind concepts. It is harmless if the concepts are sufficiently general, as are the relatively abstract concepts of mechanics—mass, force, etc. It is

also harmless if the concepts are known from introspection, as are the concepts of psychology and the social sciences, or some of them. In all of these fields, the concepts are mainly those involving Shallow Kinds, and insofar as they are, they do not have more attributes to be discovered, except by deduction. However, I don't have space to make a case for this here.

In fact, I believe that Rand implicitly does use this method in ethics and economics. It is because Objectivists believe that all facts except those resulting from human free will choices are what I and others call "necessary" and that no truths are what I and others call "non-factual," and because truths about ethics and economics are what I call "Shallow Kind" truths, that Rand can do ethics the way she does and Rand's economics can largely be harmonized with the Austrian economics of Ludwig von Mises. Rand can do her ethics by the analysis of basic concepts such as that of rights because she realizes, in effect, that such concepts are concepts of Shallow Kinds; so she can do ethics demonstratively, as Locke thought ethics could be done. Rand's economic views are mostly compatible with those of Mises, who does economics demonstratively and, in effect, *more geometrico*, because she, in effect, also does economics *more geometrico*, basing it on concepts of Shallow Kinds such as the concept of value.

Now Rand is not fully in agreement with praxeology, but I do not think this makes it less true that her economics concerns Shallow Kinds, as does Mises's. For example, their disagreement over whether value is objective or subjective is still a disagreement over a Shallow Kind, value, of which they have differing concepts (or perhaps they in fact are talking about two different Shallow Kinds under the same name—"value").

You could object that the concepts of ethics and economics are in fact concepts of Deep Kinds, since they, like the concept of a bachelor, imply the concept of a human. I deal with this in the book (210–11); suffice it to say that kinds such as bachelors have features of both Deep Kinds and Shallow Kinds, and in the case of the current argument, I would say that they are shallow enough for demonstration *more geometrico* to be used on them, because we do not need paradigms to learn them and because, while there is more to learn about what a bachelor is (as is the case with Deep Kinds generally) because there is more to learn about what a human is, there is not more to learn about

what a bachelor is *in relation to being a human*.

As to Deep Kinds, Narrow Classes or individuals, it is quite true that reasoning *more geometrico* is not justified for them.

Nonetheless, the other kind of demonstrative reasoning, described above, is justified for Deep Kinds. Now these premises, and the resulting conclusions, could not be known to hold with certainty for all members of a kind unless the premises were necessary. Nonetheless, it is the case, fortunately, that my approach—and the approaches of Rand, Peikoff, Kripke, and (with qualifications) Putnam—show that truths in these natural sciences can be as necessary as those of logic and mathematics.

III. Conclusion

The denial of necessary factual truths and the related beliefs in these various dichotomies were central to the philosophies of Hume and Kant, and, through them, have exerted much influence on British and Continental philosophy, respectively, down to this day.

In particular they gave rise to various doctrines that Objectivists reject, including excessive skepticism, and in particular skepticism about reason-based moral philosophy and about laws of economics, which even governments cannot escape. They also gave rise to Pragmatism, conventionalist and subjectivist relativism, outright irrationalism, etc., and various additional false dichotomies (involving either false claims of exhaustiveness or false claims of exclusiveness or both): utilitarianism v. Kantianism, positivism v. Kantianism, positivism v. idealism, materialism v. idealism, etc.

Moreover, many of these doctrines are ones that libertarians of all stripes should find pernicious, even those who admire Hume. Hume's attitude toward cause undervalued causal connections in economics. This led to a lack of appreciation of those who produce wealth and of past efforts in creating present wealth, and to underestimating the damage to incentives to production that are created by taxes and regulations. (Even though Hume was probably a Classical Liberal, his skeptical views undermined even his own Classical Liberal economic analyses.)

Now when a statist act produces some benefits, we see them, but we do not see the harms the act causes by preventing other good things that do not happen (as I believe that Frederic Bastiat pointed

out in “What is Seen and What is Not Seen”). This makes it hard to argue against statist policies, because people can see the benefits actually produced, but not the greater benefits that *would have been* produced if different policies had been followed. To see what would have been or could have been, our sight is not enough: we have to use our intellect. More specifically, to figure out what these alternative possibilities are, we need knowledge of what is possible and impossible in such matters. So this requires knowledge of necessary or partially necessary laws of economics or related fields. However, truths of this kind would be rejected by Hume, because such laws would be factual matters, and he believes that no factual truths are necessary.

Further, since Hume’s time, and largely as a result of his influence, most British intellectuals, and, to a lesser extent, most intellectuals in the English-speaking world, have favored a cautious, piecemeal approach to making generalizations, and so have favored induction over deduction from certain premises (in spite of the fact Hume had no confidence even in induction). This makes it hard to get people schooled in this kind of thinking to understand general principles of economics and of moral philosophy, and so makes it hard to get them to understand that what makes government intervention bad in one policy area makes it bad in another policy area.

In light of these facts, I desire to persuade readers of the falsity of these doctrines. If I am right about the above issues and the other issues discussed in my book, and have made my case, I will have shown that the dichotomies in question should be rejected, except that we should recognize a dichotomy between truths expressing necessary facts and those expressing contingent facts, and even in that case we should regard the range of what is necessary to extend much farther than it is commonly thought to extend. It is in this way that I hope that I will eventually banish the grotesque dichotomies and their malignant offspring for good.

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