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LOGOS & EPISTEME: A NEW ENVIRONMENT FOR PHILOSOPHICAL DEBATE

The initiative of opening an environment for philosophical debate comes from a group of scholars from "Gheorghe Zane" Institute for Economic and Social Research, of the Iaşi Branch of the Romanian Academy. They will issue a quarterly journal, both *on-line* and on paperback, aiming at variety, originality, fertile dialogues, and daring opinions.

The title *Logos & Episteme* points to a very large spectrum of epistemological issues. The journal is open to contributions in philosophical analysis, interpretation and explanation of all aspects, forms, types, dimensions and practices of human knowledge. The journal is not restricted to the imperatives of a particular epistemological direction or a specific philosophical tradition. It will encourage all the directions and methodologies from the general theory of knowledge, philosophical logic, epistemic logic, epistemology of art, epistemology of communication, as well as moral, social and political epistemology. The journal will not avoid studies in history of science, sociology and ethics of knowledge, and cognitive psychology, regardless of their orientation and tradition: normativist, naturalist, experimentalist, 'Anglo-American,' 'Continental,' oriental and so on.

The audacity of this initiative is also encouraged by the absence, within the East-European space, of a journal with such a profile; we, thus, hope to foster new philosophical connections and to reinforce the existing ones in this part of Europe.

Our sincere and respectful gratitude turns to the outstanding philosophers who have accepted to be a part of the *Advisory Board* of our journal, and who will kindly contribute their opinions and theories, too.

We, hereby, invoke God Hermes to guide and spread *Logos & Episteme* to the four cardinal points.

Teodor DIMA
The Romanian Academy

AN OCCASION FOR CELEBRATION

The appearance of a new philosophy journal is always an occasion for celebration; the more so when it is devoted to epistemology, an area that has been rejuvenated in the last two decades. Aided by the ease of international communications, the openness of *Logos & Episteme* to a wide variety of different approaches fits well with the increasing integration of methods from naturalistic and a prioristic sources, from social and individualistic epistemologies, from the Anglo-American tradition, and from the so-called 'Continental' tradition. One looks forward to genuinely new intellectual developments emerging from the journal, where novel ideas produced by young researchers outside the older centres of academia can readily find an audience that appreciates their merits. The Romanian Academy is to be applauded for supporting the journal and may it have much success and a long life.

Paul HUMPHREYS
University of Virginia

ARTICLES

GENERIC STATEMENTS AND ANTIREALISM

Panayot BUTCHVAROV

ABSTRACT: The standard arguments for antirealism are densely abstract, often enigmatic, and thus unpersuasive. The ubiquity and irreducibility of what linguists call generic statements provides a clear argument from a specific and readily understandable case. We think and talk about the world as necessarily subject to generalization. But the chief vehicles of generalization are generic statements, typically of the form "Fs are G," not universal statements, typically of the form "All Fs are G." Universal statements themselves are usually intended and understood as though they were only generic. Even if there are universal facts, as Russell held, there are no generic facts. There is no genericity in the world as it is "in-itself." There is genericity in it only as it is "for-us."

KEYWORDS: Generic, General, Antirealism

I shall take general statements to include those that logicians call universal, typically of the form "All Fs are G," and particular, of the form "Some Fs are G," but also those that linguists call generic, typically of the form "Fs are G." The term 'realism' will be used for the metaphysical view that reality, the 'world,' is mind-independent, in particular, independent of our knowledge of it. 'Antirealism' will stand for the opposite view, including Kant's transcendental idealism as well as recent positions such as Michael Dummett's 'antirealism,' Nelson Goodman's 'irrealism,' and Hilary Putnam's 'internal realism.' According to antirealism, reality depends, insofar as it is known or knowable, on our ways of knowing it, our cognitive capacities – sense perception, introspection, intellectual intuition, imagination, memory, recognition, conceptualization, inductive and deductive reasoning, use of language and other symbolism. Cognition is the employment of the cognitive capacities. It leads to knowledge when successful, but to error when unsuccessful. So understood, antirealism allows for the possibility of an unknowable reality (Kant's 'things-in-themselves'), which is independent of our cognitive capacities, even if, as Goodman claimed, it is "not worth fighting for or against."[1]

[1] Nelson Goodman, *Ways of Worldmaking* (Indianapolis: Hackett, 1978), 6.

Antirealism should not be confused with skepticism, though in some respects they are similar. Antirealism is a metaphysical view, skepticism is epistemological. The skeptic questions our ability to know what there is. The antirealist claims that even if we did know what there is, it might not be as we know it. This is why antirealism seems paradoxical, while skepticism seems only outrageous.[2]

Realism and antirealism are seldom unqualified. Asserting and denying the reality of something are not the only options: according to Russell, some things do not exist but they do subsist, and according to Wittgenstein some things cannot be 'said' but they 'show' themselves. Also, one can be a realist regarding "things" but antirealist regarding 'facts.' And one can be a realist regarding the spatiotemporal/ physical structure of reality but antirealist, 'logical antirealist,' regarding its logical structure.[3]

Spatiotemporal/physical structures and even individual things may, of course, be impossible without logical structure, but whether this is so goes beyond the realism/antirealism issue. It belongs in the philosophy of space and time and in general ontology. Logical antirealism does not deny the independent reality of spatiotemporal/physical structures or of things, it denies only the reality of 'logical objects.' This is why it is more plausible than ordinary, say, Kant's or Goodman's, antirealism. It may have the same metaphysical bite, but, if it does, it does so indirectly and in a principled fashion.

I argue in Section 1 that generic statements are ubiquitous, that universal statements intended as universal are rare, and that this suggests a clear and eloquent argument for antirealism regarding the world, though perhaps not regarding things. In Section 2, I argue that realism regarding the world presupposes the category of fact, in the robust Russellian sense, that there are no generic facts in this sense even if there are universal and particular facts, and thus that the ubiquity of generic statements supports antirealism regarding the world. In Section 3, I argue that generic statements are not reducible to other kinds of statement.

1. The Arguments for Antirealism

The standard arguments for the chief thesis of Kant's transcendental idealism and contemporary antirealism have been densely abstract, often enigmatic, and thus

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[2] Panayot Butchvarov, *Skepticism about the External World* (New York: Oxford University Press, 1998), especially Chapter Six.

[3] Panayot Butchvarov, "Metaphysical Realism and Logical Nonrealism," in *Blackwell Guide to Metaphysics*, ed. Richard Gale (Oxford: Blackwell, 2002).

seldom persuasive. Perhaps, as Kant argued, we can know only things as they are 'for us,' not as they are 'in themselves,' but his premise – that for knowledge to be possible, the objects of knowledge must conform to knowledge, rather than knowledge to its objects – is hardly less obscure or more plausible than his conclusion. Perhaps, as Michael Dummett argued two centuries later, a realist interpretation of a sentence requires understanding what would be its conclusive verification and its conclusive falsification, and that such understanding is possible in the case of few if any sentences. But this would be comprehensible only to a few professional philosophers, and even they seldom find it clear or persuasive. Hilary Putnam argued for one of his versions of antirealism by saying that it "does not require us to find mysterious and supersensible objects *behind* our language games that we actually play when language is working."[4] But even if there are objects behind our language games (whatever this might mean), they need not be supersensible, and supersensible objects need not be mysterious (love and hatred are familiar but, especially as dispositions, they are not objects of the senses). A clear and plausible defense of antirealism, I suggest, must bypass the standard arguments. It must start afresh, from specific and readily understandable cases, not abstract and vague philosophical assumptions.

The standard argument for antirealism, in both the Kantian and its more recent versions, may be sketched as follows: (1) We cognize only what we have the capacity to cognize. This is a tautology. Therefore, (2) there is no reality, no world, that is independent of our cognitive capacities. Of course, (2) does not follow from (1). What may follow is another tautology: that (3) we cannot cognize reality independently of our cognitive capacities. Contemporary antirealists often argue on the basis of (1) for (2), not (3), probably because the negation of (2), namely, Kant's view that (4) there is a reality, 'things-in-themselves,' that is independent of our cognitive capacities, seems to them idle. But there is at least one very good reason for (4), namely, that (2) implies an absurd sort of cosmic humanism, perhaps human creationism, namely, the proposition, presumably held by no one, that the whole world – from the page you are reading now to the outermost galaxies, and from the Big Bang to the most distant future – depends for its existence and nature on certain members of one of its planets' fauna. Because of its forbidding level of abstraction, the standard argument leaves unclear both what it claims and what motivates it.

Arguments for antirealism from specific and readily understandable cases are different. They have the following form: (1) We cognize (perceive, understand, describe) the world as necessarily having a certain uncontroversial and familiar specific feature. But it is obvious that (2) the world does not, perhaps cannot, have

[4] Hilary Putnam, *Ethics without Ontology* (Cambridge: Harvard University Press, 2004), 21-22.

that feature. Therefore, (3) the world as we cognize it, as it is "for us," is not as it is "in itself."

The major defenders of antirealism, from Kant to Goodman and Putnam, did offer also arguments of this second sort. In defense of his rather obscure thesis of the ideality of space, Kant pointed out that we can imagine only one space, and that we can imagine it as empty but not as absent. Regarding the ideality of time, he noted that all objects of sense, outer and inner, are necessarily in time, and that time is necessarily one-dimensional. Regarding the ideality of causality, Kant argued that we necessarily conceive of the objects of sense perception as causally related but we do not perceive causal relations. Goodman dazzled his readers with examples of features of the world that are best understood as "made" by us, not as how they are in themselves but as how we perceive, conceive, or represent them in language or in art.[5] We see the sun rising in the east, moving overhead, and then setting in the west, but if educated we know that it is we, not the sun, that is moving. The "fairness" of samples is a sacrosanct requirement both in science and business, but there are no objective criteria for it. We see the world as radically different, at least briefly, after we watch some films or read some novels. We conclude at time *t* that all emeralds are green because we have observed only green emeralds, but the same observations support also the conclusion that all emeralds are grue, if "grue" applies to all things observed before *t* just in case they are green, and to other things just in case they are blue. We reach the former conclusion because 'green,' not 'grue,' is 'entrenched' in our linguistic practice. Putnam pointed out that we can count the objects in a room (a lamp, a table, a chair, a ballpoint pen, and notebook) and come up with the answer 'five,' but that if we also count their mereological sums and ignore the null object then we come up with the answer '31.'[6]

Such examples were often the most persuasive arguments for these philosophers' antirealism.

The argument for antirealism from the ubiquity of generic statements is of this second sort. We think and talk about the world as including facts that are the object of the cognitive activity of generalization, and generic statements are our chief vehicles of generalization. But, obviously, there are no generic facts in the world, even if there are universal and particular facts.

Antoine Arnauld found the statement "Dutchmen are good sailors" puzzling.[7] It does not say that all Dutchmen are good sailors. Some are not. But neither does it

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[5] Goodman, *Worldmaking*, especially chapters I and V.

[6] Hilary Putnam, *Words and Life*, ed. James Conant (Cambridge: Cambridge University Press, 1995), 308.

[7] Antoine Arnauld and Pierre Nicole, *Logic or the Art of Thinking*, trans. Jill Vance Buroker (Cambridge: Cambridge University Press, 1996), 116.

just say that some are. Some Germans also are good sailors, but perhaps Germans are not good sailors. What, then, does the statement say? We may be uncertain whether Dutchmen are good sailors, but let us suppose it was common knowledge among those whose judgment mattered when Arnauld wrote, presumably 17th century shipmasters. We therefore also suppose that the statement was true. But if a fact is the sort of brute extralinguistic entity that according to Russell makes a statement true and Wittgenstein had in mind when he declared in *Tractatus Logico-Philosophicus* that the world is the totality of facts, not of things, "Dutchmen are good sailors" corresponded to no such entity, for there was not such an entity in the world.

Perhaps there was a fact to which the particular statement "Some Dutchmen are good sailors" corresponded. Perhaps there would have been a fact to which the universal statement "All Dutchmen are good sailors" corresponded, had this statement been true. But there was no distinctive, third, fact to which "Dutchmen are good sailors" corresponded. Its truth did depend on the truth of some statements of the form "x is Dutch and x is a good sailor," and perhaps these statements did correspond to brute Russellian facts, but "Dutchmen are good sailors" was not the conjunction of these statements and thus did not correspond to the fact, if there was one, that made the conjunction true. Nevertheless, the 17th century shipmasters had knowledge of its truth, and that truth mattered greatly in their world. Yet what they knew was not in that world. This is what puzzled Arnauld. There was no similar puzzle in the case of the other statements mentioned here.

"Dutchmen are good sailors" is an example of a vast number of statements of the form "Fs are G," some of great practical and scientific importance. Linguists call them "generic." They are general, not singular, but also not universal statements. Nor are they particular ("existential") statements, which are much weaker. They are usually made without intention to endorse the corresponding universal statement and are understood so by the listener. Arnauld gave as examples also "Frenchmen are brave," "Italians are suspicious," "Germans are large," "Orientals are sensuous," and many others.[8] In the recent literature of linguistics we find "Birds fly" (penguins are birds but do not fly), "Frenchmen eat horse meat" (most French people do not), and "John smokes a pipe" (sometimes he smokes cigarettes).[9] As the last example shows, a generic statement need not have the grammatical form "Fs are G," just as a universal

[8] Arnauld and Nicole, *Logic*, 118.

[9] These and other generic statements are discussed in Manfred Krifka et al., "Genericity: An Introduction," in *The Generic Book*, eds. Gregory N. Carlson and Francis Jeffry Pelletier (Chicago: University of Chicago Press, 1995), 1-124.

statement need not have the grammatical form "All Fs are G," much less "For every value of x, if x is F then x is G." What matters is that the statement is intended and understood as replaceable, "upon analysis," by a statement of that form.

Here are some other examples. After the German election in September 2005, an observer wrote: "It is clear that Germans do not want to be governed by Angela Merkel. There is no other way to explain the CDU's collapse to a 35.2% in the election after reaching 49% only a couple of months ago in opinion polls." The author obviously did not mean that all Germans were unwilling to be governed by Angela Merkel. Yet, the statement is an example of coherent, perhaps astute political thought, and it might have been true. The *Encyclopedia Britannica* informs us that "The solubility of a gas in a liquid rises as the pressure of that gas increases," but it also says that "exceptions may occur at very high pressures." Economists say that reducing taxes leads to increased economic growth and therefore government revenue, but they do not deny that sometimes it does not. No pharmaceutical company promotes its drugs as 100% effective, and no responsible physician tells a patient that the recommended surgery is 100% safe. Parents, physicians, and politicians insist that smoking causes lung cancer, but even politicians avoid saying that it always does. Physicians do not even say that it is always bad for your health – the Surgeon General only says that it may be. "Exercise prolongs life" is considered true but, notoriously, exercise often fails to prolong life. Abstention from universal statements is characteristic of serious thought and discourse.

Indeed, universal statements themselves are commonly intended and understood as though they are only generic. Strawson noted that "there are many cases of subject-predicate statements beginning with 'all' which it would be pedantry to call 'false' on the strength of one exception or a set of exceptions."[10] It might not be pedantry in the case of universal statements in mathematics or highly theoretical areas in science. However, Strawson pointed out, they are also statements philosophers often consider analytic – or disguised definitions, meaning-postulates, reduction-sentences, inference-tickets, conventions – not statements of fact.

In everyday discourse, we do make universal statements that allow for no exceptions, e.g., "All of Jack's children attended the wedding," but they are readily replaceable with conjunctions of singular statements (the statement can be supported by a list of the children), which the typical universal statement is not. We make universal statements commonly for rhetorical purposes, e.g., saying "All politicians are crooked" when both speaker and listener know that some are not. In the interpretation and application of the law, universal statements are studiously

[10] P. F. Strawson, *Introduction to Logical Theory* (London: Methuen, 1952), 195.

avoided because the possibility of exceptions must be allowed – this is why there are courts and lawyers. In the areas of science where most scientific endeavor takes place – geology, zoology, botany, medicine, anthropology, psychology, linguistics, sociology, economics, even much of biology and chemistry – universal statements are scarce. It is generic statements that are common, such as "*Morotopithecus bishopi* was a fruit-eater," which does not mean that all members of the species were fruit-eaters or that all they ate was fruit, or "Patients with prior strokes benefit from taking Lipitor," which does not mean that all do. Scientists shun universal statements because they believe that such statements could be justified only by information about real causal connections, which they seldom if ever have. They tend to rely, instead, on statistical reports like "265 or 11.2% of the patients who took Lipitor in a double-blind, randomized, and placebo-controlled clinical trial suffered a stroke over five years, while 795 or 37% of those who took a placebo did."

Aristotle noted that "it is the mark of an educated man to look for precision in each class of things just so far as the nature of the subject admits."[11] Hilary Putnam has remarked that "ceteris paribus, 'all things being equal,' clauses are needed in almost all generalizations. Almost all must allow for exceptions."[12] Steven Pinker said, regarding his theory of language acquisition, "I fully expect that [it] will be met with some counterexamples. My defense is that an acquisition theory that faces occasional counterexamples is better than no acquisition theory at all."[13] The legal scholar Frederick Schauer remarks that "Universal generalizations, whether the source of the universality be definitional or empirical, tend to interest philosophers, but most of the generalizations that the rest of us employ and encounter on a daily basis are not."[14]

Indeed, "generalization invites exceptions," "the exception proves the rule," and "rules are made to be broken" are sayings we hear often, the first implying that all general statements are really generic, and the other two that even a rule grounds only a generic, not a universal, statement. We resort to generic statements not because of indifference to accuracy but because there is no acceptable alternative. Usually, neither a universal statement understood strictly nor a particular statement or conjunction of singular statements would express what we can say legitimately when making a generalization.

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[11] Aristotle, *Nichomachean Ethics*, trans. W. D. Ross, Book I, 3.

[12] Hilary Putnam, *Renewing Philosophy* (Cambridge: Harvard University Press, 1992), 36.

[13] Steven Pinker, *Language Learnability and Language Development* (Cambridge: Harvard University Press, 1984), 97.

[14] Frederick Schauer, *Profiles, Probabilities and Stereotypes* (Boston: Belknap/Harvard, 2003), 9.

Arnauld contrasted universal truths about "the nature of things and their immutable essences," which admit of no exception, with universal truths about "existing things, especially human and contingent events," which "admit of some exception" and, if we supposed that they did not, would be "judged falsely, except by chance."[15] The former are "metaphysically universal." The latter are only "morally universal," like "the usual sayings 'All women love to talk,' 'All young people are inconstant,' 'All old people praise the past'." But Arnauld cautioned that "with respect to propositions having only moral universality" we ought not to "reject them as false, even though we can find counterexamples to them"[16] I have suggested that such propositions are much more common than those about "immutable essences." But, *pace* Arnauld, even the latter, including those Strawson would have called analytic, may admit of exceptions and thus are in fact only morally universal.

Consider the venerable definition "Man is a rational animal," meaning by "man" human being and by "rational," let us suppose, possessing intelligence deserving to be called intellect. It states the essence of man, *what* a man is, and logicians properly infer from it that all men are rational, indeed that this is necessarily so, "by definition." But the logicians do not mean that neonates display intelligence deserving to be called intellect. So, metaphysicians revise the definition by inserting the adverb "potentially." Some neonates, however, are not even potentially rational – they are born with severe and irremediable mental defects. The metaphysicians may revise the definition further, perhaps by appealing (in the past) to Aristotle's distinction between first and second potentiality or (today) to the genetic roots of intellectual capacities. But, if they do, they are no longer interpreting the definition, they are trying to rescue it. The original intention was just to say that men are rational animals, and both the definition and the statement inferred from it should have been so understood – and then left alone.

The argument for antirealism from the ubiquity of generic statements focuses on what may be called the logical structure of the world. The world is a structured whole, not a mere assemblage of things. Astronomy, physics, chemistry, and biology focus on its spatial, temporal, physical, and causal structure. Philosophy, at least as it was understood by the founders of contemporary logic and analytic philosophy – Frege, Russell, and Wittgenstein – focuses on its logical structure. If the first question of metaphysics is what kind of structure the world *must* have, then the first proposition of metaphysics is that it must have a logical structure. Aristotle held that the "science

[15] Arnauld and Nicole, *Logic*, 263.
[16] Arnauld and Nicole, *Logic*, 114-15.

of being qua being," i.e., metaphysics, begins with the study of the principles of the "syllogism," i.e., logic.[17]

The logical structure of the world corresponds, at a minimum, to the classification in *Principia Mathematica* of statements as atomic, compound, and general. It thus provides for atomic facts about the properties and relations of individual things, for compound facts, and for general facts. Nothing would count as a world if it did not allow for atomic statements, e.g., "This page is white." Nothing would count as a world if it did not allow for compound statements, e.g., "This page is not red" and "If this page is white then so is the next page." Nothing would count as a world if it did not allow for universal and particular statements, e.g., "All men are mortal" and "There is water on Mars." But in addition to the general statements that logic recognizes, there are generic statements. I have argued that they are our chief vehicles of generalization, yet obviously correspond to nothing in the world. This is an argument for antirealism with respect to a specific but essential part of our cognition of the world. It resembles but is not the same as the antirealism with respect to universal and particular statements that was part of Wittgenstein's thesis that "there are no logical objects," which he announced in rejecting Frege's and Russell's logical realism.[18] Wittgenstein's logical antirealism may be plausible. But it is not nearly as plausible as plain, straightforward, antirealism with respect to generic statements, which neither he nor Frege or Russell even considered.

2. Facts, Generic Facts, and Realism

I have used 'fact' in Russell's and Wittgenstein's robust technical sense (its ordinary sense, in which some speak even of 'false facts', is too vague to be of philosophical value). Most philosophers today would deny that there are such entities. Indeed, so would I. But the category of fact is essential for understanding realism regarding the world, which following etymology we may call cosmological realism, even if not for understanding realism regarding individual things, which, again following etymology, we may call ontological realism. The reason is simple, obvious, and independent of Wittgenstein's views. If Jack admires Jill but Jill does not admire

[17] Aristotle, *Metaphysics*, 1005 b 7-35.

[18] Frege had used the phrase 'logical objects' for the objects of arithmetic in the context of his project of reducing arithmetic to logic, a project continued later by Russell and Whitehead. For Wittgenstein's views on general statements, see, in addition to the *Tractatus*, his 1919 letter to Russell in Ludwig Wittgenstein, *Letters to Russell, Keynes and Moore*, ed. Georg Henrik von Wright (Oxford: Blackwell, 1974), especially 71. It is included also in his *Notebooks, 1914-1916*, trans. G. E. M. Anscombe (New York: Harper & Row, 1961).

Jack, what would distinguish the world in which this is so from the world in which Jill admires Jack but Jack does not admire Jill, the world in which they admire each other, and the world in which neither admires the other, if these worlds differed in no other respect? There would be no answer if we supposed that there are only individuals, properties, and relations. Only the *fact* that Jack admires Jill but Jill does not admire Jack, not their mere presence in the world, would distinguish that world from the other three. This is why Wittgenstein held in the *Tractatus* that the world is the totality of facts, not of things. Perhaps there are no such entities as facts, but then there is also no world, and cosmological antirealism wins by default. Realists cannot consistently hold both that there is a world and that there are no facts – robust, brute facts.

In his spirited defense of realism, Michael Devitt writes that "the sentence 'a is F' is true because it has a predicational structure containing words standing in certain referential relations to parts of reality and because of the way that reality is."[19] Yet, in the same paragraph, he denies that truth requires "mysterious entities" such as facts. One wonders what Devitt might mean, if not a fact, by a 'way that reality is', or by the word 'situation', which he uses several pages later when speaking of "pairing of sentences with situations."[20] Devitt is not alone in taking such a puzzling stand on facts. Hilary Putnam writes that a state of affairs (he could have said 'possible fact') is "a kind of ghostly double of the grammarian's sentence." But he then says, "Whether a descriptive sentence is true or false depends on whether certain things or events satisfy the conditions for being described by that sentence."[21] Presumably, this page satisfies the conditions for being described by the sentence "This page is white." How do those "conditions" differ from the state of affairs or fact that this page is white?

Paul Horwich defends a 'minimal theory' of truth, which he thinks avoids commitment to Russellian facts. He claims that his theory is 'perfectly consistent' with the 'intuitions' that "whenever a proposition or an utterance is true, it is true *because* something in the world is a certain way. For example, … <Snow is white>'s being true is *explained by* snow's being white."[22] Horwich, too, appeals to the "ways" something is, without telling us how these 'ways' differ from Russellian facts. Moreover, snow's being white would not explain <Snow is white>'s being

[19] Michael Devitt, *Realism and Truth*, second edition (Princeton: Princeton University Press, 1997), 28.

[20] Devitt, *Realism*, 32.

[21] Putnam, *Words*, 301.

[22] Paul Horwich, *Truth*, second edition (Oxford: Clarendon, 1998), 104-05.

true unless "snow's being white" was a synonym of "that snow is white," which it is not. "Snow's being white" refers to a way snow is only if by "way" we mean a *property*, in this case the property of being white. And this property is only part of what explains the truth of "Snow is white." It is *that* snow has (exemplifies, instantiates) the property, not the property by itself, that explains the truth of "Snow is white." Speaking of snow's being white is quite different from saying that snow is white. Consider the analogy with the phrase "Jack's coat." It does not serve the same function as the phrase "that Jack has a coat," and so it does not fully explain the truth of "Jack has a coat." "Jack's coat" refers to an individual *thing*, a coat, and that coat is only part of what explains the truth of "Jack has a coat." It is *that* Jack has a coat, not the coat itself, that explains the truth of "Jack has a coat."

William P. Alston calls his theory of truth 'minimalist realism', and in a circumspect defense of it he writes, "I see no reason to suppose that facts are not objectively real, and as such capable of rendering true propositions true in a nontrivial sense." He adds, however, that the "mode of reality" of facts is "quite different from that of substances, states, properties of substances, and events, as Strawson and others have been at pains to point out."[23] Alston does not tell us what the difference is or what he means by "mode of reality." However, William Vallicella, also a defender of realism, does. He argues that true propositions require "truth-making facts." But he astutely points out that facts could be truth-making only if they are "proposition-like," "structured in a proposition-like way" – only if "a fact has a structure that can mirror the structure of a proposition."[24] Vallicella's view is in the spirit of Wittgenstein's position in the *Tractatus*, where we find the subtlest and deepest, however brief, accounts of the notions of fact and correspondence to fact. But Wittgenstein applied these notions, respectively, to atomic facts (*Sachverhalte*, states of affairs), which are "configurations of simple objects," and atomic (elementary) propositions, which consist of names of simple objects. Not surprisingly, he could give no examples of simple objects and therefore no examples of atomic facts or of atomic propositions. Wittgenstein saw that his notion of correspondence to fact had no application to the simple, compound, and general statements of everyday talk, much less (as he famously argued) to the statements of mathematics, logic, ethics, and religion, which, according to him, say nothing even though some show much, including 'the higher.'

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[23] William P. Alston, *A Realist Conception of Truth* (Ithaca and London: Cornell University Press, 1996), 41.

[24] William F. Vallicella, *A Paradigm Theory of Existence: Onto-Theology Vindicated* (Dordrecht, Boston, London: Kluwer Academic Publishers, 2002), 13, 166-7, 192-3.

My distinctions among kinds of metaphysical realism and antirealism – cosmological, ontological, logical – may seem purely notional, fussbudgety, indulgence in technicalities for their own sake. They are not. Obviously, one who rejects generic facts need not reject universal and particular facts. But also one who rejects all general facts – universal, particular, and generic – need not reject compound facts. One who rejects both general and compound facts need not reject atomic facts. And one who rejects the category of facts altogether rejects realism with respect to the world but not necessarily realism with respect to things. The world might not be the totality of facts, as Wittgenstein held, but it certainly is not just the totality of things, their collection. For example, acknowledging the mind-independent reality of the stars is not the same as acknowledging the mind-independent reality of the world, unless by "world" is meant the mere collection of things. The realism/antirealism issue is much more nuanced than usually thought. Israel Scheffler objected to Goodman's *Ways of Worldmaking* by saying that surely we did not make the stars.[25] He failed to notice the very title of Goodman's book. An ancillary aim of this paper is to show that such objections are simplistic.

That generalization is crucial to cognition, and that the truth of universal and particular statements requires extralinguistic entities, was taken for granted by Frege and Russell, though they differed regarding what these entities might be. Both argued vigorously against the reductionist view – essentially logical antirealism applied to generality – according to which universal statements are just the disguised conjunctions, and particular statements the disguised disjunctions, of their singular substitution-instances, a view still commonly held. Frege wrote: "It is surely clear that when anyone uses the sentence 'all men are mortal' he does not want to assert something about some Chief Akpanya, of whom perhaps he has never heard."[26] Russell agreed: "When you have taken all the particular men that there are, and found each one of them severally to be mortal, it is definitely a new fact that all men are mortal." For, he went on, "in order to arrive [by complete induction] at the general proposition 'All men are mortal', you must already have the general proposition 'All men are among those I have enumerated." General propositions such as "All men are mortal" stand (if true) for general facts, Russell held. So, he concluded, there are general facts. Moreover, he pointed out, "there must be *primitive* knowledge" of some general facts" because "you cannot ever arrive at a general fact by inference from particular facts, however numerous."[27]

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[25] Israel Scheffler, "The Wonderful Worlds of Goodman," *Synthese* 45 (1980): 204.

[26] Peter Geach and Max Black, trans., *Translations from the Philosophical Writings of Gottlob Frege* (Oxford: Blackwell, 1970), 83.

[27] Bertrand Russell, *The Philosophy of Logical Atomism* (Chicago and La Salle: Open Court, 1996), 101 -103.

Russell's argument applied to general *universal* statements and facts. General *generic* statements, much less generic facts, were totally ignored by him, as they have been by virtually all philosophers. To be sure, Aristotle did note that the statement "Man is white," or, as J. L. Ackrill suggests, "Men are white," allows both that some men are white and that some men are not white, and acknowledged that such "indefinite" statements have no place in the "syllogism."[28] (Ackrill complains that they lack "an explicit quantifier" and for this reason he says, somewhat presumptuously, "it is a pity that Aristotle introduces [them] at all"). Kant sharply distinguished what he called strict universality from "assumed and comparative universality, through induction" which "is therefore only an arbitrary increase in validity from that which holds in most cases to that which holds in all."[29] Most universal statements indeed express only assumed and comparative universality, and perhaps Kant would have agreed that they are best understood as though they were generic. John Dewey did write about 'generic' and 'universal' propositions, but explained that by the former he meant just "propositions about kinds."[30] Quine in effect dismissed generic statements as involving "ambiguities of syntax": "Sometimes the plural form of a general term does the work merely of the singular form with 'every'; thus 'Lions eat red meat'… Sometimes it does the work rather of a singular with 'an' or 'some', but with an added implication of plurality; thus 'Lions are roaring.'"[31] It was twentieth century linguists and some legal scholars, not philosophers, who explicitly and seriously devoted attention to generic statements.

3. The Irreducibility of Generic Statements

Some logicians and philosophers of language have acknowledged the existence of the nonstandard quantifiers 'many,' 'few,' and 'most.'[32] None is reducible to the standard quantifiers 'all' and 'some.' Presumably, statements employing 'many' or 'few' defy a realist interpretation – their truth value obviously depends, at least in part, on our interests and attitudes, not on facts about what is many and what is few. Statements employing 'most' would allow a realist interpretation, if 'most' is

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[28] Aristotle, *De Interpretatione* 7, in J. L. Ackrill, trans., *Aristotle's Categories and De Interpretatione* (Oxford: Oxford University Press, 1963), 129.

[29] Immanuel Kant, *Critique of Pure Reason*, trans. Norman Kemp Smith, B 3-4.

[30] John Dewey, *Logic: The Theory of Inquiry* (New York: Henry Holt, 1938), 256.

[31] Willard Van Norman Quine, *Word and Object* (Cambridge: MIT Press, 1960), 134.

[32] See, for example, James Higginbotham and Robert May, "Questions, Quantifiers, and Crossing," *Linguistic Review*, 1 (1981): 41-79; Jon Barwise and Robin Cooper, "Generalized Quantifiers and Natural Language," *Linguistics and Philosophy*, 4 (1981): 159-219; Stephen L. Read, "Pluralitive Logic," in *The Cambridge Dictionary of Philosophy*, ed. Robert Audi.

taken to mean 'more than half.' Unlike generic statements, such nonstandard general statements, though useful and common, are hardly indispensable for generalization and thus for cognition.

Generic statements resemble statements employing 'many' and 'few' by defying a realist interpretation. They resemble them also by defying reduction to statements employing 'all' or 'some.' Indeed, generic statements are not reducible to any other kind of statement. Nicholas Asher and Jacques Morreau have remarked that "the puzzling thing about generics [is that] their truth conditions connect them at best only very loosely with particular facts about the world," and that they entail and are entailed only by other generic statements.[33] The latter is not quite true. "Dutchmen are good sailors" does entail "Some Dutchmen are good sailors," and it is entailed by "All Dutchmen are good sailors and there are Dutchmen."

But "Dutchmen are good sailors" does not entail "All Dutchmen are good sailors," and is not entailed by "Some Dutchmen are good sailors." It also neither entails nor is entailed by "All Dutchmen who are sailors are, always or usually, good sailors," which was the analysis Arnauld seemed to favor.[34] If only two Dutchmen are sailors, their both being good sailors would not be enough to make "Dutchmen are good sailors" true. The statement also neither entails nor is entailed by "Most Dutchmen are good sailors." Most Dutchmen are not even sailors, good or bad. And, if they were, but only 52% of them while 70% of Italians, 80% of Germans, and 90% of Norwegians are good sailors, this might not be enough to make "Dutchmen are good sailors" true. 52% of Americans are women, but it is not true that Americans are women. However, even if only 10% of Dutchmen are good sailors, this might be enough, as long as 2% of Italians, 3% of Germans, and 4% of Norwegians are good sailors. That the word "enough" is needed here indicates that we take generic statements to be true not because we find generic facts in the world that make them true but partly because of our interests and attitudes. In the 21st century "Dutchmen can read and write" would not be true if only 45% could read and write, but in the 17th century perhaps it was.

"Dutchmen are good sailors" does not entail that more Dutchmen than people of any other nationality are good sailors, absolutely or proportionally. We do not and need not compare Dutchmen with all other nationalities in order to make or accept the statement. If comparison does take place (usually implicitly), it is

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[33] Nicholas Asher and Jacques Morreau, "What Some Generic Sentences Mean," in *The Generic Book*, 300-38.

[34] Regarding "The French are good soldiers," Arnauld wrote: "[it] means that the French who are soldiers are usually good soldiers" (Arnauld and Nicole, *Logic*, 116).

largely, though not wholly, up to us with whom to compare them. Instead of Norwegians and Italians, we might pick Germans and Spaniards. But perhaps we would not pick Hungarians and Mongolians, because Hungary and Mongolia are landlocked, and we might think the comparison would be "unfair." At any rate, if only four Dutchmen and only two persons of any other nationality are good sailors, we are not likely to say that Dutchmen are good sailors. If only four Dutchmen and only two persons of any other nationality are graduates of the Dubuque College of Cosmetology, we would not say that Dutchmen are graduates of the Dubuque College of Cosmetology.

It has been suggested that "adverbs such as *usually*, *typically*, and *in general* are closest in meaning to the generic operator."[35] This would be trivially true of "in general" if inserting it in "Dutchmen are good sailors" merely makes explicit that the statement is general, and perhaps of 'typically' if it is used as a synonym of 'stereotypically' (see below). Not so of "usually." How usual must it be for a Dutchman to be a good sailor if the statement "Dutchmen are good sailors" is to be true? It might be true even if only 10% are good sailors, as long as only 6% of Italians, 7% of Germans, and 8% of Norwegians are.

Nor, contrary to another suggestion, need the statement be saying that all Dutchmen are *normally* good sailors. What being a good sailor involves, say, holding on a swaying line in raging seas, might be abnormal for all people, Dutch or not. Even becoming a sailor might be abnormal, in some legitimate sense of this vague word. It might conflict with emotions that are normal, such as fear of drowning. At any rate, as Gregory Carlson has conclusively pointed out, generic statements can also be made about *normal* kittens and *abnormal* drunk physicians. Are we to take the statements to be about normal normal kittens and normal abnormal drunk physicians?[36]

Shall we say, instead, that "Dutchmen are good sailors" means that all Dutchmen are good sailors in normal *circumstances*? But what are these circumstances? Sailing on merchantmen or sailing on men-of-war? Serving under demanding or serving under easy-going shipmasters? Short or long voyages? Perhaps people even become sailors mainly when the economic circumstances are abnormal. Being a sailor might be attractive only in such circumstances. But, again, what are these circumstances? High unemployment in the Netherlands? High unemployment just in its coastal areas?

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[35] Manfred Krifka et al., "Genericity: An Introduction," 25.

[36] Gregory N. Carlson, *Reference to Kinds in English* (New York & London: Garland, 1980), 38.

What such examples show is that no brute fact makes "Dutchmen are good sailors" true. But this does not mean that the statement is 'subjective." Although it was of special importance to shipmasters, its truth was not dependent on their personal whims or wishes. It might have been accepted by all other people in a position to know, e.g., first mates and ship owners. Its truth was objective in the proper sense of being intersubjective, agreed to by competent judges, people with knowledge and open mind about seamanship and seafaring. It was not what Kant called 'mere fancy.' As Carlson says, we know that not all dogs bark, but also we know that "Dogs bark" is true. He adds, "the knowledge that there are three-legged rabbits does not falsify the statement that rabbits have four legs."[37] If we say that nonetheless "Dutchmen are good sailors" was not *really* objective, we must mean that it did not admit of a realist interpretation, that it did not correspond to a fact. But this is exactly what I have argued.

Generic statements have been called vague, but their vagueness is unlike that of predicates. According to Peirce,

> A proposition is vague when there are possible states of things concerning which it is intrinsically uncertain whether, had they been contemplated by the speaker, he would have regarded them as excluded or allowed by the proposition. By intrinsically uncertain we mean not uncertain in consequence of any ignorance of the interpreter, but because the speaker's habits of language are indeterminate.[38]

Perhaps generic statements are indeed vague in this sense. But what Peirce had in mind was vagueness of propositions due to the presence of vague predicates like 'bald' – the quantity of hair on a person's head may be such that it is intrinsically uncertain whether a speaker would apply the predicate to it. Generic statements are not vague because they include a vague predicate. 'Good sailor' may be a vague predicate, but this would not be the main reason "Dutchmen are good sailors" is vague. It is vague because of its logical form. It would be vague even if we replaced the predicate "good sailor" with a predicate that is not vague. This is why generic statements are useful, indeed indispensable. Predicates such as "bald" are also useful and perhaps indispensable because they are vague. But their vagueness is different from that of generic statements.

Generic statements have also been said to be inexact, imprecise. Again, this is true, but how we understand it calls for caution. The inexactness of a generic

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[37] Carlson, *Reference*, 30, 36.

[38] C. S. Peirce, "Vague," in *Dictionary of Philosophy and Psychology*, ed. J.M. Baldwin (New York: MacMillan, 1902), 748.

statement is not due to the presence in it of an inexact word. The statement "Jack is here" is inexact, but if we wished we could state Jack's location with reasonable precision by saying, e.g., "Jack is in the kitchen," and might readily replace the former statement with the latter. In the case of "Dutchmen are good sailors," however, an attempt at precision is likely to yield a statement that, whatever its merits, we would not put in place of the original. Either it would significantly differ in truth value, as "All Dutchmen are good sailors" would, or it would not be even a general statement, as a conjunction of statements of the form "x is Dutch and x is a good sailor" would not.

Carlson distinguishes inductively established correlations from "real rules or regulations," associating generic statements with the former and universal statements with the latter.[39] It is unclear what he means by "real rules or regulations." But his phrase "inductively established correlations" is reasonably clear. Its use implies that, as Kant might have put it, generic statements possess at most assumed universality. Of course, Kant had in mind universal, not generic, statements, and, as we saw earlier, he contrasted those possessing only such universality with statements possessing "strict universality," meaning that they are also necessary and a priori. But generic statements, however they are established, lack even assumed universality – this is why they are generic.

Arnauld would have said that universal statements established inductively are only 'morally universal.' Russell and other epistemologists in effect have agreed: they are only 'probable.' According to Russell, even if the sun rose every day in the past, it is only probable that it will rise tomorrow. (He wisely avoided assigning a numerical value to the 'probability.') This was "the problem of induction." Indeed, reasonable people seldom expect inductive reasoning to yield more than a generic statement unless it is supported by causal information. We appeal to what 'history teaches' – e.g., in predicting election results, hurricanes, and the gyrations of the stock market – precisely when we lack such information. In both everyday and scientific reasoning, induction unsupported by causal information is usually taken to justify only generic statements, as the frequent occurrence of the phrase 'ceteris paribus' shows. This is why scientific writing routinely includes caveats such as "The precise mechanism through which fluticasone propionate affects allergic rhinitis symptoms is not known." The closer scientists are to field or lab, the less willing they are to venture universal statements.

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[39] Gregory N. Carlson, "Truth Conditions of Generic Sentences: Two Contrasting Views," in *The Generic Book*, 224-37.

Nevertheless, though based only on induction, "Dutchmen are good sailors" does not mean that all *Dutchmen* are probably good sailors, as Russell might have said. If only 10% of Dutchmen are sailors, it would be false that all Dutchmen are probably good sailors, whether in the statistical or in the epistemic sense of 'probably.' But it might still be true that Dutchmen are good sailors if, say, only 6% of Italians, 7% of Germans, and 8% of Norwegians are good sailors. Nor does the statement mean that all Dutch *sailors* are probably good sailors. It might be true even if only 40% of Dutch sailors are good sailors, as long as, say, only 15% of Norwegian, 14% of German, and 13% of Italian sailors are good sailors.

Asher and Morreau say that it is 'reasonable' to infer from "Fs are G" that something is G given that it is F. But inferring from "Dutchmen are good sailors" that Maarten is a good sailor given that Maarten is Dutch would not be reasonable if, as surely is the case, less than 50% of Dutchmen are sailors.

I noted earlier that the suggestion that "Fs are G" means "All Fs are typically G" might be acceptable if 'typically' is understood as a synonym of 'stereotypically.' A common complaint about generic statements is that they involve stereotyping, misrepresentation or at least exaggeration of the facts. The complaint targets mainly generic statements that, like Arnauld's examples, concern nationality, gender, race, age, or religion. These are sensitive matters, and people care deeply how statements about them might be intended or understood. Many resent, even find insulting, that such statements are made at all.

'Stereotyping' is a pejorative today, and it does apply to generic statements involving abuse of conceptualization or classification. But it is misplaced if applied to all generic statements. Like most conceptualization and classification, most generic statements are innocent. *New York Times* columnist David Brooks writes: "I believe most of human thought consists of stereotypes. I'm not against stereotypes; I'm against crude stereotypes." If we say that all generic statements involve stereotyping, then we must say that so do almost all universal statements, since almost all are intended and understood as though they are only generic. That the conceptualization or classification generic statements involve is sometimes abused counts against them no more than the frequent abuse of inductive reasoning counts against induction. Indeed, abuses of generic statements, including those charged with stereotyping, are usually just abuses of induction. And such abuses are common. Resort managers in the Bahamas say that one is more likely to be struck by lightning than to be attacked by a shark, and this is true, but it does matter whether one is swimming in the ocean or sleeping in a hotel bed. The type of inductive 'reasoning' exemplified in "We don't need fire insurance because we've never had a fire" is unfortunately familiar.

The variety of antirealism defended in this paper is modest and measured. It does not deny the reality of individual things or even the reality of atomic, compound, and universal facts. It denies only the reality of generic facts. This would hardly cause common sense to rebel. Even philosophers have not claimed that there are such entities. Yet, if cognition of the world requires the intellectual activity of generalization, and generic statements are the chief vehicles of generalization, then this modest and measured variety of antirealism has much of the bite of standard antirealism. Moreover, since it is based solely on the ubiquity and irreducibility of generic statements, it is more plausible than standard antirealism. It is also less obscure.

PROBABLE TRUTH *VERSUS* PARTIAL TRUTH

Teodor DIMA

ABSTRACT: The present study reiterates one of the main ideas that we exposed in 1983, in the paper "Din fals rezultă orice" ("From False Follows Anything"), published in the volume *Întemeieri raționale în filosofia științei (Rational Foundations in the Philosophy of Science)* when we referred to the notion of semi-truth, as a third alethic value, placed between „truth" and „falsehood", thus contributing to the functionality of the trivalent logic. Now we analyze the conceptions of Petre Botezatu, Mario Bunge, Karl R. Popper and Nicholas Rescher, in order to argue that it is important not to identify the epistemological term „probable" (= uncertain) with the semantic term „partial" or „approximate", when we speak about the concept of truth.

KEYWORDS: Probable truth, partial truth, half-truth, Petre Botezatu, Mario Bunge, Karl R. Popper, Nicholas Rescher

1. The notion of imprecise explanation

In our study, "Din fals rezultă orice" ("From False Follows Anything")[1] we referred to the notion of *half-truth*, which we used in an example of explicative systematization, present in the Theory of Relativity. The example was given by Mario Bunge[2] and we undertook it in order to argue that there are *imprecise explanations* because they contain *erroneous information* and they are to be found also in scientific contexts, not only within pseudo-scientific and pre-scientific doctrines[3]. In a series of papers, the following explicative answer is given to the

[1] Teodor Dima, "Din fals rezultă orice," in *Întemeieri raționale în filosofia științei*, ed. Teodor Dima (Iași: Junimea, 1983), 1-91.

[2] Mario Bunge, *Scientific Research II: The Search for Truth* (Berlin, Heidelberg, New York: Springer-Verlag, 1967), 14-15.

[3] Teodor Dima, *Explicație și înțelegere*, vol. 1 (București: Editura Științifică și Enciclopedică), 97-98.

question *"Why are light rays bent away when they pass grazing a star?*" First, the special theory of relativity contains in the law "Energy = Mass x Square of the velocity of light in vacuum" (a half-truth, because this theorem belongs to a theory of systems endowed with mass and is consequently inapplicable to light). Second, the former equation means that mass and energy are the same up to a constant factor (false) or at least equivalent (another half-truth) and, particularly, that anything having energy, has also a mass (false). Third, since light has energy (true), it has also a mass (false). Fourth, since light has a mass (false) and since anything that has a mass is attracted and consequently deviated from its path by a massive body (true), a body will attract light (false). Fifth, since whatever attracts deviates, a body will deviate light; in particular, a celestial body will deviate a light ray (true).

Commenting upon this example, Mario Bunge maintains that this explanation is perfectly rational because it subsumes the *explanandum* (a generalization) under more comprehensive generalizations; but it is a wrong explanation. Moreover, it is unscientific because it hinges on an unwarranted generalization of a mechanical theorem – *"$E = mc^2$"* – to optics. This generalization is fallacious because, from the proposition "if the mass of a system is m, then the total energy of the system is $\underline{m} = \underline{E}/\underline{c}^2$," the converse "If the total energy of a system is $\underline{E}$ then the mass of a system is $m = E/\underline{c}^2$" does not follow. The derivation has been "formal" in the sense that an arithmetical transformation (of "$E = mc^2$" into "$m = E/c^2$") has been performed without paying attention to the physical meaning of the symbols – a meaning that can be disclosed only by bringing to light the object variable of both E and m – a variable which denotes an arbitrary mass point but not a light quantum. In this way the condition of semantic closure has been violated, because the concept of mass of a light ray has been smuggled into a theory that does not contain it to begin with.

In this example, Mario Bunge introduces the notion of *half-truth*, to which we have referred, for the first time, in 1982, in an article published in the journal *Cronica* (nr. 37) and then, in the study mentioned at the beginning of this intervention. We ascertained then that the notion of "half-truth" is often considered as a third alethic value, situated between "true" and "false," thus contributing to the establishment and substantiation of the trivalent logic.

2. The Referential Dimension of Truth

In the study "Dimensiunile adevărului" ("The Dimensions of Truth"),[4] Petre Botezatu, referring to the *referential dimensions* of truth for deepening the *theme*

[4] Petre Botezatu, "Dimensiunile adevărului," in *Adevăruri despre adevăr*, ed. Petre Botezatu (Iaşi: Junimea, 1981), 5-11.

of correspondence, noted that even the well-known paradigm of Tarski: *If and only if the snow is white, the sentence „The snow is white" is true* expresses a partial truth, at least within the factual sciences, being known, in the above-mentioned case, that the snow is not always white, due to climatic, atmospheric incidents, etc. This is why Petre Botezatu proposed the acceptance of the ideas of *partial correspondence* and *partial truth* formulated by Mario Bunge, as follows, also, from the above-mentioned example.

In a later paper, Mario Bunge suggested the use of the notion of *degrees of truth* within the modern semantics.[5] In the same paper, he noted that this notion, as well as that of *approximate truth*, is also used in applied mathematics: the only approximate knowledge of most given functions of the non-algebraic functions (*log*, *sin*). In the social and human sciences, most of the sentences are approximate; therefore the laws are considered „empirical generalizations." Using an important number of examples, from various fields, Mario Bunge reached the conclusion that *the partial truth is not a probable truth*. In other words, the degrees of truth cannot receive a probabilistic interpretation, as Lukasiewicz, in 1913, or Reichenbach, in 1949, would have proceeded.

What about the perspective of the *certitude*, which is another dimension of truth and cannot be evaluated through the alethic criterion of correspondence? The degrees of correspondence are not degrees of certitude, therefore, a partial truth can be certain or probable and a probable truth can be total or partial.[6] These interferences lead to the conclusion that when we are saying that a proposition is probable, this means that it has a *certain (indubitable) value of truth*, that its alethic value *may* be proved by means of demonstration or factual testing. On the contrary, when we are saying that a proposition is partially true, this means that it is *true within the limits of a certain degree of error*, let us call it *i*. By means of this evaluation, Dana Scott set forth the project of the *logic of fallacies.*[7] In this system, a proposition can be *true within the limit of a certain degree of error i*. Thus, degrees of error (or of truth) appear, but they are not ordered within the rational interval [1,0] but within the integers interval [1,*n*].[8]

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[5] Mario Bunge, *Treatise on Basic Philosophy*, vol. 2: *Semantics II: Interpretation and Truth* (Dordrecht: Reidel, 1974), ch. 8.

[6] Botezatu, "Dimensiunile," 6.

[7] Dana Scott, "Does Many-Valued Logic Have Any Use?," in *Philosophy of Logic*, ed. Stephan Körner (Oxford: Blackwell, 1976), 64-74.

[8] Botezatu, "Dimensiunile," 7.

In our intervention from 1983, we have explained[9] that the probabilistic theories of truth use the term "probable" in its non-technical acceptation of "uncertain" or "corrigible," applying to it one or another variant of the probability theory. In other words, the degree of truth of a sentence is identified with its probability. But the assignation of probability to a sentence does not have a procedure of its own, therefore we need to have recourse, by analogy, to the construction of stochastic models: for instance, an urn model, as if the sentences would be arbitrary facts. The logicians of science have noticed that "this procedure is not effective in the case of scientific sentences, at least because these ones are not randomly selected; they are not extracted from an urn full of white (true) and black (false) sentences."[10] Consequently, we must not identify the epistemological term "probable" (=uncertain) with the semantic term "partial" or "approximately" true.

3. Mario Bunge's Proposal

Using a function of continuous revalorization, able to give quantitative assignations to the idea of truth, Mario Bunge set the following model, in which p and q symbolize propositions, and ε asserts a certain value within the interval from 1 to 0:

p is true
p is approximately true
p is true within the limit $\varepsilon > 0$
p is partially true
p is false within the limit $\varepsilon > 0$
p is almost false
p is false
p is more true than q
p and q accord within the limit $\varepsilon > 0$
p and q do not accord within the limit $\varepsilon > 0$

For instance, the statement "It always rains on Saturdays" is false in its universality, but from it true consequences can also be derived, because sometimes it rains on Saturdays. Using the model of Mario Bunge, we may say that "The proposition *It always rains on Saturdays* (p) is false within the limit $\varepsilon > 0$." Partican oularizing the example, we find that, because at the Tropics it rains every day, the proposition p is true within the limit $\varepsilon > 0$, where ε is equal with 1, and in the Saharan desert, the proposition p is false within the limit $\varepsilon > 0$, where ε is almost equal with 0.

[9] Dima, "Din fals," 3.
[10] Bunge, *Treatise*, ch. 8.

In the model proposed by Bunge, considerations can be made relating to the *degree of truth of the scientific theories*; this one can be expressed by the composition of the truth values of the initial suppositions, on the condition that these ones are mutually independent. Petre Botezatu noted that Mario Bunge admitted that this procedure clarified the notion of degree of truth of a certain theory, but could not calculate this degree.[11]

4. Karl R. Popper and the Degrees of Verisimilitude

Turning back to the truth value of propositions, we must accept that a proposition possesses, in virtue of its content, a certain degree of expressing its truth or falsity, which Popper called *degrees of verisimilitude*, different from the *degrees of probability*.

> This confusion is frequent because both notions are associated with the idea of truth and both of them imply the idea of a gradual approach of truth. But logical probability denotes an approach to the logical certitude, which is the tautological truth, proceeding by eliminating the informational content, while verisimilitude expresses an approach to the comprehensive truth. The verisimilitude associates truth with content, while probability associates truth with the absence of content.[12]

In order to logically approach *verisimilitude*, Popper combined two notions introduced by Tarski. He considered that any proposition possesses a *logical content* as well as a *truth value*. The content is composed by the class of all the consequences implied by the proposition. Synthesizing, Popper created the concepts of *truth content*: the class of all true consequences which derive from a proposition, and of *falsehood content*: the class of all false consequences which derive from a proposition.

We will sustain, therefore, that speaking in terms of the relation of *material implication*, if a proposition is true, then its consequences are true; according to Popper, *the truth content of the proposition* is maximum: *from truth derives only truth*; in exchange, if a proposition is false, then its *falsehood content* is variable, as it has been stated above, where we interpreted the example referring to the sentence "It always rains on Saturdays;" in other words, *from false derives anything*, as the science of logic maintains.

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[11] Botezatu, "Dimensiunile," 7.

[12] Karl R. Popper, *Conjectures and Refutations: The Growth of Scientific Knowledge* (London and New York: Routledge, 1969), 237.

Popper applied for the first time its conception to scientific theories; if progresses are to be made in the scientific knowledge, this means we must accept that we can approach more or less the truth, that a theory can correspond better to the facts than another, that there are degrees of truth. He described several typical cases in which the claim that a theory t_2 concords better in a certain sense, with the facts than t_1, is legitimate:

1. t_2 makes more precise statements than t_1 and they are capable of more precise tests;
2. t_2 explains the facts better than t_1;
3. t_2 describes or explains the facts more thoroughly than t_1;
4. t_2 succeeded in tests insurmountable for t_1;
5. t_2 suggested more tests, and successfully got through them;
6. t_2 succeeded in unifying problems which seemed disparate.

Petre Botezatu argued that "the idea of verisimilitude and Popper`s interpretation are simple and seducing".[13] Observations regarding some inacceptable consequences of Popper`s interpretations were also formulated. Thus, Susan Haack demonstrated that, if theory t_2 is closer to the truth than theory t_1, then the falsehood content of t_2 becomes null.[14]

5. Nicholas Rescher – Degrees of Plausibility

From the perspective given by the concepts of "degrees of truth" and "verisimilitude" we can also approach Nicholas Rescher`s analysis of *plausibility* and *degrees of plausibility*.[15] This one, separating from other authors (G. Polya, W. C. Salmon, C.L. Hamblin) who considered that the notion of plausibility refers to particular aspects of probability, understood: "our epistemic assent towards propositions. (…) To say that a proposition is relatively plausible is *not* to say that it is true, but only that its epistemic claims are to be viewed as relatively strong: that if it were to be true this would not surprise us, but would be something that we should welcome (from the epistemic point of view – not necessarily from others). Plausibility is a sort of potential commitment: if we regard a statement as highly plausible we are saying that *if* we were to accept it as true, then we should be prepared to give it a very comfortable and secure place among the truths. And the more plausible the statement, the more deeply we should commit ourselves to accepting it as true if we

[13] P. Botezatu, "Dimensiunile," 9.

[14] Susan Haack, *Deviant Logic* (London: Cambridge University Press, 1974), 64.

[15] See Nicholas Rescher, *The Coherence Theory of Truth* (Oxford: Clarendon Press, 1973), 114-131, 347-348, 349-352, 353-355.

did in fact so accept it. The allocation of plausibility – index values to a group of statements is thus a reflection of our relative degree of attachment to these statements – be it actual attachment or hypothetical attachment in the context of a certain analysis. In giving one statement a better plausibility classification than another we are saying that if in the last resort we *had* to make a choice between them, we should refer the more plausible statement."[16]

In conclusion, a proposition or a theory can approach the truth through successive approximations, as well as it can drift away through successive errors. In this line of thought, Popper gave the following example: the intuitive comparability of the contents of Newton's theory (*N*) and Einstein's (*E*) can be established as follows: (a) to every question to which Newton's theory has an answer, Einstein's theory has an answer which is at least as precise; this makes (the measure of) the content, in a slightly wider sense than Tarski`s of *N* less than or equal to that of *E*; (b) there are questions to which Einstein's theory *E* can give a (non-tautological) answer while Newton's theory *N* does not; this makes the content of *N* definitely smaller than that of *E*.[17]

[16] Rescher, *Coherence*, 116-117.

[17] Karl R. Popper, *Objective Knowledge. An Evolutionary Approach* (Oxford: Clarendon Press, 1973), 52-53.

TOUCHSTONES OF HISTORY: ANSCOMBE, HUME, AND JULIUS CAESAR

Catherine Z. ELGIN

ABSTRACT: In "Hume and Julius Caesar," G.E.M. Anscombe argues that some historical claims, such as "Julius Caesar was assassinated," serve as touchstones for historical knowledge. Only Cartesian doubt can call them into question. I examine her reasons for thinking that the discipline of history must be grounded in claims that it is powerless to discredit. I argue that she is right to recognize that some historical claims are harder to dislodge than others, but wrong to contend that any are invulnerable to non-Cartesian doubt.

KEYWORDS: History, Historiography, Anscombe, Epistemology

Skeptical worries aside, we seem to know a good deal about history. But how do we know what we know about history? How do we know that Julius Caesar was assassinated? At first blush, the answer seems obvious: most of us know whatever we do about history because we read it in history books. This, no doubt, is how we acquired our historical beliefs. But the question is not: why do we *believe* that Julius Caesar was assassinated? It is: how do we *know* that he was? Or if 'know' is too strong, at least: what makes it reasonable to believe that he was? At issue are the epistemological underpinnings of the discipline of history. In a searching paper called "Hume and Julius Caesar," Elizabeth Anscombe argues that recorded history has a more intricate structure than we might suppose.[1] She contends that the discipline of history is grounded in statements about the past that can be neither supported nor undermined by historical investigation. Such statements serve as touchstones. They constitute the standards against which other historical claims are judged. Anscombe does not use the term 'knowledge.' She may in fact think that our most fundamental historical commitments are not knowledge at all. Her project

[1] G.E.M. Anscombe, "Hume and Julius Caesar," in *The Collected Philosophical Papers of G.E.M. Anscombe, volume 1: From Parmenides to Wittgenstein* (Minneapolis: University of Minnesota Press, 1981), 86-93. Page numbers in parentheses refer to this work.

in this paper might better be put as delineating the epistemological stratigraphy of historical understanding.

How does an inscription in a present day history book afford epistemic access to the historical event it reports? A seemingly straightforward empiricist answer is inferential. We reason back along the chain of record from the current inscription to the event in question. Such an answer is found in Hume's *Treatise,* the initial focus of Anscombe's discussion. Hume maintains that any well founded belief about matters falling outside our experience or memory must be connected to our present experience and memory by a causal chain that affords epistemic access to those matters. He invites us

> to choose any point of history, and consider for what reason we either believe or reject it. "Thus we believe that Caesar was kill'd... on the *ides* of *March;* and that because this fact is established by the unanimous testimony of historians... Here are certain characters and letters... the signs of certain ideas; and these were either in the minds of such as were immediately present at that action; or they were deriv'd from... testimony... and that again from another testimony... 'til we arrive at... eyewitnesses and spectators of the event. 'Tis obvious all this chain of argument or connection of causes and effects is at first founded on those characters or letters, which are seen or remembered.[2]

The inference is evidently an inference to the best explanation: We read a statement in a historical text, reporting that Julius Caesar was assassinated. We consider why the history book says such a thing. The best explanation of the current text's including this information is that the historian had it from a reliable source – either an eyewitness, or another historian who had it from a reliable source, who was either an eyewitness or another historian who had it from a reliable source . . . and so on, until the chain terminates in an eyewitness report. What grounds our belief that Julius Caesar was assassinated then is faith in the historical record – confidence that it is a chain linking reliable sources and terminating in an eyewitness report.

Two points about this account are worth noting: First it is linear. For each individual historical belief, we are supposed to have confidence in a chain of record linking that belief to the event it reports. Second, it is egalitarian. All historical statements are supposed to be supported in the same way. Let us call these the linearity and egalitarian assumptions.

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[2] David Hume, *A Treatise on Human Nature,* ed. L.A. Selby-Bigge (Oxford: Clarendon Press, 1928), 82-3. Hume gives a more textured account of testimony in "Of Miracles" in his *Enquiry Concerning Human Understanding,* ed. Eric Steinberg (Indianapolis: Hackett, 1977).

On the face of it, Hume's account seems plausible. We disbelieve a historical claim if we consider the relevant historical record corrupt or the sources unreliable. We suspend judgment if we think that the historical record might be corrupt or unreliable. And we are, no doubt, wrong to believe a historical claim if there is no suitable chain of record. Still, Anscombe has a telling objection to the Humean picture. *That's not how we do it*[3]. It is not the case, she contends, that we believe that Julius Caesar was assassinated because we trust the chain of reliable histories that links us to the event. Rather, we consider a historical chain reliable precisely because it gets the facts about Caesar right. Being right about Caesar is a touchstone against which we measure histories of Rome. That is because we know that Caesar was assassinated better than we know anything about the intermediate links in the chain of record.

She is right. No one thinks, "Well, Johnson is a responsible historian. He would not have said it, if he did not have a good source. And he would only consider a good source someone who in turn had a good source, and so on. Therefore, I will take his word for it: Julius Caesar was assassinated." It is simply not the case that we have more confidence in the reliability of historians than in facts like the fact that Julius Caesar was assassinated. As Anscombe puts it,

> If the written records that we now see are grounds of our belief, they are first and foremost grounds for belief in Caesar's killing, belief that the assassination is a solid bit of history. Then our belief in that original event is a ground for belief in much of the intermediate transmission.[4]

Empiricism contends that perceptual deliverances (or impressions of sensation or sense data or what have you) are independently credible and provide the basis for all factual knowledge. This is why an empiricist account of history grounds acceptable historical statements in eyewitness reports. But such an account tacitly assumes that the authority of first personal perceptual deliverances carries over to third personal cases. This assumption is dubious. It is one thing for me to take my perceptual deliverances to be independently credible. It is quite another for me to take someone else's report of her perceptual deliverances to be independently credible. Whether or not the former is reasonable, the latter is not. For my informant may be untrustworthy. Anscombe's point is that we trust eyewitness reports not merely because they present themselves as such but because

[3] Anscombe, "Hume," 88.

[4] Anscombe, "Hume," 88.

they accord with things we antecedently accept. Rather than being independently credible, they require and sometimes receive corroboration.

Anscombe frames her discussion in terms of what we do, not what we should do, vis à vis historical claims. But she evidently considers history, as it is practiced, to be a reputable cognitive discipline. So her views, if correct, have consequences for epistemology. What we do in this case is pretty much what we should do.

Anscombe rejects the egalitarian assumption. She maintains that historical understanding consists of different sorts of beliefs with different sorts of grounds. She does not claim that we never use Humean reasoning. We might, I think, do so for arcane facts. According to Bertrand Russell, the Pythagoreans believed that it is wicked to eat beans.[5] He cites Burnet as his source.[6] I might have doubts about Russell's credentials as a historian, but I have confidence in Burnet. Having no other views that bear on Pythagorean dietary taboos, I accept the claim because I trust the source. But such arcane facts are unusual in that they are neither supported nor undermined by anything else we know. Even if the linearity assumption and the strong dependence on the chain of record hold for such isolated historical claims, it does not follow that they hold generally.

Much recorded history consists of what might be called ordinary historical facts. These are facts like the fact that Galen existed or the fact that the *De Rerum Natura* is authentic. Acceptance of these rests largely on considerations of coherence. The contention that Galen existed meshes with the rest of our understanding of Roman history and with our understanding of the historical record. When it comes to ordinary historical facts, it makes sense to ask: How do we know? Evidence can be adduced to support or to undermine statements of ordinary historical fact. One might think that apart from what I called arcane facts, history consists entirely of statements of ordinary historical fact. We believe that Galen existed because the hypothesis that he existed fits so well with the rest of our knowledge of Roman history. To deny his existence would not just leave a gaping hole, it would discredit many of our views about related matters. We could not, for example, be wrong about Galen and right about Marcus Aurelius.

Anscombe does not deny that mutual support of statements of ordinary historical fact is crucial to much of our historical understanding. She rejects the linearity assumption that each historical fact has a separate chain of record. But, she believes, mutual support is not enough. The case of King Arthur shows why. Bracketing the plainly mythic embellishments, our various views about King Arthur

[5] Bertrand Russell, *The History of Western Philosophy* (New York: Simon and Schuster, 1945), 31.
[6] John Burnet, *Early Greek Philosophy* (London: A & C Black, 1930).

hang together fairly well. The story is gappy, but no more gappy than one would expect of a history of sixth century England. Moreover, we could not be wrong about King Arthur without being wrong about Guinevere. But we could easily be wrong about both. Whether King Arthur existed is a matter of dispute. Mutual support takes us only so far. For we can ask of a constellation of mutually supported claims, "How do we know any of it?" To answer that requires connecting the constellation to something we know better. Historians are undecided about King Arthur because the coherent story is not sufficiently supported by things they have better reason to believe. They are unanimous about Galen because the coherent story is grounded. "One can relate [Galen] to better known historical matters."[7]

A regress threatens. We relate the coherent account about Galen to better known historical facts. What grounds these better known facts? They too, presumably, constitute a coherent account. But if it is legitimate to ask "How do we know any of it?" when confronted with coherent accounts about Galen, shouldn't it be legitimate to ask it about the account that grounds our knowledge of Galen? The answer has to be 'no'. Maybe we can take one or two steps along the regress, but we can't go on indefinitely demanding grounds. Unless the regress ends, the study of history is futile. At some point, the question "How do we know any of it?" remains unanswered. If it needs to be answered, skepticism results. In fact, the regress terminates quickly. We know *a* better than we know *b,* and *b* better than we know *c*. But we soon arrive the point where we know nothing better. That, Anscombe believes, is the status of our knowledge of the death of Julius Caesar.

Facts that have this status I call touchstones. Anscombe mentions three such facts: Julius Caesar existed, Julius Caesar was assassinated, and the Latin of Horace, Ovid, Virgil, Cicero, and Caesar is authentic, classical Latin. Touchstones are not, according to Anscombe, entirely immune to doubt, but the only doubt to which they are susceptible is Cartesian doubt. We can perhaps wonder whether we know anything at all about history, but if we know anything about history, we know that Julius Caesar was assassinated.

This is surprising. Why should we think that doubts about Caesar's death plunge us into Cartesian doubt? That Julius Caesar was assassinated is not only a contingent fact, it is a fact about something that happened a long time ago. It seems to be the sort of thing we could be wrong about. That being so, it appears reasonable to ask, "How can we be sure that we are not wrong about it?" This does not have the ring of a skeptical question. It sounds like the sort of question that any self-respecting discipline should be prepared to answer. The problem, Anscombe

[7] Anscombe, "Hume," 91.

maintains, comes when we try to imagine how we would find out that we were wrong. What would show that? In the *Philosophische Bemerkungen*, Wittgenstein suggests that we might find "something written, from which it emerges that no such man ever lived, and his existence was made up for particular ends".[8] But, Anscombe points out, the conviction that Julius Caesar really existed is so much stronger than our reasons for believing that the document is truthful, that the clash would discredit the document. Any evidence that seemed to call Caesar's existence into question would immediately be dismissed as misleading. Being so much more certain than any evidence that might be brought against them, touchstones thus are invulnerable to disconfirmation by historical evidence.

If they are invulnerable to disconfirmation by historical evidence, they are equally insusceptible of evidential support. Again this seems surprising. Surely, one might think, historians could find new evidence that Julius Caesar existed. But the argument for disconfirmation holds for confirmation as well. If we discovered an ancient document which seemed to attest to the existence of Caesar, its content would be evidence that the document was authentic, not evidence that Caesar existed. The so-called evidence does not confirm the fact; its accord with the fact underwrites its status as evidence.

The indifference to evidence suggests that we could not find out that Julius Caesar really existed. If there is no evidence, how could we possibly find out? Anscombe admits that some people could find out that Julius Caesar existed, but claims that *we* could not. (*We* presumably are adults who were educated in the west.) A child might believe that Shakespeare's play is a pure fiction. He could go to history books and find out that unlike King Lear, Julius Caesar really existed. A Chinese man, who has had little contact with the west, could, Anscombe says, "learn our languages, come to our countries, find out that the corpus of solid historical information belonging to our culture does include this."[9] The investigations of the child and the Chinese man would bring them to our level. They would learn the role of "Julius Caesar existed" in our understanding of history. They would learn that it is a touchstone. This is something we already know, hence cannot find out. It is, Anscombe believes, an illusion to think that we are simply further along the investigatory trajectory that advances the child's and the Chinese man's knowledge of the matter. For us, the existence of Julius Caesar is settled. There is nothing left to find out, since it is, as she says, "a solid bit of history".

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[8] Ludwig Wittgenstein, *Philosophische Bermerkungen* (Oxford: Blackwell, 1964), IV §56) quoted in Anscombe, "Hume," 89, where she calls it one of his rare pieces of stupidity.

[9] Anscombe, "Hume," 91.

Anscombe's point concerns the current status of facts that serve as touchstones, not what made them acceptable in the first place. She does not deny that evidence was ever relevant to the acceptability of the claim that Julius Caesar existed. She does not deny that someone found it out. Eyewitness reports and primary source documents presumably once played a role. Her point is rather that how we or our predecessors came to believe that *p* does not determine the role that *p* now plays in our understanding. To determine that, she thinks, we need to ask what could discredit *p.* If the answer is "Nothing short of Cartesian doubt," then *p* is a touchstone.

Touchstones are not just very deep-seated convictions. They anchor our knowledge of history, serving as validators of other historical claims. In Wittgenstein's terms, they are the hinges[10] on which the study of history turns. Because they are as certain as anything we know about history, they supply the standards against which we measure more dubious historical hypotheses. Anscombe illustrates how this is done. She says,

> I was taught, I think, that when Leucretius was first published during the Renaissance, the *De Rerum Natura* was suspected of being a forgery; but its Latinity and the absence of 'giveaways' won its acceptance. This means that there were standards by which to judge. The ancient Latinity of Horace, Ovid, Virgil, Cicero and Caesar was such a standard.[11]

To decide whether the *De Rerum Natura* is authentic then, we compare it to works whose authenticity is unquestioned. If the language – including syntax, vocabulary, style and content – is sufficiently similar to the language in the works whose authenticity is unquestioned, it is accepted as an authentic ancient Latin work. This seems a methodologically responsible way to proceed. But it raises the question of the status of works we measure by. To assuage doubts about the authenticity of the *De Rerum Natura*, we need a standard to judge it by. The Latin of Horace, Ovid, Virgil, Cicero and Caesar is the standard. Their being the standard, Anscombe says, is "known by tradition and never subject to question".[12] Presumably then, anyone who knows anything about authenticating classical Latin, knows that you test against the Latin of Horace, Ovid, et al. This may be true. But the question remains: How do we know – how does anyone know – that the works attributed to these authors are authentic? To say that their authenticity *is* unquestioned is not to say that their authenticity *should not be* questioned, much

[10] Ludwig Wittgenstein, *On Certainty* (New York: Harper Torchbooks, 1969), §341.
[11] Anscombe, "Hume," 90.
[12] Anscombe, "Hume," 90.

less that their authenticity *could not be* questioned. These are fine words. But, Anscombe pointedly asks, how would you mount the challenge? "To attempt to construct a serious doubt whether we have writings of Cicero – how could it find a ground from which to proceed?"[13]

It might seem that we have an answer. If the works of Cicero, Ovid, et al. are touchstones, we might at least hope to compare them against each other. We could, of course, make such comparisons. But even the discovery of significant differences would not necessarily raise doubts about authenticity. Classicists would more likely conclude that ancient Latin was more varied or flexible than had previously been thought. Suppose this conclusion were somehow blocked. Then perhaps the question of authenticity would arise. But about the authenticity of which works? Do we doubt the authenticity of the Virgil's *Annead,* or Cicero's *Philippics,* or Caesar's *Punic Wars*? Being touchstones, they are on a par. Since none is more firmly established than the others, none can serve as the standard for authenticating the others. If any comes under suspicion, all do. The doubt again turns out to be Cartesian. If we raise the question about the authenticity of the touchstone works, we have no resources for answering it. For our ultimate standards no longer hold.

Anscombe is not here denying that we could entertain Cartesian doubts about history. Her claim is that there are facts about history that we cannot call into question without thereby calling into question the entire corpus of historical knowledge and the entire methodology for establishing historical facts. We can do this if we like, but if we do, we are no longer doing history.

It is widely held that knowledge must be grounded in independently credible beliefs; that is, in beliefs whose credibility does not derive from their relation to other beliefs. Traditionally, epistemologists have held that some intrinsic feature of the beliefs in question or their relation to the knowing subject makes them independently credible. They are, as it might be, indubitable, or self-presenting, or clear and distinct. Such beliefs are held to wear their epistemological hearts on their sleeves. Anyone who considered the matter could tell whether a candidate belief was basic. Anscombe and her fellow Wittgensteinians also believe that knowledge rests on independently credible basic beliefs. But neither their intrinsic features nor their relation to the believer accounts for their status. The child might entertain the hypothesis that Julius Caesar existed, and dismiss it as a fiction. The Chinese man might believe it, but consider it on a par with "Galen existed," an ordinary historical fact about ancient Rome. What makes "Julius Caesar existed" basic, according to Anscombe, is its function in our knowledge of Roman history. As we come to

[13] Anscombe, "Hume," 90.

understand ancient history, we realize that "Julius Caesar existed" plays a role that "Galen existed" does not. It serves as a touchstone against which to assess other putatively historical claims. Not only does it figure in the justification for more tenuous historical claims, it belongs to the framework within which we locate events. It is so deeply enmeshed with everything else we purport to know about the subject that to call it into question would undermine the entire enterprise. Not only does the study of history fail to provide reason to doubt it, its immunity to doubt underwrites historiography as we know it.

Although this discussion focuses on history, the argument generalizes. It applies to any area where information is second-hand. If Anscombe is right, not only history, but geography, current events, science, and ordinary knowledge rest on touchstones which are neither in need of nor susceptible to justification within the disciplines that rely on them.

Philosophers are comfortable with the idea that the other disciplines rest on philosophical presuppositions. So the conclusion that history (or science or sociology or whatever) bottoms out in philosophical questions should not surprise or dismay us. What is unexpected is where Anscombe thinks the bottom lies. We tend to think that philosophy enters the picture when it comes to addressing sweeping questions about, for example, the reliability of methods or the status of broad categories – perceptual knowledge, knowledge of the past, knowledge of the material world, or whatever. But the factors that Anscombe construes as touchstones are remarkably specific. If someone in a history class were to ask, 'How do we know that Julius Caesar was assassinated?' we would hardly expect the answer to be, "That's a question for philosophy."

The worrisome aspect of Anscombe's position is not that history (and by implication, the other disciplines) bottom out in philosophy, but that they bottom out in *Cartesian doubts.* The clear implication is that these are skeptical doubts that cannot be assuaged. She says, "The effect of the hypothesis [that a touchstone is false] is to make a vacuum in which there is nothing by which to judge anything else".[14] If such doubts really cannot be answered, they had better not be raised. The study of history is abortive unless the regress ends.

Inspection reveals that the regress does end. It terminates with facts like the fact that Julius Caesar was assassinated. At that point we take ourselves neither to have nor to need anything more to say. As Wittgenstein says, "If I have exhausted the justification, I have reached bedrock and my spade is turned. Then I am inclined to say 'This is simply what I do'".[15] The discipline of history, Anscombe

[14] Anscombe, "Hume," 91.

[15] Ludwig Wittgenstein, *Philosophical Investigations* (Oxford: Blackwell, 1953), §217.

believes, depends on accepting the touchstones. It justifies everything else it accepts by reference to them. A contention *p* can be called into question only by considerations that are better known than *p*. And nothing is better known than a touchstone. Having no resources to dig deeper, history`s spade is turned. This is simply what historians of ancient Rome do: they ground their accounts in the claim that Julius Caesar was assassinated.

Still, the niggling suspicion remains: Maybe Julius Caesar wasn't assassinated. Maybe he didn't even exist. It is not obvious that we can silence or discredit the worry, merely by construing it as skeptical.

Anscombe seems to be saying that if we want to understand history, we must take the touchstones on faith. Her language bears this out. I said earlier that she does not say that we *know that* Julius Caesar existed. Rather she says that we *believe in* the existence of Julius Caesar. The locution "believe in" is much more at home in religious or supernatural contexts than in discussions about mundane facts. We do or do not believe in God, or in reincarnation, or in the divinity of Jesus or whatever. Our children do or do not believe in Santa Claus or in ghosts. Perhaps you can't be a theist if you do not believe in God. The existence of God is then a touchstone of theism. Anscombe seems to suggest that believing in the existence of Julius Caesar is to history as believing in God is to theism. If so, it seems that history is a more dubious cognitive enterprise than we are inclined to think it is. "Take it on faith" is not what we consider intellectually reputable advice. Moreover, even if you cannot be a theist if you question the existence of God, it is perfectly obvious that you *can* question the existence of God. To do so is not an exercise in Cartesian doubt. Reasons can be brought to bear. So if the cognitive structure of history is supposed to be like the cognitive structure of theism, the subject may bottom out in questions that the discipline lacks the resources to answer, but it does not follow that it bottoms out in questions that cannot be answered.

I am not convinced that touchstones are immune even to historical doubt. Let us look at the examples Anscombe mentions. Consider the following alternative to "Julius Caesar was assassinated":

> Suppose that while his political enemies were verbally assailing him, Julius Caesar suffered a fatal heart attack. Mark Antony and his followers decided to gain political advantage by putting it about that Caesar was murdered. Perhaps they lied about Caesar's death. Perhaps they used the term "assassination" metaphorically to label the verbal abuse that they believe led to Caesar's fatal heart attack. To be sure, there were eyewitnesses. But non-partisan witnesses only saw the event from a distance, not from a vantage point which would enable them to distinguish between Caesar's collapsing from a heart attack and collapsing from a blow. Like contemporary eyewitnesses, their reports were less reliable than we

> would like to believe. Be that as it may, people took Mark Antony's words literally and believed what he said. The rest, as they say, is history.

I made the story up, but it is not utterly implausible. To seriously entertain it as an alternative to the received view we need not advert to malevolent demons, systematic deception, or brains in a vat. But, Anscombe might reasonably reply, the fact that someone can make up such a story does not mean that history has any reason to take it seriously. If history had to discredit every undefeated potential defeater, it could not get started. In order to be worth taking seriously, such a story would have to be backed by evidence or other cogent historical reasons. So the question is, could there be evidence or reasons favoring my story? Anscombe believes not. Even if we found a document attesting to the truth of my account, it could easily be false or misleading. It might be spurious, or it might be political chicanery. But we would hardly take it to refute the claim that Julius Caesar was assassinated. The question, Anscombe insists is: "What would get judged by what?"[16] She considers it obvious that such a document would be judged against the touchstone, and found wanting. Granted, even in the best of circumstances, it is not easy to determine which politicians or pundits are lying (or about what). So the possibility that the document is spurious, false, or misleading is real. But it is not as obvious as Anscombe thinks that the document should be summarily dismissed. Perhaps a lone document would suffer the fate Anscombe describes. But if several seemingly authentic documents with evidently divergent provenances were found, the situation would, I suspect, be different. They might not discredit the claim that Julius Caesar was (literally) assassinated, but they would be likely to give historians pause. They might prompt historians to reassess the evidence – to look more closely at the primary source documents for evidence of political chicanery or evidence that the term "assassination" was used metaphorically. Such a reassessment could occur even in the absence of new documentary evidence specifically about Caesar. Latinists working on other documents might find reason to take certain locutions or texts, which once been considered literal, to be figurative. The reinterpretation of the evidence about Caesar's death could simply be a consequence of revisions in interpretation that were justified by the sense they make of other ancient works. I am not claiming that it would be easy to show that my account is true. My point is only that evidence could be brought to bear. There could be grounds for doubt that Julius Caesar was assassinated.

[16] Anscombe, "Hume," 89.

Could there be grounds for doubt that Julius Caesar existed? This is a bit harder to conceive, but I think it is still possible. I take it that "Julius Caesar existed" is equivalent to:

(∃x) x is a person & x is Julius Caesar & [(y) y is Julius Caesar ≡ y=x] & x is dead.

One way this could be false is if the uniqueness condition is not satisfied. How could this be? Consider the case of 'Nicolas Bourbaki'.[17] It looks like the name of a person, but actually it is a pseudonym for a group of French mathematicians who derived some important results in set theory. Perhaps one or another of them appears at mathematics conferences under the name of 'Nicolas Bourbaki' and presents a proof. Even then, the speaker has no more claim to be the real Nicolas Bourbaki than any of the other members of the group. Maybe our descendants will take the name 'Nicolas Bourbaki' to denote the unique person who generated the proofs that appear under the name. They will be wrong, for there is no such person. It is not inconceivable that we are in the same situation vis à vis the name 'Julius Caesar.' Perhaps the name is a pseudonym for a cabal who collectively ruled Rome. One or another member of the cabal may have appeared at political functions under the name of 'Julius Caesar,' but the spokesman on any given occasion had no more claim to be the real Julius Caesar than any of the other members of the group. Granted this scenario is a bit harder to swallow than my previous effort, but given the example of Bourbaki, it does not seem an obviously skeptical alternative. Could there be evidence for it? I think there could. Historians might find other ancient cases where tight knit groups adopted the names of individual people. They might look back at the primary sources and find inconsistencies that can be resolved by the hypothesis that in different contexts different members of the cabal functioned as Julius Caesar. Perhaps, for example, the descriptions of his appearance are inconsistent – some say he is tall, others say he is short. Perhaps the writing styles in the various works attributed to him differ. Perhaps various exploits that had to be dismissed as hyperbolic under the assumption that Julius Caesar was one person become plausible under the hypothesis that the name 'Julius Caesar' denotes the several members of a group. Again, my claim is a modest one. Evidence could be adduced that would undermine our conviction that Julius Caesar, a single human being, existed. The claim does not seem beyond the reach of evidence.

[17] Thanks to Amelie Rorty for the example.

The final touchstone Anscombe mentions is the conviction that the works of Horace, Ovid, Virgil, Cicero, and Caesar are authentic classical Latin works. I suggested earlier that even if we found significant differences in the language used by the several authors, Anscombe would deny that we could non-skeptically question their authenticity. Since they are all on the same level, we wouldn't know which one to doubt. I am not convinced. One principle we might use is 'odd man out'. Suppose, for example, linguistic analysis reveals that the language of Horace diverges considerably from the language used by the other four, but those four diverge little from one another. This would focus doubts on the Horace. Suppose further that the Horace contained syntactical constructions that did not appear in other Latin documents until the 12th century. This would strongly suggest that Horace's works had been misdated. Anscombe might think that such eventualities had already been excluded before the facts were elevated to the status of touchstone. But developments in linguistics, literary criticism, even computer analysis of literary texts reveal patterns in literary works that previous scholars overlooked. The conviction that the case is closed looks premature.

Anscombe's position rests on the view that we know some things better than others. Some epistemologists might bristle at the idea that bits of *knowledge* differ in strength, but it seems plain that well-founded convictions do. Even though we are convinced of all of them, we cling more tenaciously to some well-founded convictions than to others. Moreover, we think we are right to do so. We are not embarrassed about being more strongly convinced that Caesar was assassinated than that Galen was an ancient physician. This is all Anscombe needs. Such differences in strength are not idle. They provide a way to adjudicate conflicts. If all well-founded convictions were equally strong, we would have no reason to prefer one to another when they clash. Confronted with a bit of recalcitrant but prima facie credible evidence, we would be stumped. We could conclude that either Julius Caesar was assassinated or the newly discovered document is unreliable, but we would have no basis for preferring either disjunct over the other. But because we are much more strongly convinced that Julius Caesar was assassinated, we reject the documentary evidence as unreliable. As I've put it, this is a psychological claim about how we treat our various convictions, but it is more than that. Historiography requires that different weights be assigned to different beliefs about the past. The strength of our convictions reflects the weights assigned. If we didn't rely on the strength of our convictions to adjudicate conflicts, Anscombe believes, we couldn't do history. This may well be true. But it doesn't show that the procedure is reasonable.

Underlying Anscombe's position is the widely held assumption that the weaker conviction cannot override the stronger. This is why she thinks we can

have no evidence against the thesis that Julius Caesar was assassinated. Being so much more strongly convinced that Julius Caesar was assassinated, if we were confronted with a document alleging the contrary, we would simply reject the document. She treats conflicts among beliefs like an elimination tournament. Serena Williams plays Maria Sharapova and beats her; Sharapova goes away. Serena Williams then plays Na Li, and beats her; Li too disappears from the scene. She then takes on Tsvetana Pironkova and dispatches her as well. The rivals, being beaten, depart, never in this tournament to be heard from again. The strongest player prevails. But in cognitive clashes, rejected considerations do not, as a rule, obligingly disappear. To merit consideration in the first place, the weaker conviction – the disputed document, for example – must have something going for it. It seems authentic, perhaps because of the age of the parchment, the location where it was found, the style of the writing, and so on. It still has those properties. So the question arises: if it is not true, how are we to account for it? Maybe it is a forgery. Maybe it is an authentic Roman work, but a bit of propaganda. Maybe it is wishful thinking on the part of a Roman author, horrified at the idea of political assassination. Each such hypothesis requires backing. We cannot be satisfied with a rejection grounded in a list of 'maybe's. Rejecting a prima facie plausible hypothesis has consequences. The reasons for which we originally accepted it, or at least took it seriously, do not just disappear.

Often we have no trouble accounting for the prima facie plausibility of the considerations we reject. Either we find evidence that the document is spurious, or find a way to account for the existence of a document alleging something false. A local and limited revision in our belief system usually suffices. We are even willing to tolerate a few cases of what scientists are apt to call "undetected background noise" – that is, cases where we are confident there is some reason why the consideration is unfounded, but we can't quite put our finger on it. Sometimes, however, things are not so straightforward. Revisions reverberate. Construing the rejected document as propaganda raises the issue of how we are to read other contemporaneous documents. Should they still all be taken at face value? The idea that there is just one bit of propaganda in an otherwise reliable collection of factual documents is implausible. So we need ask which other documents are untrustworthy and how to tell. Once we raise the issue that some of the primary source material might be propaganda, we may find reason to reconsider a good deal more of what we had previously accepted about ancient history. The rejected document may begin a cascade of revisions that eventually collectively undermine our confidence in a touchstone.

Let me mention a couple of illustrations. Since Anscombe gives no criteria for being a touchstone, it is hard to know whether one has an actual counterexample. But the cases I mention seem to be plausible candidates. In the 19th century, ancient

historians were convinced that Troy was mythical. This conviction was, I suggest, a touchstone of history. One could not appeal to facts about Troy to ground other historical claims. Then Schliemann and Calvert discovered Troy. Perhaps initially historians could insist that the archeological site is not really Troy, that it is some other ancient city. But as the dig continued to reveal features described in *The Iliad* that defense weakened. Eventually it became implausible to thunder "What would get judged by what?" and insist that we are more confident that Troy is mythical than that the newly discovered city is Troy. In consequence of the discovery, historians had to revise more than their view about the existence of Troy. Once they concede that the place really existed, they have to consider how much of the story of *The Iliad* has its basis in fact. Bracket talk about the gods or construe it as metaphor. What should they think about the human protagonists? They needed to look back at the evidence in hand, reinterpreting it in light of the fact that Troy is real. Is there evidence for the existence of Agamemnon, Achilles, Hector, Helen? They also had to rethink their convictions about other ancient literary texts. Should we still be confident that *The Oresteia* is pure fiction or the story of Oedipus? The answer is by no means clear.

Consider another case. Historians used to construe the medieval period as the Dark Ages, where learning was eclipsed. This was, I submit, a touchstone of history, a conviction that framed the interpretation of evidence about the period. But scholars became increasingly aware of developments in mathematics, natural science, art and philosophy, which could not be readily accommodated within this framework. The conviction that the period was an intellectual wasteland simply could not stand. The revisions not only changed our understanding of the Middle Ages, but forced a reconsideration of the Renaissance as well. If reason wasn't dead, it did not need to be reborn. So how exactly did the Renaissance differ from the period that preceded it? Again this is a real historical question that admits of real historical investigation. It does not throw historians into skeptical panic. It sends them back to their task. It is, in history and elsewhere, possible to discover that we have been deeply wrong about something important without concluding that we do not know anything about the subject at hand or how to study it.

The excavation of Troy yields rock solid evidence that forces a reconsideration of the touchstone. No single datum has that effect in the reconsideration of the Middle Ages. Rather, multiple bits of evidence, any one of which might be dismissed as inaccurate or unrepresentative of the period, collectively make the case. As the evidence mounts, it becomes increasingly implausible that the touchstone is correct. This suggests that we ought not be so sanguine about assuming that weaker considerations never override stronger ones.

Still, Anscombe's rejection of the egalitarian principle strikes me as correct. If all well-founded convictions were on a par, we would be at a loss when confronted with a clash. But one can reject egalitarianism without concluding that history must be grounded in unshakable commitments. I suggest rather that our convictions possess different degrees of epistemic inertia, a cognitively well founded staying power or propensity to resist revision or rejection. Physical inertia is a property of bodies which consists in their resistance to change in uniform motion. The greater a body's inertia, the harder it is to dislodge. When a slight force acts on a body with considerable inertia, the effect on that body is negligible. But a substantial force can alter such a body's course. So can a suitable constellation of individually weaker forces. Hence the analogy.

A commitment's epistemic inertia derives in part from how firmly we are convinced of it. More important is how central it is to our understanding of the subject. That depends on how much else we would have to revise or reject or reconsider if we were to give it up. Some beliefs have relatively low inertia. Although they are genuine beliefs, we would and should have few qualms about rejecting them should new evidence emerge. "The Pythagoreans thought it was wicked to eat beans" is a belief of this kind. Others are more resistant to rejection. We could perhaps be convinced Richard III was not behind the murder of the princes in the Tower[18], or that during the American Revolution Benjamin Franklin was a British spy, but it would take some doing. The sorts of considerations that function for Anscombe as touchstones have considerable inertia. It would take a lot to convince us that Julius Caesar was not assassinated. But, I think, we could be convinced.

The alternative I am offering is frankly Quinean.[19] A commitment's inertia depends on its place in the web of belief. The more central the commitment, the more tightly woven into the fabric of our understanding, the harder it is to reject. But nothing is in principle immune to rejection, and only differences in degree separate the commitments at the periphery from those at the center. The principle of minimal mutilation favors preserving the commitments with the greatest inertia. But Quine, unlike Anscombe, recognizes that we can have epistemologically good reasons to repudiate even our most central claims. This is something Anscombe flatly denies. She says,

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[18] See Josephine Tey, *The Daughter of Time* (London: Penguin, 1951) for an excellent argument to this effect.

[19] Willard Van Orman Quine, "Two Dogmas of Empiricism," in his *From a Logical Point of View* (New York: Harper Torchbooks, 1953), 43-44.

> Not everything can be put up for checking. Neurath's image is of a ship which we repair – and, I suppose, build on to – while it is afloat: if this suggests that we can go round tapping every plank for rottenness, and so we might end up with a wholly different ship, the analogy is not good. For there are things that are on a level. A general epistemological reason for doubting one will be a reason for doubting all, and then none of them would have anything to test it by.[20]

I disagree. Perhaps such massive revisions are not due to 'general epistemological reasons'; but local and parochial reasons mount up. As a Quinean holist I believe that philosophy is continuous with the rest of inquiry, so there is no sharp line between historical, historiographical, and epistemological reasons. In any case, the question is not whether there can be general epistemological reasons to reject the touchstones, it is whether there can be epistemologically sound reasons of any sort.

Anscombe's rejection of Quinean holism is grounded in her belief that the touchstones are not just important facts, but standards for the acceptability of other claims. That being so, she thinks that they cannot be repudiated without destroying the enterprise they belong to. Some standards evidently have this character. The standard meter is supposed to be the only object that could not fail to be one meter long. Because it is the standard, however long it is, that is how long a meter is. It is thus the final authority on whether any other object is one meter long. Were we to entertain the possibility that *it* is not a meter long, we would lose our moorings. Not only would we have no basis for judging such a thing, we would lose our grip on what a meter is.[21]

What enables it to be authoritative? First, it is unique. Because there is only one standard meter (viz., the bar in Paris), and one standard for being a meter long (viz., being the same length as the bar in Paris), there is no possibility that verdicts yielded by different standards for the same magnitude could clash. Second, units of measure are established by stipulation. Prior to and independent of the requisite stipulation, there is no fact of the matter. The standard meter is authoritative then because it is constitutive. To be one meter long is neither more nor less than to satisfy the standard.

Not all standards have this character. Consider safety standards. No one thinks that for a drug to be safe just *is* for it to satisfy government safety standards. Such standards are not constitutive of the matters they bear on. In judging the

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[20] Anscombe, "Hume," 92.

[21] So, anyway, the story goes. In reality even this case is more complicated, since the metal bar expands and contracts with heat. But for the purposes of this discussion, we can accept the idea that the standard meter is a paradigmatic case of an authoritative standard.

safety of a drug, we sometimes think that although current standards have been met, the verdict might still be wrong. Safety standards are not authoritative, but indicative. Their satisfaction affords reason to believe, but no guarantee, that the item being assessed measures up. They tend therefore to be multiple. Ceteris paribus, having several indications that a drug is safe strikes us as better than having only one. Moreover, they are revisable. As we learn more about the dangers of steroids, for example, we refine our standards of safety for the drugs. Finally, indicative standards admit of assessment. We can test them against other indicative standards, against the ends we want them to serve, and against our 'intuitions' about the matters they are supposed to assess. Such tests are not of course conclusive. But they supply evidence for or against the continued acceptability of the standards in question.

Anscombe seems to think that the touchstones of history are authoritative standards. If so, nothing is a solid bit of ancient Roman history unless it properly accords with "Julius Caesar existed" and the like. History is a factual discipline, so the touchstones clearly cannot be constitutive standards. Accord with the touchstones is not what makes a contention a historical fact. Might the touchstones be authoritative without being constitutive? That would require that accord with them be a necessary condition for being a solid bit of ancient Roman history. But it is sheer hubris to claim that a historical statement's failure to accord with a touchstone shows conclusively that the event it reports did not occur. And lacking conclusive evidence that it did not occur, we would be unwise to peremptorily exclude it from consideration. Nor do we need to. For the touchstones can be construed as indicative of epistemic acceptability. In that case, accord with them is evidence or reason to believe that a contention is a solid bit of history. Failure to properly accord with them is ordinarily reason to reject a claim. So the touchstones have considerable inertia. But they can be dislodged.

On this account there is no sharp difference between touchstones and ordinary historical facts. There are just different degrees of inertia. No commitment is invulnerable to criticism, revision or rejection, but some are more vulnerable than others. Reasons for questioning a touchstone need neither derive from nor lead to skeptical doubts. They may be generated within the discipline or elsewhere. Psychological evidence about the limited reliability of eyewitness reports or the selectivity of memory could engender a reassessment of previously accepted historical claims. Advances in linguistics or literary analysis could prompt a reinterpretation of historical documents. Discoveries in materials science could provoke a reconsideration of the nature, date, or use of artifacts. Recognition of the reliability of previously discredited sources or the availability of previously ignored sources could call the touchstones into doubt. Anscombe thinks we can't go around tapping

every plank, testing for rottenness. Obviously we can't test them all at once, and different tests are needed to assess the strength of different sorts of planks. But no plank is immune to rot, so none should be exempt from testing.

ASSERTION, TESTIMONY, AND THE EPISTEMIC SIGNIFICANCE OF SPEECH

Sanford GOLDBERG

ABSTRACT: Whether or not all assertion counts as testimony (a matter not addressed here), it is argued that not all testimony involves assertion. Since many views in the epistemology of testimony assume that testimony requires assertion, such views are (at best) insufficiently general. This result also points to what we might call the epistemic significance of assertion as such.

KEYWORDS: norm of assertion, testimony, knowledge

What is it to perform a speech act that amounts to testimony that *p*? An initial hypothesis that has occurred to many – call it the *necessity thesis* – is that a speech act constitutes testimony only if it has the force of an assertion. Some authors appear to identify testimony with assertion, and thus appear to hold the biconditional.[1] But whatever the standing of the sufficiency thesis in the biconditional,[2] the necessity thesis has seemed plausible to a good many people – so plausible, in fact, that entire theories in the epistemology of testimony have been erected on this basis.

Examples are easy to come by. The "assurance view" of testimony[3] holds that it is only when a speech act is an assertion that it has the core feature of

[1] See Elizabeth Fricker, "The Epistemology of Testimony," *Proceedings of the Aristotelian Society*, Supplemental Vol. 61 (1987): 57-83, and Ernest Sosa, "Testimony and Coherence," in *Knowing from Words*, eds. Bimal Krishna Matilal and Arindam Chakrabarti (Dordrecht: Kluwer Academic Publishers, 1994), 59-67. I say 'appear to', since their comments are made in passing, and so the attribution is not certain.

[2] It is doubted by many; see for example C.A.J. Coady, *Testimony: A Philosophical Study* (Oxford: Oxford University Press, 1992). But see Peter Graham, "What is Testimony?," *The Philosophical Quarterly* 47 (1997): 187, 227-232 for a response to Coady.

[3] Edward Hinchman, "Telling as Inviting to Trust," *Philosophy and Phenomenological Research* 70, 3 (2005): 562-87; Richard Moran, "Getting Told and Being Believed," in *The Epistemology of Testimony*, eds. Jennifer Lackey and Ernest Sosa (Oxford: Oxford University Press, 2006), 288-289.

testimony – that of amounting to (in the words of Moran) a speaker's "guarantee" of the truth of what she said. Moran goes on to say that

> The epistemic value of [a speaker's] words is something publicly conferred on them by the speaker, by presenting his utterance as an assertion. … Determining his utterance as an assertion is what gets the speaker's words into the realm of epistemic assessment… of the sort that is relevant to testimony…[4]

Similarly Owens, who is an explicit critic of the assurance view, nevertheless endorses the necessity thesis. Although his endorsement is not as explicit as is Moran's, it is strongly suggested in the way Owens orients his project. He writes:

> I am concerned with a distinctive way in which language users transmit information: they assert things. To accept testimony is to take someone else's word for it. Thus any epistemology of testimony presupposes some account of assertion and of the role that it plays in testimony.[5]

Two things are noteworthy about this quote. First, Owens uses 'assert' to designate the subject-matter of his inquiry – the sort of speech act that constitutes "a distinctive way in which language users transmit information" (his topic of inquiry). Second, Owens moves without comment from his claim about assertion, to a characterization of what it is to accept testimony, and from there to a claim about the need to provide some account of assertion and its role in testimony cases. This suggests that he thinks accepting testimony involves accepting assertion – something that would appear to make sense if, but only if, he accepts the necessity thesis.[6]

Nor is an endorsement of the necessity thesis restricted to those who endorse or aim to rebut the assurance view. On the contrary, it can be found in views, such one I presented in Goldberg,[7] where testimony is characterized as a matter of the speaker's representing herself as standing in an epistemically authoritative position vis-à-vis the truth of what she said. Noting that it is part of the very point of the speech act of assertion to so represent oneself, I concluded by "suggesting that testimony is governed by an epistemic norm because assertion is."[8]

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[4] Moran, "Getting Told," 288, 289.

[5] David Owens, "Testimony and Assertion," *Philosophical Studies* 130 (2006): 105.

[6] Owens' brief against the assurance view of assertion paves the way for his alternative model, on which assertion is a speech act expressive of belief; he argues that this more expressivist view of assertion does more justice to the epistemology of testimony.

[7] Sanford Goldberg, *Anti-Individualism: Mind and Language, Knowledge and Justification*, (Cambridge: Cambridge University Press, 2007).

[8] Goldberg, *Anti-Individualism*, 18.

Despite the widespread agreement on the necessity thesis, there is good reason to think that there can be cases of testimony that are not cases involving assertoric speech. The following case illustrates. Speaker S has super-high epistemic standards. These standards affect all of her speech act dispositions. For example, she will not assert anything that does not meet these super-high standards. Even her standards for speculating are very high. T knows all of this about S. In addition, T has assembled track-record data about S's speculations: T knows that these are highly reliable – more reliable, in fact, than are most competent assertions by other speakers. So when S speculates that p, T comes to accept that p on the grounds that S so speculated. (T had excellent reasons – in the form of the track-record data – to believe that S wouldn't have speculated that p, unless it were true that p.)

The hypothesis at issue ("The Claim") is that S's speculation that p is legitimately regarded as a case of testimony that p. Here I assume that The Claim is established if it can be shown that S's speculation is legitimately regarded as a case of testimony in connection with T, given his background knowledge of S's speech behavior and reliability. This latter hypothesis can be backed by noting several of the features of the case. To begin, T's belief in p is formed through his acceptance of a content S presents-as-true in her speech act, where T's acceptance was made on the basis of (his recognition of) S's having performed that speech act. In so doing, T is relying on S to have gotten things right. Stronger, T is relying on S's speech act to manifest S's reliability on the matter at hand. This is seen in the counterfactual T himself would cite in defense of his belief: S wouldn't have speculated that p, unless it were true that p. In effect, T's appeal to this subjunctive conditional makes clear that he is relying on S's epistemic authority on the matter. It is true that S hasn't explicitly or implicitly represented herself as having any such authority. But the point of the illustration is to support the claim that representing oneself as epistemically authoritative on the matter at hand is an inessential feature of testimony: although most cases of testimony may involve this feature, it is not required that all do.

Against The Claim, it might be objected that *S*'s speech counts as testimony only to a properly situated hearer such as *T*, and hence is not, in and of itself, a case of testimony. But to this two things can be said. First, granting that *S*'s speech act is testimony only to those situated like *T*, and so that this speech act is not *in and of itself* a case of testimony, this case falsifies the necessity thesis so long as it counts as a case of testimony; for then we would have an instance of testimony (albeit in connection with *T*) that is not an instance of assertion. One could resist this conclusion by insisting that no speech act should count as testimony unless it counts as testimony *independent of the background information of its potential audience*. But–and this is my second point–this reaction would appear to beg an

important question in the epistemology of testimony. A standard (if perhaps minority) view in the epistemology of testimony is that a hearer is justified in accepting testimony if and only if she has (undefeated) positive reasons, not ultimately reducible to further testimony, for regarding the testimony as credible. This 'reductionist' view is motivated by an idea regarding the epistemic significance of another's speech. The motivating idea is that the epistemic significance of another's speech is a function of the background information in terms of which the hearer assesses the credibility of the observed speech act. What the case of *S*'s speculation brings out is that this very rubric can be fruitfully applied even in cases not involving assertion. To rule out this would-be case of testimony, on the grounds that its status as testimony depends on the background information of *T*, thus would appear to beg the question against reductionism's motivating idea.[9] It would be a disappointment if our characterization of testimony ruled out reductionist positions from the start.

Perhaps it will be said that, while *S*'s speculation that *p* (together with *H*'s background information) provides *a reason* in support of *H*'s belief that *p*, not all cases of giving someone a reason to believe *p* are cases of testifying that *p*. As a general point this is surely correct: when I take my umbrella with me as I walk past you out the front door, I have given you a reason to think that it is raining (or perhaps merely to think that I think that it is raining), but I certainly have not testified either to the weather conditions or to my state of mind. The key question is whether this correct general point applies in the case at hand. It would seem not: the speculation case is not a case of *S*'s behavior merely giving *H* a reason to believe that *p*. For unlike the case of the umbrella, in the speculation case *H* is guided in belief precisely by how *S* has linguistically represented things as being: *H* acquires the belief that he does – the belief that *p* – on the strength of the fact that *S* so speculated. As I noted above, this involves *H*'s relying on something like *S*'s own

[9] In saying this I do not mean to be taken as suggesting that those opposed to reductionism – so-called anti-reductionists – cannot regard background information as relevant to the mature hearer's consumption of testimony. On the contrary, they can and do. See Coady, *Testimony*, 47, and Sanford Goldberg and David Henderson, "Monitoring and Anti-Reductionism in the Epistemology of Testimony," *Philosophy and Phenomenological Research* 72, 3 (2006): 576-93. Note, though, that this fact only helps my case. For if all sides in the debate between reductionists and anti-reductionists agree that background information can be used to assess the credibility of testimony, then the hypothesis that the speculation case above is a case of testimony is not hurt by the fact that the hearer's reception of the speculation involves reliance on her own background information. This should be a point that is endorsed by everyone, independent of their position on the reductionism/anti-reductionism debate.

epistemic authority, as this authority is manifested in how *S* herself linguistically represented things as being.

But perhaps it will be said that this talk of *S*s 'linguistically representing things' as being a certain way – the way things would have to be iff *p* – is either false, or else entails that *S*s speculation amounts to an assertion that *p* after all. Such talk is false (it will be argued) if it turns out that *S*s speculation does not really present *p* as true in the first place. Here, the suggestion might be that *S*s speculation does not present *p* as true, but merely (e.g.) *suggests* that *p* is to some nonnegligible degree supported by *S*s evidence. On the other hand (the objection continues), if it is granted that *S*s speculation *does* present *p* as true, then it would seem that *S*s speculation has all the trappings of an assertion that *p* after all.

The dilemma is a false one. To see this, we can begin with what is involved in talk of a speech act's "presenting a content as true." Such talk has to do with one dimension of evaluability of the speech act. In particular, when a theorist describes a speech act as "presenting-as-true" some proposition, the theorist is committed to regarding the speech act as a candidate for truth-evaluability, and in particular to evaluating the speech act as true iff the proposition in question is true.[10] With this in hand it is easy to see that one who speculates that *p* does in fact present-as-true the proposition that *p*. This claim captures both the truth-evaluability of the speculation, as well as the precise conditions under which such a speech act would be correctly evaluated as true (namely, iff *p*). This claim also offers a warning to those who would try to argue that, while the speculation that *p* does present some proposition as true, the proposition in question is one that is 'epistemically weaker' than that of *p* itself. For example, suppose a theorist were to claim that what is presented-as-true by *S*s speculation that *p* is, not the proposition *that p* itself, but something like the proposition *that p is somewhat probable on my [S's] evidence*. Such a proposal is clearly wrongheaded, since it makes the wrong prediction in a case in which *S* speculates that *p*, where it turns out that, though *p* was highly probably on *S*s evidence (and highly probable in some more objective sense as well), it is false that *p*. In such a case *S*s speculation would be false, not true. This supports the contention that what her speculation presents-as-true is *that p*, and not some other, weakened proposition.

Indeed, the forgoing should really come as no surprise. This is because the difference between speculating that *p*, and asserting that *p*, is one of speech act

[10] Thus my use of 'presentation-as-true' differs from that found in Tyler Burge, "Content Preservation," *Philosophical Review* 102, 4 (1993): 457-488, where what a speech act "presents as true" includes obvious implicatures. I would use a term like "convey" to capture this broader notion.

force, not content. In particular, the difference lies not in whether *p* is presented as true – in both cases it is – but rather with the way in which the speaker represents her epistemic position vis-à-vis *p*. One who speculates that *p* does not represent herself as satisfying any substantial epistemic norm regarding the truth of *p*, whereas one who asserts that *p* does.[11] This is seen in our natural reactions to cases. As many other writers have noted, someone who asserts that *p*, under conditions in which she lacks good (epistemic) grounds for regarding *p* as true, is susceptible to criticism *qua* asserter. This is not so in the case of one who speculates that *p*: the standards for warranted (or epistemically appropriate) speculation are not as rigorous as those for warranted (or epistemically appropriate) assertion. Reactions to these cases are part of our ordinary linguistic lives: for each of the various kinds of speech act, both speakers and hearers have a general (if not readily articulable) sense of what is required, epistemically-speaking, if a speech act of that kind is to be warranted.

We can now see that the would-be dilemma presented above is a false one. While a case of speculating that *p* does present-as-true the proposition that *p*, it is not for this reason a case of asserting that *p*. There remains a difference in speech act force. Or, if it is preferred, there remains a difference in the epistemic standards which one represents oneself as satisfying in performing speech acts of these kinds.[12]

Before concluding, I want to consider one last point in connection with my hypothesis that not all cases of testimony are cases of assertion. We might wonder why so many philosophers who have written on testimony have assumed the necessity thesis (that testimony requires assertion). Stronger, we might wonder why they have used this assumption as a cornerstone of much of their theorizing about testimony. These questions are all the more pressing if, as I have been arguing, the assumption is false. I think that there is a natural explanation: there is a (proper) subset of cases of testimony regarding whose instances it is arguable that the necessity thesis is true. Thus we might distinguish cases of *testimony* from cases of *testifying*, with the latter constituting that proper subclass of cases of the former in which the speaker herself aims to be offering testimony.[13] It is arguable, both that testifying

[11] Contemporary discussion of the norm of assertion has focused on precisely what the norm of assertion is – whether it is knowledge or (some variant on) rational or justified belief – but most everyone agrees that whatever it is it involves some substantial epistemic standing. (See, for a dissenting opinion, Matthew Weiner, "Must We Know What We Say?" *Philosophical Review* 114 (2005): 227-51).

[12] It is an interesting question, though one I cannot examine here, how to understand the nature of speech act force in general, and assertoric force in particular.

[13] We might further distinguish another subclass of cases of testimony that are not yet cases of testifying: those cases where the speaker has no communicative aim in connection with a

constitutes the paradigmatic way of giving testimony, and that a speaker does not testify that *p* unless she asserts that *p*. In these terms it is intelligible why the authors cited at the outset assumed the necessity thesis: they appear to have had cases of testifying in mind when they spoke of testimony. On this picture, the most charitable interpretation is that they endorse the necessity thesis in connection with their view of what is involved in the act of *testifying*; and the thrust of the present paper is then to question whether one should generalize about testimony from what is true of cases of testimony-through-testifying.

I draw two main lessons from the proposed illustration of the falsity of the necessity thesis with respect to the broad category of testimony. First, those theories of the epistemology of testimony that are organized around the necessity thesis – the various accounts I mentioned at the outset – are insufficiently general: even if it is granted that there is a good deal of testimony (= cases of testifying) that answers to their characterization, they do not succeed in characterizing testimony as such.[14] For this reason it is to be doubted whether their account of the epistemology of testimony is fully general. (This is a matter to be pursued elsewhere.) But second, the case I have used to illustrate the falsity of the necessity thesis suggests that, to the extent that the force of a particular (truth-aimed) speech act falls short of assertion, to that extent the epistemic burden on the hearer, if she aims to acquire knowledge through her acceptance of the speech act, will be greater. (This assumes both that assertion's norm is more demanding, epistemically, than is the norm of speculation, and that the ease of confirming the credibility of a speech act of kind *K* increases with the demandingness of the epistemic norm that warrants *K*-instances.) As a corollary I submit that, to the extent that a hearer is *uncertain whether* a particular truth-aimed speech act has the force of assertion, to that extent the burden on her, if she aims to acquire knowledge through her acceptance of the speech act, will be correspondingly greater. This may suggest that how much of an epistemic burden the hearer must shoulder, if she is to acquire knowledge through testimony, is not something that can be determined independent of other features of the testimonial exchange – including features pertaining to the (hearer's perception of the) force of the testimony-constituting speech act.[15]

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hearer, but nevertheless aims to be reliable in her presentations-as-true – perhaps writing in one's diary count here.

[14] This point is very much in the spirit of Jennifer Lackey, *Knowing from Words*. (Oxford: Oxford University Press, 2008). If I am correct, it gives added support to the importance of her category of "hearer testimony."

[15] For helpful discussions I thank Peter Graham, Tim Kenyon, Jennifer Lackey, Baron Reed, and Rob Stainton.

BELIEF IN NATURALISM: AN EPISTEMOLOGIST'S PHILOSOPHY OF MIND[1]

Susan HAACK

ABSTRACT: My title, "Belief in Naturalism," signals, not that I adopt naturalism as an article of faith, but that my purpose in this paper is to shed some light on what belief is, on why the concept of belief is needed in epistemology, and how all this relates to debates about epistemological naturalism. After clarifying the many varieties of naturalism, philosophical and other (section 1), and then the various forms of epistemological naturalism specifically (section 2), I offer a theory of belief in which three elements – the behavioral, the neurophysiological, and the socio-historical – interlock (section 3), and apply this theory to resolve some contested questions: about whether animals and pre-linguistic infants have beliefs, about the fallibility of introspection, and about self-deception (section 4).

KEYWORDS: naturalism; epistemology, belief; reductionism; mind; self-deception; C. S. Peirce; G. H. Mead; Sidney Hook; W. V. Quine.

In philosophy, George Santayana famously observed, "partisanship is treason."[2] I agree. Like good-faith inquirers in any field, philosophers have an obligation to seek true and illuminating answers to the questions that concern them; and it would obviously be a serious breach of this obligation simply to adopt a party line on some question, and then defend it against all objections. So my title, "Belief in Naturalism," should most emphatically *not* be taken as suggesting that I adopt naturalism as an article of faith. When I have taken a naturalistic stance (as I have in metaphysics, in philosophy of science, and in epistemology), I have done so, not because it is naturalistic, but because, on reflection, it seemed to be right – the best, the most reasonable, stance to take. What my title signals is, rather, that my purpose here is

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[2] George Santayana, *The Life of Reason* (1910; 2nd edition, New York: Charles Scribner's Sons, 1922), vol. 1, 110 (from a description of Bishop Berkeley as "a party man in philosophy").

to shed some light on what belief is, on why the concept of belief is needed in epistemology – and how all this relates to debates over epistemological naturalism.

To this end, I will first clarify the many varieties of naturalism (section 1); next distinguish the various forms of epistemological naturalism specifically (section 2); then offer my theory of belief (section 3); and, by way of conclusion, apply this theory to resolve some contested questions (section 4).

1. Varieties of Naturalism

The English word "naturalism" applies not only to philosophical theories, but also to works of literature and other genres of art. A standard dictionary of American English offers the following range of senses:

> 1: action, inclination, or thought based only on natural desires and instincts; 2: a theory denying that an event or object has a supernatural explanation; the doctrine that scientific laws are sufficient to account for all phenomena; 3: realism in art or literature, *specifically*: a theory in literature emphasizing scientific observation of life without idealization or the avoidance of the ugly.[3]

And the standard dictionary of British English offers this:

> 1. *Ethics*. Action arising from or based on natural instincts, without spiritual guidance; a system of morality or religion derived only from human reason and having no basis in revelation. ... 2. *Philos*. The idea or belief that only natural (as opposed to supernatural or spiritual) laws and forces operate in the world; (occas.) The idea or belief that nothing exists beyond the natural world. Also: the idea that moral concepts can be analyzed in terms of concepts applying to natural phenomena. ... 3. A style or method characterized by close adherence to, and representation of, nature or reality ... a. in literature, cinema, etc. ... b. in visual art. ... 4. Adherence or attachment to what is natural; indifference to convention.[4]

Here, however, I shall set literary and artistic naturalism aside, and focus exclusively on philosophical forms of naturalism.

But there are also many varieties of philosophical naturalism – or perhaps I should say, many philosophical naturalism*s*, in the plural. For one thing, philosophical naturalism comes in several sub-varieties, as applied to different areas of philosophy. For another, it comes in several strengths, differing very significantly

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[3] *Webster's Ninth New Collegiate Dictionary* (Springfield, MA: Merriam-Webster Publishers, 1991), 788.

[4] *Oxford English Dictionary Online* (available at http://dictionary.oed.com).

from each other: the weakest or most modest simply eschewing supernatural or purely *a priori* approaches, the more ambitious hoping to turn philosophical questions over to the sciences to resolve, and the strongest or most ambitious maintaining that normative philosophical questions are simply misconceived, and should, therefore, be abandoned in favor of scientific questions.

So, for example, we find:

- Naturalism in metaphysics: of which the most modest form simply eschews wholly conceptual or *a priori* approaches, and posits no supernatural entities or explanations; a more ambitious form relies on scientific theorizing to answer metaphysical questions; and the most ambitious form argues that metaphysics is misconceived, and should be abandoned in favor of scientific questions about ontology, cosmology, etc.
- Naturalism in ethics: of which the most modest form simply eschews reference to divine commands, "natural law," or purely *a priori* principles; a more ambitious form calls on the theory of evolution to answer ethical questions; and the most ambitious form holds that the availability of an evolutionary explanation of our moral intuitions shows ethical questions to be misconceived.
- Naturalism in epistemology: of which the most modest form, again, eschews a purely *a priori* approach; a more ambitious form calls on cognitive psychology or evolutionary biology to answer epistemological questions; and the most ambitious form argues that epistemology should be abandoned in favor of the scientific study of cognition.
- Naturalism in philosophy of science: of which the most modest form pays close attention to scientific practice, eschewing purely *a priori* or strictly formally-logical models of scientific procedure; a more ambitious form relies on the history of science to answer questions about scientific evidence and method; and the most ambitious form repudiates normative aspects of such questions altogether.

There seems to have been relatively little exploration of the logical relations among the various forms of philosophical naturalism. But Sidney Hook's "Naturalism and First Principles"[5] – unfortunately, not much read today, perhaps because it has been overshadowed by W. V. Quine's much more famous "Epistemology Naturalized"[6] – is

[5] Sidney Hook, "Naturalism and First Principles," in *American Philosophers at Work*, ed. Sidney Hook (New York: Criterion Books, 1956), 236-58; reprinted in Hook, *The Quest for Being* (New York: St. Martin's Press, 1961), 172-95.

[6] W. V. Quine, "Epistemology Naturalized," in his *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), 66-90.

an honorable exception, exploring how naturalism in metaphysics, in epistemology, and in philosophy of science might be connected. And connections of the kind Hook's argument suggests can, in fact, be found running through my own work.

For example: my conception of what metaphysics is and does is modestly naturalistic, contrasting *both* with David Lewis's or Saul Kripke's *a priori* metaphysical theorizing, *and* with Quine's readiness to let metaphysics simply tag along in the footsteps of current physics. As I conceive it,[7] metaphysics is not about our language, nor about our concepts or conceptual schemes but, like the sciences, about the world; and so is not an *a priori* discipline, but an empirical one. However, unlike the sciences, metaphysics does not require experiments, excavations, or expeditions, nor specialized techniques of inquiry, and neither does it depend on recherché observations obtainable only by means of specialized instruments; instead, it requires very close attention to aspects of our everyday experience so familiar that ordinarily we hardly notice them: i.e., on phenomenology, in C. S. Peirce's sense of the term.[8] Moreover, not only my general approach to metaphysics, but also my specific metaphysical views, are naturalistic insofar as they eschew supernatural explanations – or rather, "explanations," for by my lights these are not really explanations at all.[9]

Again: like Thomas Huxley,[10] Albert Einstein,[11] John Dewey,[12] Percy Bridgman,[13] and Gustav Bergmann,[14] I conceive of the methods of the sciences as

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[7] Here I follow Charles Sanders Peirce, who defends a quite distinctive, and distinctively plausible, "scientific" conception of metaphysics. Charles Sanders Peirce, *Collected Papers*, eds. Charles Hartshorne, Paul Weiss and (vols 7 and 8) Arthur Burks (Cambridge, MA: Harvard University Press, 1931-58), 6, 1-6 (1898 (section 1) and 1903 (section 2)). [References to the *Collected Papers* are by volume and paragraph number.]

[8] See Susan Haack, "The Legitimacy of Metaphysics: Kant's Legacy to Peirce, and Peirce's to Philosophy Today," *Polish Journal of Philosophy*, 1 (2007): 29-43; reprinted in *Philosophical Topics*, 36, 1 (2008): 97-110.

[9] See Susan Haack, *Defending Science – Within Reason: Between Scientism and Cynicism* (Amherst, NY: Prometheus Books, 2003), 131, 279.

[10] "The man of science simply uses with scrupulous exactness the methods which we all, habitually and at every minute, use carelessly." Thomas Huxley, "On the Educational Value of the Natural History Sciences" (1854), in Huxley, *Collected Essays* (London: MacMillan, 1893), vol. III, 38-65, 46.

[11] "The whole of science is nothing more than a refinement of everyday thinking." Albert Einstein, "Physics and Reality," *Journal of the Franklin Institute*, 221, 3 (1936), reprinted in Einstein, *Ideas and Opinions*, trans. Sonja Bargmann (New York: Crown Publishers 1954), 290-322, 290.

[12] "Scientific subject-matter and procedure grow out of the direct problems and methods of common sense." John Dewey, *Logic: The Theory of Inquiry* (New York: Henry Holt & Co., 1938), 66.

[13] "[T]here is no scientific method as such ... the most vital feature of the scientist's procedure has been merely to do his utmost with his mind." Percy Bridgman, "New Vistas for Intelligence"

continuous with the methods of everyday empirical inquiry – although, of course,thanks to the work of many generations of scientists, these methods have by now been greatly amplified and refined.[15] So here too my views are modestly naturalistic, and contrast *both* with the formal-logical models of scientific method favored by such philosophers as Rudolf Carnap, Carl Hempel, and Karl Popper, *and* with the descriptive (and purportedly epistemologically neutral) socio-historical models favored by proponents of STS (Science and Technology Studies), SSK (Sociology of Scientific Knowledge), etc.[16]

From here on, however, I shall set metaphysics, philosophy of science (and ethics)[17] aside, and focus exclusively on epistemology.

2. Epistemological Naturalism

In *Evidence and Inquiry*[18] I distinguished and labeled the three main types of epistemological naturalism:

- reformist aposteriorist naturalism (the most modest form, according to which epistemology is not an entirely *a priori* enterprise, but continuous with the sciences of cognition; and results from the sciences of cognition – though not by themselves sufficient to answer epistemological questions – may have contributory epistemological relevance.

(1947), in Bridgman, *Reflections of a Physicist* (1950; 2nd ed., New York: Philosophical Library, 1955), 553-68, 554.

[14] Science represents "the long arm" of common sense. Gustav Bergmann, *Philosophy of Science* (Madison, WI: University of Wisconsin Press, 1957), 20.

[15] See Haack, *Defending Science* (note 9 above), chapter 4 (articulating how scientific "helps" to inquiry – instruments of observation, the calculus, the computer, models and metaphors, and social helps to sustain honesty, discourage cheating, enable the sharing of evidence, etc. – have contributed to progress in the sciences).

[16] See Haack, *Defending Science* (note 9 above), chapter 2 (on Popper, Carnap, Hempel, etc.) and chapter 7 (on sociology of science).

[17] Though I have not written at any length about ethics, it may be worth noting that I find myself much in sympathy with William James's, and especially John Dewey's, fallibilist-empiricist approaches; which would also qualify as modestly naturalistic. I explain why, very briefly, in Susan Haack, "Six Signs of Scientism," forthcoming in Chinese translation by Liu Jie in *Studies in Philosophy of Science and Technology* (Shanxi University); and in Spanish translation by Raúl Andrés Jaramillo Echaverría in *Discusiones filosoficás* (University of Caldas).

[18] Susan Haack, *Evidence and Inquiry* (1993; 2nd, expanded edition, Amherst, NY: Prometheus Books, 2009), chapter 6.

- reformist scientistic naturalism (a more ambitious form), according to which the sciences of cognition can by themselves provide answers to epistemological questions.
- revolutionary scientistic naturalism (the most ambitious form), according to which the traditional projects and questions of epistemology are simply misconceived, and should be replaced by the projects and questions of the sciences of cognition.

The foundherentist epistemological theory developed in *Evidence and Inquiry* is consonant with a kind of reformist aposteriorist naturalism at the meta-epistemological level. The approach proposed in Alvin Goldman's *Epistemology and Cognition* is a kind of reformist scientistic naturalism (though his practice in the second, cognitive-science part of this book doesn't conform to the official stance he takes in the first, philosophical part).[19] And we find revolutionary scientistic naturalism defended both in early work by Stephen Stich and, from a somewhat different angle, in the work of Paul and Patricia Churchland.[20]

All three positions can be found in Quine, who seems to offer modest, intermediate, *and* radical forms of naturalism – sometimes in the same paper, and even, occasionally, in the course of a single paragraph.[21] (Indeed, I suspect that "Epistemology Naturalized" may have become so famous in part precisely *because* it runs these different forms of naturalism so smoothly together; for anyone inclined to any form of naturalism – modest, intermediate, or radical – can find something in it to support their ideas.) The source of the trouble seems to be an ambiguity in Quine's use of the word "science", which he sometimes uses broadly, to refer to "our presumed empirical knowledge" generally, and at other times narrowly, to refer specifically to the disciplines we classify as sciences. In consequence, Quine can first shift from the reformist aposteriorist claim that epistemology is part of SCIENCE (science in the broad sense) to the reformist scientistic claim that epistemology is part of *science* (science in the narrow sense); and then – probably because he is at least half-aware how very implausible it is to suppose that physics, say, or even

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[19] Alvin Goldman, *Epistemology and Cognition* (Cambridge, MA: Harvard University Press, 1986). I give a detailed criticism of Goldman's approach in chapter 7 of *Evidence and Inquiry* (note 18 above).

[20] Stephen Stich, *From Folk Psychology to Cognitive Science* (Cambridge, MA: MIT Press, 1983); Paul Churchland, *A Neurocomputational Perspective: The Nature of Mind and the Structure of Science* (Cambridge, MA: MIT Press, 1989); Patricia Churchland, "Epistemology in the Age of Neuroscience," *Journal of Philosophy*, 84, 10 (1987): 544-53. I make detailed criticisms of Stich's and the Churchlands' arguments in chapter 8 of *Evidence and Inquiry* (note 18 above).

[21] See Haack, *Evidence and Inquiry* (note 18 above), chapter 6, section I.

cognitive psychology, could answer such epistemological questions as what makes evidence better or worse, or whether and if so why true predictions confirm a theory – to the revolutionary scientistic claim that such traditional epistemological questions are illegitimate, and should be abandoned in favor of legitimate, scientific questions about cognition.

Here, however, rather than pursue that diagnosis in detail,[22] let me focus on the revolutionary epistemological naturalism found sometimes in Quine, in one time-slice of Stich,[23] and in the Churchlands. The interesting thing about this, for present purposes, is that Quine, Stich, and the Churchlands all urge, as (one) reason for their revolutionary naturalism, that *there really are no such things as beliefs*. They are all, as one might say, "atheists" about belief – though they give very different reasons for their atheism. Quine is an *extensionalist* atheist: the problem he stresses is that beliefs cannot be given extensional criteria of identity. Stich is (or once was) a *functionalist* atheist: the problem he stresses is that no functionalist account of belief succeeds. And the Churchlands are *smooth-reductionist* atheists: the problem they stress is that beliefs cannot be smoothly reduced to neurophysiological states.

Popper is also, apparently, an atheist about beliefs – an *objectivist* atheist, one might say, since he seems to assume that any epistemological theory acknowledging a role to beliefs is thereby bound to be objectionably subjectivist. But unlike Quine, Stich, and the Churchlands, rather than drawing the conclusion that epistemology is misconceived, Popper urges the merits of an epistemology "without a knowing subject," conducted in terms solely of propositions and their logical relations.[24] I believe Popper's atheism derives from a confusion of the *personal* with the *subjective*. (How justified a person is in believing that *p* is personal, since it depends on how good *his evidence* is, but is not subjective, since it does not depend on how good *he thinks* his evidence is). And in any case, no adequate epistemology can do without knowing subjects and their beliefs; which is why even Popper himself can't operate consistently without appealing to persons, their experiences, and their beliefs.[25]

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[22] As I did in chapter 6 of *Evidence and Inquiry* (note 18 above).

[23] A few years after *From Folk Psychology to Cognitive Science* Stich had changed his mind. In *The Fragmentation of Reason* (Cambridge, MA: MIT Press, 1990) he acknowledges that people do, after all, have beliefs; but now argues that there is no value in having true beliefs.

[24] Karl R. Popper, "Epistemology Without a Knowing Subject," in Popper, *Objective Knowledge* (Oxford: Clarendon Press, 1972), 106-52.

[25] Susan Haack, "Epistemology *With* a Knowing Subject," *Review of Metaphysics*, XXXIII, 2, 130 (1979): 305-35; and, in Romanian translation by Cătălina-Daniela Răducu and Georgiana Tacu, in *Symposion*, VII, 2 (14) (2009): 373-95; *Evidence and Inquiry* (note 18 above), chapter 5.

So I agree with Quine, Stich, and the Churchlands this far: epistemology needs beliefs – and, in consequence, epistemology also needs a reasonable account of what belief is.

3. What is Belief?

The account I shall propose – not as a conceptual analysis purporting to articulate necessary and sufficient conditions for the truth of "x believes that *p*," but as the beginnings of a theory, in part conceptual but also in part empirical,[26] of what believing something involves – will have three interlocking elements or dimensions: (i) the behavioral; (ii) the neurophysiological; and (iii) the socio-historical.

(i) First, the behavioral dimension. Here, I borrow from the definition of belief given by the old Scottish psychologist Alexander Bain, as "preparedness to *act* upon what we affirm;"[27] from C.S. Peirce's account of belief as a *habit* of action;[28] and from H.H. Price's insight that belief involves not a single, simple behavioral disposition, but a *multiform* behavioral disposition.[29] Someone who believes that *p* normally has a disposition to behave, both verbally and non-verbally, as if *p*. Someone who believes that snakes are dangerous, for example, will be disposed to assert, and to assent to, sentences in his language to the effect that snakes are dangerous;[30] to shriek at the sight of, and run away from, snakes; to refuse to touch a snake or even go near it; to be surprised if he sees someone else stroking a pet snake; and so on.

The qualification "normally" acknowledges that we will need to take into account the pervasive interrelations among beliefs. For example, someone who believes that snakes are dangerous won't be disposed to shriek at the sight of or run away from a snake in a zoo, if he also believes that this snake is safely enclosed

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[26] See also Susan Haack, "The Growth of Meaning and the Limits of Formalism, in Science and Law," *Análisis Filosófico*, XXIX, 1 (2009): 5-29; and "The Meaning of Pragmatism: The Ethics of Terminology and the Language of Philosophy Today," *Teorema*, XXX/III, 3 (2009): 9-29.

[27] Alexander Bain, *The Emotions and the Will* (1855; 3rd ed., London: Longmans, Green & Co., 1875), 505 (emphasis added).

[28] Peirce's conception is itself developed from Bain's observations about belief. Indeed, Peirce writes that "[from] Bain's definition of belief, as 'that upon which a man is prepared to act,' ... pragmatism is scarce more than a corollary." Peirce, *Collected Papers* (note 7 above), 5,12 (c.1906). See also Max Fisch, "Alexander Bain and the Founders of Pragmatism" (1954), in *Peirce, Semeiotic, and Pragmatism: Essays by Max Fisch*, eds. Kenneth Laine Ketner and Christian Kloesel (Bloomington, IN: Indiana University Press, 1986), 79-109.

[29] H.H. Price, *Belief* (London: Allen and Unwin, 1969), 267 ff.

[30] And, of course, to deny, or dissent from, sentences to the effect that snakes are not dangerous – an addendum that will henceforth be understood.

behind plate glass; nor will he be surprised if he sees someone stroking a pet snake, if he believes it has been de-fanged. We shall also need to accommodate the fact that the interrelations among beliefs and desires mean that someone with unusual desires will be disposed to behave differently from the rest of us when he has a certain belief. For example, someone who believes that snakes are dangerous, but who – because, in his religion, this is a way to express your faith in God's protection – wants to handle snakes without showing fear, may suppress his disposition to run away from snakes sufficiently to take part in the snake-handling ceremony.[31] Again: normally, someone who believes the gun is loaded will not be disposed to hold it to his head and pull the trigger; but this may be exactly what a suicidal person with the same beliefs is disposed to do.[32]

But though it will certainly need amplification, this preliminary account of the behavioral dimension of belief is able to handle the phenomenon of deliberately insincere assertion: someone who believes that *p*, but wants his audience to believe that not-*p* (or to believe that he believes that not-*p*), may over-ride his disposition to assert/assent to sentences to the effect that *p*, and instead assert that not-*p*, or assent to another's assertion that not-*p*; but – at least when his audience isn't looking – he will not over-ride his disposition to *act* as if *p*. For example, if I believe the ice on the lake is too thin to bear the weight of an adult, but want my enemy to believe that it is thick enough for him walk over, I may tell him, insincerely, that it is safe to cross; but I will make excuses to avoid walking on the ice myself.

It might be thought that there are special difficulties in accounting for the spy or the confidence man, who in effect lies for a living; but this is really just a special case of the phenomenon of insincere assertion. It may need to be said, however, that it is a mistake to suppose that such a person *always* acts contrary to the dispositions which, if I am right, correspond to his beliefs. On the contrary, even such a person, most of the time – when he decides what to eat or drink, how

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[31] Serpent handling is a religious ritual among certain Pentecostal sects. See W. Paul Williamson and Howard R. Pollo, "The Phenomenon of Religious Serpent Handling: A Rationale and Thematic Study of Extemporaneous Sermons," *Journal for the Scientific Study of Religion*, 38, 2 (1999): 203-218; Bill J. Leonard, "The Bible and Serpent-handling," in *Perspectives on American Religion and Culture*, ed. Peter W. Williams (Oxford: Blackwell, 1999), 228-95.

[32] Sometimes it is suggested that "the holism of the mental" precludes the possibility of ascribing beliefs altogether. But this is an exaggerated response to an exaggerated statement of the interrelations among beliefs, and between beliefs and desires. We can, and do, attribute beliefs to people every day – sometimes explicitly, but often implicitly. Whenever we drive across a junction when the light is green, for example, we take for granted that other drivers believe they must stop while the light is red.

to get from A to B, whether to walk down the rickety steps, etc. – will act in accordance with what he really believes. And in the "professional" part of his life, the part that requires him to speak, and act, contrary to what he really believes, he still has the *disposition* to speak and act in accordance with these beliefs, but his desire to take advantage of others by deceiving them over-rides it.

The behavioral dispositions involved in belief are not categorical, but conditional, dispositions to do A *if p*. This helps explain what is going on with that very common detective-story ploy, where the police trap a suspect by leading him to believe that incriminating evidence against him is to be found in such-and-such a place, and then follow him as he goes there to remove or destroy the gun (or the letter, or whatever it is). The suspect believes that if the police get hold of the gun, he will be convicted of the crime, and that if he is convicted of the crime, he will go to jail; and he doesn't want to go to jail. So he is disposed to try to prevent the police from getting the gun. The police know this; so they set up the situation to make the suspect believe that *p*, triggering the actualization of his conditional disposition to do A if *p* – so that he will reveal his consciousness of guilt by doing A.

My account of the behavioral element of belief also has the virtue of suggesting an explanation of the difference between *degree* of belief and *firmness* of belief – two characteristics that are often confused, but are really very different. Degree of belief depends on how *strong* the relevant dispositions are – on how much you would bet that *p*,[33] we might say, or on how surprised you would be if it turned out that not-*p*. (When we are very sure, we say "I'd bet the house that *p*," or "I'd be astounded if not-*p*"; when we are unsure, we say, "I wouldn't bet on it" or, "I wouldn't be entirely surprised if, after all, not-*p*.") Firmness of belief depends on how *entrenched* the relevant dispositions are, how easily they can be changed. Usually, the two go together; but not always. Someone may believe that *p* with a high degree of confidence, but a low degree of firmness: he is very sure that *p*; but he would change his mind very readily – i.e., lower his degree of belief, or give up the belief altogether – were new evidence to come in. And someone may believe that *p* with a high degree of firmness, but a low degree of confidence: he is only somewhat inclined to think that *p*; but it would take a lot of evidence to budge him from this very weak belief.[34]

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[33] This should not be interpreted as indicating that I subscribe to a kind of subjective Bayesianism; I do not. See *Defending Science* (note 9 above), 74-7.

[34] I have put this in terms of degrees of belief; others might prefer to treat belief categorically, as a limit case of degrees of credence. But this doesn't substantially affect the points I have made, which could be expressed in either vocabulary.

Epistemology needs both concepts. How reasonable a person is in believing something depends in part on whether the degree to which he believes that *p* is appropriately related to the strength of his evidence with respect to *p*. If your evidence is strong, it is reasonable to believe strongly; but if your evidence is weak, it is reasonable only to believe to some lesser degree. By contrast, fallibilism has to do with the firmness of belief, with readiness to change your beliefs if new evidence undermines them.[35]

(ii) Next, the neurophysiological dimension. I assume that the dispositions to verbal and non-verbal behavior involved in someone's believing something are physically realized, and that they are realized in something in his brain and not, for example, in his left big toe. But I do *not* assume that these dispositions are smoothly reducible to neurophysiological states, if what that means is that there is some specific type of brain matter, neurophysiologically identifiable, that turns pink, or lights up, or whatever, in every person who believes, say, that Carnap had an aunt who lived in Vienna. Rather, my picture is of neurophysiologically generic parts of the brain that, in a particular person, get linked to this kind of object or property, these words, these things, etc.; and of the behavioral dispositions involved in belief as realized in meshes of interconnections between receptors (whatever registers input from the world) and activators (whatever activates behavior, verbal or non-verbal).

This picture, initially wholly conjectural, turns out to be, to at least a modest degree, confirmed by some recent work in brain science. Over a decade of experiments on patients awaiting brain surgery for epilepsy, scientists at the University of California, Los Angeles discovered that a single neuron would fire when the subject heard the name of, or saw a picture of, or read about, a person, whether real (like Ronald Reagan) or fictional (like Homer Simpson), or a kind of animal or object, etc. – not a specific *type* of neuron, that is, but some particular, individual neuron that, in a given subject's brain, was associated with that person, animal, or thing. Though "[n]o one [yet] knows how the cells can encode a complex thought or how so many neurons can make a mind," these researchers conceive of neurons as "Lego bricks of the brain – a construction set that can self-assemble into a cathedral of thought."[36]

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[35] Compare Mark Migotti, "The Key to Peirce's View of the Role of Belief in Science," *Cognitio*, 6, 1 (2005): 43-55.

[36] Robert Lee Hotz, "A Neuron's Obsession Hints at Biology of Thought," *Wall Street Journal*, October 9 (2009), A14.

Think of an alarm clock. This is undeniably a purely physical object; and the explanation of how it rings will be purely in terms of physical laws (laws about cogs, wheels and bells in the case of an old-fashioned, mechanical alarm clock, laws about electrical connections, etc., in the case of a modern, digital clock). But there is no specific physical kind of cog, and no specific physical kind of electrical contact, associated with the clock's being set to go off at 7:30 a.m.; there are just generic cogs and wheels that can be linked to this, that, or another time-setting. That the clock is set to go off at 7:30 a.m. can't be understood purely in terms of the physical configuration and workings of the clock; the explanation must also refer to social conventions about time. Similarly with respect to belief: the key distinction is between the physical realization of a belief (analogue: the configuration of cogs and wheels) and their content (analogue: the clock's being set for 7:30). The content of a belief is determined, not simply by physical features of its neurophysiological realizations, but by the connections of neurons, etc., with things in the world, and with the use of words in the person's linguistic community.

(iii) This leads me directly to the last, socio-historical dimension of my account. Here, my inspiration is the work of George Herbert Mead, the founder of social psychology, who was concerned to understand in what ways human beings are like other animals, and in what ways unlike them; and in particular how the human capacity for language could have arisen out of our animal ancestry.[37] The "mindedness" characteristic of all normal humans, Mead argues, arises out of the social, and specifically the linguistic,[38] interactions to which a normal human infant is exposed. My conception of the content of beliefs as depending on socio–historico–linguistic factors is exactly in the spirit of his approach.

The analogy with alarm clocks already suggested one reason to think that the *same* belief might be *differently* realized. One alarm clock may work mechanically and another electrically; and, similarly, beliefs that are realized in neurophysiological configurations of the brain in human beings might be realized quite differently in silicon-based Martians.[39] But now we encounter a much less far-fetched reason to

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[37] George Herbert Mead, *Mind, Self, and Society from the Standpoint of a Social Behaviorist*, ed. Charles Morris (Chicago, IL: University of Chicago Press, 1934). Mead apparently takes for granted that human beings are the only creatures capable of language; but I will not explore that issue here.

[38] Here and in what follows I shall understand "linguistic" as referring not only to spoken language, but to any kind of sign-system, such as the sign languages of the deaf.

[39] A point made long ago by Hilary Putnam in "The Mental Life of Some Machines," reprinted in Putnam, *Mind, Language and Reality: Philosophical Papers*, vol. 2 (Cambridge: Cambridge University Press, 1975), 408-28.

think that the same belief *will*, in fact, be realized differently in different people: in a monolingual English speaker, the belief that snakes are dangerous will be realized in part by connections with English sentences to the effect that snakes are dangerous; but in a monolingual Chinese speaker it will be realized in part by connections with Chinese sentences to the effect that snakes are dangerous; and so on.

This is all very well, you might say, but now we need an account of what makes it true that what the monolingual English speaker and the monolingual Chinese speaker both believe is that snakes are dangerous, i.e., that they have the same belief. They share the same kinds of non-verbal disposition, I would reply; and, moreover, the English sentences and their Chinese counterparts are similar in meaning. I speak of "similarity," rather than of "sameness" of meaning or of "synonymy," because I believe that – both within a language and across languages – degrees of similarity of meaning, rather than exact synonymies, are what we usually find; indeed, as I conceive it, what we call a language might, strictly speaking, be better described as a congeries of similar-enough idiolects.[40] Moreover, how much similarity of meaning is required to attribute the same belief to different people depends on context: for everyday purposes, similar-enough is good enough; but in, for example, legal and (as Frege taught us)[41] logical contexts, we will need to make finer-grained distinctions.

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Now I can articulate how I would reply to atheists like Quine, Stich, and the Churchlands. *They have all, in one way or another, misunderstood what beliefs would have to be like if there were any*. Though it is true, as Quine suggests, that there are no sharply specifiable identity-conditions for beliefs, it doesn't follow, as he supposes, that it is inappropriate to "posit" the existence of beliefs. Though it is true, as the Churchlands suggest, that beliefs cannot be smoothly reduced to neurophysiological states, again it doesn't follow that there are no such things, nor that the old, folk-psychological "research program" (as Paul Churchland likes to call explanations of action in terms of beliefs and desires) is "degenerating," and its ontology mythical. And though it is true, as Stich suggests, that a functionalist

[40] This is why we sometimes speak of "English," but in other contexts feel the need to distinguish British English, American English, Hong Kong English, Indian English, and so forth. See Mark Abley, *The Prodigal Tongue* (New York: Houghton Mifflin Harcourt, 2007). Haack, "The Growth of Meaning" (note 26 above) is also relevant.

[41] Gottlob Frege, "On Sense and Reference" (1892), trans. Max Black, in *Translations from the Philosophical Writings of Gottlob Frege*, eds. Peter Geach and Max Black (Oxford: Basil Blackwell, 1966), 56-78.

account of belief is inadequate, once again, it doesn't follow that there are no beliefs.

But here I would add a qualification: in describing Quine's, Stich's, and the Churchlands' positions, I have used the convenient form of words, "there are no such things as beliefs"; but I would prefer, when speaking on my own behalf, *not* to talk of "beliefs" as "things" (let alone as "entities" that should, or should not, be "admitted into our ontology") but instead to talk about *someone's believing this or that*. Beliefs are not things a person has, like his car or his pet gerbil, but (complex) states that a person is in.[42]

4. Applying the Theory

This understanding of the various interlocking elements of belief suggests plausible answers to some familiar conundrums.

Do animals and pre-linguistic babies have beliefs? No, I would say, not in the fullest sense; they have the relevant non-verbal dispositions, but they lack the relevant verbal ones. To be sure, the cat who comes to my house to be fed expects that, when she sits on the deck and looks in the back door, food will appear; but she doesn't believe that I will feed her if she asks politely. She has simply acquired the habit of waiting on my deck when she is hungry. This is not to deny that *perhaps* some animals have (very limited) linguistic capacities. Nor, more importantly in the present context, is it to deny that *certainly*, as they gradually acquire language, small children gradually come closer to having beliefs, in the fullest sense. The point at which a child understands the difference between a true story and a made-up one – which psychologists estimate at somewhere around four-and-a-half years of age – is crucial.

I think, in this context, of little Tanya, one of the small children caught up in the McMartin Preschool case.[43] This was a criminal case (at the time, the longest-running and most expensive such case in the history of the U.S. legal system) in which the teachers at a kindergarten were accused, on the basis of a complaint from

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[42] In English, the word "belief" can be used either to refer to a psychological state (someone's believing something) or to the content of such a state (the proposition believed). See *Evidence and Inquiry* (note 18 above), chapter 4. For some epistemological purposes both senses of "belief," and the interrelations between them, are relevant; but here I am concerned only with beliefs-as-states.

[43] See *McMartin v. Children's Institute International*, 212 Cal. App. 3d, 261 Cal.Rptr.437 (1989); Doug Linder, "The McMartin Preschool Abuse Trial: A Commentary" (2003), available at <http://www.law.umkc.edu/ faculty/ projects/ ftrials/ mcmartinaccount.html>, last visited 3.3.2010.

the hysterical mother of one small boy, of sexually abusing the children in their care. The experts on child-abuse who interviewed the children took themselves to be helping them recover memories that had been lost to consciousness because they were so traumatic (though, with hindsight, it seems far more likely that the interviewers were inducing false memories, or perhaps just unwittingly encouraging fabrication.) The testimony of four-year-old Tanya was particularly confused. And asked, "Do you know the difference between the truth and a lie? What's a lie?", Tanya replied: "Umm, it has big teeth – and it's sort of brownish."[44] (She didn't know the difference between a *lie*, and a *lion*.)

Both Stich and Paul Churchland base their atheism, in part, on work suggesting that pre-linguistic infants don't have beliefs.[45] I agree; they don't. But it is absurd to suppose that, because small babies don't have beliefs, adults don't have them, either (as absurd as supposing that, because small babies don't talk, adults don't, either). Stich also writes, rather unkindly, about an elderly woman, Mrs. T., who once worked for his family. Asked whether President McKinley had been assassinated, Stich reports, Mrs T. would answer, "yes"; but she would not assent to "President McKinley is dead," or even to "I am not dead."[46] Poor Mrs. T. was apparently suffering from Alzheimer's disease, or some similar disorder. And it is true, as Stich suggests, that in such a case – where a person's verbal behavior is "all over the map," forming no intelligible pattern – we may well be reluctant to ascribe *any* belief. But it is no less absurd to suppose that, because it may be difficult or impossible to say what, if anything, an elderly person suffering from dementia believes, it follows that normal adults don't have beliefs, than it is to draw this conclusion from the fact that small babies don't have beliefs. And my sketch of what the neurophysiological realization of belief might be suggests a plausible explanation of what was happening to Mrs. T.: her capacity for full belief was diminishing as the connections in her brain failed. Mrs. T's sad condition teaches us, not that normal adults don't have beliefs, but that the beliefs that normal adults have can be lost if the relevant neurophysiological connections are broken.

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[44] Debbie Nathan and Michael Snedecker, *Satan's Silence: Ritual Abuse and the Making of a Modern American Witch Hunt* (New York: Basic Books, 1995), 78-80. The interviewer subsequently told Tanya's mother that her daughter indeed had been molested.

[45] Stich, *From Folk Psychology* (note 20 above), 240-41. Paul Churchland, "The Ontological Status of Observables," *Pacific Philosophical Quarterly*, 63, 5 (1982): 226-33; reprinted in Churchland, *A Neurocomputational* (note 20 above), 139-51, 150-151 in the latter.

[46] Stich, *From Folk Psychology* (note 20 above), 54ff.

Both Stich and Paul Churchland also make much of the fact that introspection is fallible.[47] Our knowledge of our own beliefs is, indeed, imperfect: so imperfect, indeed, that someone else may know better than you do what you really believe. (An old joke about two behaviorist psychologists meeting on the street illustrates the point perfectly: "Hi," the first behaviorist says to the second, "You're fine. How am I?") But here too the atheists' argument is flawed: the fallibility of introspection obviously has no tendency to show that we don't have beliefs. In fact, the account of belief given here provides some explanation of *how* another person may know better than you what your beliefs are. Knowing whether I believe that *p* is in part a matter of knowing *what I would do or say* in these or those circumstances; and this is something that may be more readily accessible to someone else, who has seen me act and heard me talk, than it is to me.

Our own beliefs are not always transparent to us, for we humans have a remarkable talent for self-deception, for fooling ourselves about what we really believe. Fortunately, my account also suggests a possible explanation of how we manage to do this. Blaise Pascal advises those who want to believe in God to attend church, take masses, etc. – i.e., to behave like someone who does believe.[48] Yes: one way to trick yourself into believing that *p* is systematically to *behave as if* you already believed it. If you are resistant enough to acknowledging that the sinister-looking lump that just appeared on your nose is potentially dangerous, you may be motivated to behave towards yourself much as you would when trying to deceive someone else: you will tell yourself, "it's nothing terrible, just a bump or a bruise or a pimple"; you will studiously ignore the lump, not touching it or looking at it; and you will stay far away from dermatologists. And if you keep doing this, you may actually end up believing that the lump is harmless, as the dispositions involved in the belief that the lump is harmless come to be automated. At least initially, since you still believe that the lump is sinister-looking, these new dispositions will sit uneasily alongside the old, contrary dispositions; but in due course, if the self-deception is completely successful, the old dispositions will gradually fade away.

Inevitably, there are still some questions to which, as yet, I can offer only the most provisional answers. What is inference? Presumably it involves one

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[47] Stich, *From Folk Psychology* (note 20 above), 230-37. Paul Churchland, *Scientific Realism and the Plasticity of Mind* (Cambridge: Cambridge University Press, 1979), sections 12-16; Paul Churchland, "Eliminative Materialism and the Propositional Attitudes," *Journal of Philosophy*, 88, 2 (1981): 67-89, section II, reprinted in *A Neurocomputational* (note 20 above), 1-23.

[48] Blaise Pascal, *Pensées* (left unfinished at his death in 1662); English translation by W. R. Trotter (London: J. M. Dent & Sons; New York: E. P. Dutton & Co., 1910), §§233 and 418.

multi-form disposition (or set of dispositions) triggering another; but how, exactly, does this differ from association of ideas? What is occurrent belief? Not, presumably, an activated belief-disposition, but something more like current awareness that you would say or do this or that if … . And what happens when you see (or hear, etc.) something that changes some belief of yours – i.e., how, exactly, does what we perceive alter our beliefs? So far, at least, a fully satisfying answer to this question eludes me. As always, work remains to be done.[49]

[49] This paper is based on a talk given first at the Kazimierz Naturalised Epistemology Workshop (September 2008); at the first Colombian Conference on Logic, Epistemology, and Philosophy of Science, the University of the Andes (November 2009); in the philosophy department at Renmin University (December 2009); and at the National Academy of Slovakia (June 2010). My thanks to Mark Migotti for his detailed suggestions on a draft; and to Pamela Lucken for help in finding relevant material.

THE GETTIER NON-PROBLEM*

Stephen HETHERINGTON

ABSTRACT: This paper highlights an aspect of Gettier situations, one standardly not accorded interpretive significance. A remark of Gettier's suggests its potential importance. And once that aspect's contribution is made explicit, an argument unfolds for the conclusion that it is fairly simple to have knowledge within Gettier situations. Indeed, that argument dissolves the traditional Gettier problem.

KEYWORDS: Gettier, the Gettier problem, Gettier cases, luck, knowledge

Epistemologists are becoming ever more habitual in describing Edmund Gettier[1] (1963) as having uncovered something significant about what knowledge is not. But this paper argues that if we try to show that Gettier was right we will find that he was not. What of those supposed 'intuitions' upon which epistemologists standardly rely when interpreting Gettier so favourably? If this paper is correct, those standard intuitions are mistaken. He did not establish what epistemologists credit him with showing. This implies that epistemology need never have included Gettierology – its Gettier-inspired complexity, catering *to* those standard intuitions. The fundamental lesson which epistemologists take themselves to have learnt from Gettier should now be *un*learnt.

1. The standard interpretation of Gettier's challenge

Gettier – we are routinely assured – showed that a belief's being true and well-although-fallibly[2] justified by evidence is insufficient for making it knowledge. The

* I am grateful to Jonathan Adler, William Lycan, Anne Newstead, and audiences at the Australian National University and the University of New South Wales, for helpful remarks on respective drafts of this paper.

[1] E.L. Gettier, "Is Justified True Belief Knowledge?," *Analysis* 23 (1963): 121-3.

[2] I use 'fallibly' in deference to Gettier's first constraint – "Is Justified," 121 – upon his counterexamples.

belief might also be attended by a circumstance precluding its being knowledge. (For example, the belief is made true by a state of affairs other than that which the believer's evidence indicates as making the belief true.)[3]

How widespread is that problem? Did Gettier describe the *only* instances of a well-but-fallibly justified true belief not being knowledge? No: he pointed to just two possible instances. But subsequent epistemologists extended his contribution, noticing and imagining a multitude of actual and non-actual instances. Their reactions to those cases have been constant – continually inferring that, whenever a belief is true and well-although-fallibly justified within a situation *relevantly like* one described by Gettier, it is not knowledge. For short: if a belief is *Gettiered*, it is not knowledge. Equally: if a belief is the centre-piece of a Gettier situation, it is not knowledge.

Moreover, that thesis is treated by epistemologists as conceptual, as necessarily true. Its message aspires not merely to being the contingent truth that, as the world turns, no Gettiered beliefs are knowledge. It claims, more strikingly, that in *principle* no Gettiered beliefs are knowledge: *necessarily*, a belief's being Gettiered precludes its being knowledge.

Let us call that thesis the *Standard Gettier Interpretation*. It implies that, as a matter of conceptual principle, being true and well-although-fallibly justified is insufficient for a belief's being knowledge – because the belief might be Gettiered.[4]

2. Knowing that one is in a Gettier situation

2.1 Not knowing a pertinent circumstance

Can section 1's Standard Gettier Interpretation be rendered more informative? Epistemologists have sought precisifications of it to explain *why* no Gettiered belief is knowledge. So far, though, no proposal has won the day. What should we do next?

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[3] For further explanation of this idea, see Adrian Heathcote, "Truthmaking and the Gettier Problem," in *Aspects of Knowing: Epistemological Essays*, ed. Stephen Hetherington (Oxford: Elsevier, 2006), 151-67, and Stephen Hetherington, *How To Know: A Practicalist Conception of Knowledge* (Wiley-Blackwell. forthcoming, 2011), ch. 3. On other possible knowledge-precluding circumstances, see sections 5 and 6.

[4] For more on Gettier's challenge and epistemological reactions to it, see Robert K. Shope, *The Analysis of Knowing: A Decade of Research* (Princeton: Princeton University Press, 1983), and Stephen Hetherington, "Gettier Problems," *The Internet Encyclopedia of Philosophy* (2005), http://www.iep.utm.edu/g/gettier.htm, and "The Gettier Problem," in *The Routledge Companion to Epistemology*, eds. Sven Bernecker and Duncan Pritchard (Routledge, forthcoming, 2010).

I will attempt to reorient that search, by showing why it need never have even *begun* with the standard motivation – the Standard Gettier Interpretation – which has always defined it. Gettier himself provided a clue as to how we may understand the situations he described. He said *almost* nothing diagnostic about what epistemic faults were present within those situations; but he did say *something*. Regarding his first situation,[5] Gettier told us that his epistemic agent Smith "does not know"[6] *how* his final belief is being made true:

> ... it is equally clear that Smith does not know that (e) ['The man who will get the job has ten coins in his pocket'] is true; for (e) is true in virtue of the number of coins in Smith's pocket, while Smith does not know how many coins are in Smith's pocket, and bases his belief in (e) on a count of the coins in Jones's pocket, whom he falsely believes to be the man who will get the job.

Why did epistemologists not seize upon this clue? The reason was probably methodological. They took their larger goal in 'solving the Gettier problem' to be an analytically reductive definition – an analysis at once of all instances of "knows that *p*", in terms not themselves mentioning knowledge. (Knowledge would be understood as a combination of elements, none of these being knowledge.) Yet is a reductive analysis obligatory for understanding knowledge's nature? Timothy Williamson[7] has denied so. Let us join him in not focusing fixedly upon that goal.

For example, imagine a simple variation on Gettier's first story – a variation prompted by his own clue. Imagine Smith's having known that *he* (not Jones) will get the job, and that *he* also (not only Jones) has ten coins in his pocket. This would be a normal instance of Smith's acquiring inferential knowledge that (e). It would not be a Gettier situation. It would illustrate an epistemic principle possibly of longer epistemological lineage even than the justified-true-belief definition of knowledge – the principle, namely, that a belief is inferential knowledge only if the evidence upon which it is based is knowledge.[8] We would regard the story as simply a not-especially-distinctive reminder of this principle's truth, a structural constraint upon inferential knowledge's presence.

And maybe *that* is a clue. Perhaps Gettier situations are most accurately diagnosed (even if not reductively analyzed) by something like this:

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[5] If you are unfamiliar with its details, see in the start of section 4 for Gettier's entire presentation of it.

[6] Gettier, "Is Justified," 122.

[7] Timothy Williamson, *Knowledge and Its Limits* (Oxford: Clarendon Press, 2000), ch. 1.

[8] We might reach for the version of this principle concerning justification, not knowledge. The point remains the same, *mutatis mutandis*.

> If a person's belief is true and well-although-fallibly justified, but there is some pertinent circumstance of which she does not know, then her belief is not knowledge.

Obviously this schema is incomplete. For a start, what makes a circumstance pertinent? But the immediate point is that – *however* we understand such pertinence – part of a belief's being Gettiered-and-therefore-not-knowledge is a pertinent circumstance of which the believer does not know.

2.2 Not knowing that one is in a Gettier situation

Here is an extension of that observation: In principle, one way not to lack knowledge by being in a Gettier situation would be to know that one is in that Gettier situation. "Clearly," you might reply, "no one within a Gettier situation can know that she is. Being in a Gettier situation involves being unwittingly undermined in that way." Exactly; and so my argument starts with what should be a triviality. Can we derive something substantive from it?

Consider this reasoning:

> Knowing that one is in a Gettier situation. Any Gettier situation is centred upon some proposition. By definition, part of being in a Gettier situation centred upon p is one's having a true belief that p. So, knowing that one is in such a situation would include knowing that one's belief that p is true. But this is to know that p. Hence, it is impossible to be in a Gettier situation centred upon p, and to know this, while failing to know that p. Consequently, to know that one's belief that p is Gettiered would, in part, be to know that p.

In which case, it is possible in theory for a Gettiered belief to be knowledge. Yet this conclusion is manifestly incompatible with the Standard Gettier Interpretation, on which no Gettiered belief can be knowledge. The Standard Gettier Interpretation must therefore be taking for granted this further condition – that *no epistemic agent can know that she is in a Gettier situation centred upon* p.

I say "must therefore be taking for granted", partly because epistemologists never actually remark upon whether or not a person within a Gettier situation knows that she is there. But we have seen just now that part of being in a Gettier situation *is* – if knowledge is to be absent – one's not knowing that one is there. Accordingly, that further condition needs to be mentioned by any *complete* explication of the Standard Gettier Interpretation, even if in practice epistemologists (when speaking more casually, less thoroughly) may take this condition's presence for granted, and

even if we regard as trivially attainable its being satisfied.[9] It *does* seem like a trivial requirement, one which epistemic agents should satisfy correlatively easily. Thus, we are not imposing anything substantive and alien upon the Standard Gettier Interpretation.[10]

2.3 The Expanded Standard Gettier Interpretation

Nonetheless, we are adding *something* – at least in the sense of making explicit something which must have been taken for granted by advocates of the Standard Gettier Interpretation. Once we do make explicit that further something, we gain this *Expanded* Standard Gettier Interpretation:

> Necessarily, a person's being in a Gettier situation centred upon p, without her knowing that she is, prevents her belief that p from being knowledge that p.

We then have an interpretive choice. We could regard the need for such an expansion as already falsifying the Standard Gettier Interpretation. That interpretation would be apt if the need for the expansion reveals the Standard Gettier Interpretation's antecedent to have been an *in*sufficient description of what suffices for being Gettiered-and-thereby-not-knowledge. Alternatively, we could interpret the Expanded Standard Gettier Interpretation as merely making explicit what was implicit in the Standard Gettier Interpretation. The latter will be my charitable approach. I will treat the question of whether the Standard Gettier

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[9] "Why is there a *need* for this condition to be mentioned? Also necessary to being in a Gettier situation is one's being alive, being conscious, and so on. Yet these need not be mentioned as necessary conditions in an account of knowledge. Why *must* we mention one's not knowing that one is in a Gettier situation?" The reason is the *epistemic* significance of this necessary condition. As was explained two paragraphs earlier (in *Knowing that one is in a Gettier situation*), to fail it would be to *have* knowledge that *p* within a Gettier situation centred upon *p* – thereby falsifying the Standard Gettier Interpretation. It is not similarly sufficient, for knowing that *p*, that one not be alive, not be conscious, etc.

[10] A terminological point arises. We may say that if a person was to know that she is in a Gettier situation, she would not be in a Gettier *case* – a Gettier situation centred upon *p*, where one *lacks* the knowledge that *p*. I am talking more generically of Gettier situations because I wish to *discover* whether – without *presuming* that – such situations exclude knowledge. For example, it would be question-begging to object in this way to my suggestion:

If in principle no one could know herself to be in a Gettier situation, the idea of knowing that one is there is incoherent. It is similarly incoherent to include, within accounts of knowing, the condition that one not know that one is in a Gettier situation.

This merely *presumes* that no Gettiered belief is knowledge.

Interpretation is true as *being* the question of whether the Expanded Standard Gettier Interpretation is true. Hence, the former is true only if the latter is.

3. Dissolving Gettier's challenge

3.1 The argument

And *is* the Expanded Standard Gettier Interpretation true? Imagine a proponent of the Expanded Standard Gettier Interpretation who attempts to argue (rather than merely assume)[11] that someone lacks knowledge by being within some Gettier situation. Let the term "Gettier-circumstance" designate what section 1 called the pertinent circumstance within a given Gettier situation (the circumstance which, as standardly interpreted, prevents the situation's justified true belief from being knowledge). Our imagined reasoner accepts 1:

> 1 Given x's having fallibly good evidence for her true belief that p, and given that situation's Gettier-circumstance: {x lacks knowledge that p → not-(x knows that x is in a Gettier situation)}.[12]
>
> 2 Within a Gettier situation: {x lacks knowledge that p → not-(x knows that x is in a Gettier situation)}.

1 is equivalent to the more succinct 2:

Our imagined proponent of the Expanded Standard Gettier Interpretation needs to show that 2's contained consequent is satisfied, if he is to establish *x*'s failing to know that *p* within this Gettier situation. Yet once we articulate in detail what it is for *x* not to know that she is in a Gettier situation, we turn 2 into 3:

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[11] It is tempting simply to insist without arguing, when confronted by a description of a Gettier situation, that the described belief is not knowledge. Epistemologists, however, should examine whether the standard reaction *can* be justified through argument.

[12] 1 is formulated in this way because my discussion takes as *given x*'s being in a Gettier situation. In effect, 1 is 1*:

1* [*x* believes that *p*, & it is true that *p*, & *x* has fallibly good evidence for *p*, & there is a Gettier-circumstance within *x*'s situation] → [*x* lacks knowledge that *p* → not-(*x* knows that *x* is in a Gettier situation)].

This alternative formulation makes apparent that – by exportation – we may conjoin 1*'s antecedent with the antecedent of its consequent (leaving, as the new consequent, what is presently the consequent of its consequent). Doing so, though, would obscure the dialectically immediate question of whether (as per the Standard Gettier Interpretation) *x*'s satisfying 1*'s antecedent *suffices* for *x*'s lacking knowledge that *p*.

> 3 Within a Gettier situation: {x lacks knowledge that p → x does not know the following: [x believes that p, & it is true that p, & x has fallibly good evidence for p, & there is a Gettier-circumstance within the situation]}.[13]
>
> 4 x does not know the following: [x believes that p, & it is true that p, & x has fallibly good evidence for p, & there is a Gettier-circumstance within the situation].
>
> (a) It would be badly question-begging to argue that x does not know that p is true – with this being how x lacks knowledge of 4's conjunction. For the inquirer's argument would be this: x fails to know that p is true; therefore, x fails to know that p.
>
> (b) Nor is it clear that, in general, x will not know that she believes that p – with this being how x lacks knowledge of 4's conjunction. It could well be comparatively simple for x to know that she believes that p.
>
> (c) Indeed, x will not even obviously fail to know what her evidence is for her belief that p – with this being how x lacks knowledge of 4's conjunction. For x could well know, internalistically, that her evidence is good in some standard-yet-fallible way.

And so our hypothesised defender of the Expanded Standard Gettier Interpretation must establish 3's contained consequent – namely, 4:

But *how* will the imagined inquirer argue for 4? Which of 4's contained conjuncts can *x* be argued not to know?

What way remains for *x* to lack knowledge of 4's contained conjunction? Our imagined inquirer is reduced to arguing from *x*'s not knowing that there is a *Gettier-circumstance* within the situation. Our proponent of the Expanded Standard Gettier Interpretation – in order to show that *x* (when within a Gettier situation) lacks knowledge that *p* – must show that *x* does not know that there is a Gettier-circumstance within the situation:

> 5 Within a Gettier situation: {x lacks knowledge that p → x does not know that there is a Gettier-circumstance within the situation}.

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[13] By "there is a Gettier-circumstance" I do not mean "there is a circumstance which, by being a Gettier-circumstance, is part of a Gettier situation – along with the other elements of such a situation (truth, belief, justification)." I mean something like this: "there is a circumstance which – *if* the other elements of a Gettier situation (truth, belief, justification) are present – functions as a Gettier-circumstance." (As sections 5 and 6 will explain, even luck is not inherently a Gettier-circumstance. It must interact aptly with the situation's other elements.)

Yet a surprising implication ensues. Via contraposition of 5 (and after simplifying the syntax), the advocate of the Expanded Standard Gettier Interpretation is thereby committed to 6:

> 6 Within a Gettier situation: {x knows that a Gettier-circumstance is present → x knows that p}.

And this conflicts with the Expanded Standard Gettier Interpretation – indeed, with any version of the Standard Gettier Interpretation. According to the latter, a Gettier-circumstance's presence within a Gettier situation is incompatible with *x*'s knowing that *p* within that situation. But 6 says that, within a Gettier situation, to know of some such circumstance's presence is to know that *p*. So, unless one's knowing of a Gettier-circumstance entails one's no longer being *in* that Gettier situation, 6 reveals a way of knowing that *p* within a Gettier situation. In which case, the Standard Gettier Interpretation is false.

So, *is* it possible to know that some Gettier-circumstance is present, while staying within a Gettier situation? That depends on what it is to be a Gettier-circumstance. Seeking generality, I have not commented on this. Now I will do so.

Within each Gettier situation, quite possibly the person involved believes that *no* Gettier-circumstance is present. This belief could take a few forms. She need not be using the technical term "Gettier-circumstance" (although I will continue using it when describing her belief). She may simply believe the situation to be epistemically normal. Or perhaps she believes herself to have sufficient evidence to render likely the truth of her belief, with nothing else about the situation requiring her to have further evidence. And (as I am about to explain) whenever such a belief is present within such a situation, *the belief itself* functions as a Gettier-circumstance.

Thus, suppose (for argument's sake) that *x*, within a Gettier situation, believes there to be no Gettier-circumstance present. All else being equal, that belief is a 'silent partner' of what will standardly be deemed the situation's Gettier-circumstance. This is because *x*'s having that belief helps to keep her *satisfied* with her belief that *p* and with her evidence. Having that belief prevents her from *revising* her belief that *p* or her evidence – in ways which would imply her no longer being in that particular Gettier situation, strictly speaking. Her having the belief that no Gettier-circumstance is present combines with the Gettier situation's other elements, so as to *keep her within it*. In effect, having that belief functions *as* a Gettier-circumstance, even if silently.[14]

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[14] Why "silently"? The belief's normality allows it to fit into the *background* within the situation. This belief's presence may well be taken for granted whenever other Gettier-circumstances are

This suggests that any Gettier situation could well include *two* Gettier-circumstances:

> (1) a standardly described one ("Actually, there is a sheep over there, hidden from the epistemic agent's gaze, even as this animal – the one she can see – is really a dog"); plus (2) the epistemic agent's belief that no Gettier-circumstance is present.[15]

Imagine (2)'s absence: imagine *x*'s *not* believing (even implicitly) that no Gettier-circumstance is present. That lack of belief *could* accompany *x*'s being aware of the concept of a Gettier-circumstance; in which event, she might even *have* the belief that some Gettier-circumstance is present. So, she may well stop believing that *p*; or, equally, she could well cease relying on the same evidence for *p*. In either event, that Gettier situation would be no more: once either the belief or the specific evidence for it disappears, so does that Gettier situation. In contrast (as indicated a moment ago), *x*'s believing that she is not in a Gettier situation is part of what *keeps* her in one.

Given also that this belief of *x*'s is false (because she *is* in a Gettier situation), it is part of how she is deceived within the situation. Fundamentally, it might be *what x* is deceived about within the situation.[16] (Remember: her belief that *p* is true there. *It* is not deceived, in the sense of being false.)[17] Accordingly, we have this result:

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present. When epistemologists describe Gettier-circumstances they do not mention *every* aspect of the situation. They select aspects they believe to be epistemically relevant, but they might overlook something of epistemic relevance. I am highlighting one such "something". (Section 4 will discuss how this applies to one of Gettier's own famous cases.)

[15] "Must *all* Gettier situations include this belief that no Gettier-circumstances are present?" I am not assuming so. The argument I am developing would bypass situations including just one Gettier-circumstance, instantiating only (1). Still, it remains possible that all Gettier situations include a "silent" Gettier-circumstance, instantiating (2), even if sometimes implicitly. (Section 7 especially will expand upon the apparent *normality* of believing that no Gettier-circumstances are present.)

[16] In some Gettier situations, it is often argued, the epistemic agent's reasoning uses no false premises. For the classic example, see Richard Feldman, "An Alleged Defect in Gettier Counterexamples," *Australasian Journal of Philosophy* 52 (1974): 68-9. Yet many think that even then, somehow implicitly, the epistemic agent is deceived. My analysis accommodates that reaction – without requiring the explicit reasoning to use a false premise.

[17] It is mistaken to object that my proposal here (namely, that the belief that no Gettier-circumstance is present is itself a Gettier-circumstance, even if 'silently') is false because this belief does not *bear* upon the truth that *p*. It does indeed bear upon that truth, even if not by *making* true the belief that *p*. Often, standardly described Gettier-circumstances do the latter. But they can do this partly *because* of the further Gettier-circumstance I am describing – the

> Given x's being in a Gettier situation (as this is standardly understood), her believing that no Gettier-circumstance is present is itself a Gettier-circumstance.

And that result allows us to render 6 more specifically, as 7:

> 7 Within a Gettier situation: {x knows that she believes there to be no Gettier-circumstance present → x knows that p}.

With which conclusion, we see that the attempt to defend the Expanded Standard Gettier Interpretation has failed. 7 specifies a simple addition to *x*'s evidence that disposes of Gettier's challenge, revealing how knowledge can be *present* within Gettier situations.[18]

3.2 Explication

Section 3.1 shows why the Expanded Standard Gettier Interpretation is false. By analysing how an advocate of that interpretation would argue for a Gettier situation's not including knowledge, we derive what might be termed a dialectical reconstruction of how a person *can*, as it happens, know within a Gettier situation. We have reconstructed how the knowing could arise; yet this emerged from analysing an opponent's attempt to argue for the knowledge's destruction. From the supposed epistemic ashes comes the glowing knowledge. If one is in a Gettier situation centred upon *p*, but one knows that one believes there to be no Gettier-circumstance in the situation, then one *has* knowledge that *p*.

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belief that no such circumstances are present. So the truth-relevance of this further Gettier-circumstance is indirect. (Here is an example, based on Chisholm's sheep-in-the-field case [Roderick Chisholm, *Theory of Knowledge* (Englewood Cliffs: Prentice Hall, 1966), 23 n. 22]. When *x* looks at a dog-disguised-as-a-sheep, she infers correctly that there is a sheep in the field. The dog's being disguised as a sheep, and the existence of the hidden real sheep, jointly constitute a standardly described Gettier-circumstance bearing directly upon the truth of *x*'s inferred belief that there is a sheep in the field. But *x*'s also believing that no Gettier-circumstance is present – that nothing odd in the situation undermines her evidence – is part of her 'staying in place' within the standardly described Gettier situation.)

[18] It might be objected to this argument that its pivotal Gettier-circumstance – *x*'s believing that no Gettier-circumstance is present – is not one of epistemology's traditional suggestions as to what makes something a Gettier-circumstance. But none of those other characterisations has – to general epistemological satisfaction – been proved to be needed, let alone needed and sufficient, for describing what it is to be a Gettier-circumstance. And some such proof is required if my account is to be rejected. Each of the traditional characterisations is an interpretation, not a datum. (In any case, section 5 will discuss two of those traditional suggestions and how we may expect to use them in *arguing* for knowledge's absence from Gettier situations.)

Moreover, it is *easy* to have the knowledge of believing oneself not to be in the presence of a Gettier-circumstance's presence. That knowledge is of a belief which one *normally* has – and which one could have within any Gettier situation, where (by hypothesis) one remains blissfully unaware of the Gettier-circumstance. In effect, the belief in question is that one is in a normal situation, regarding how one is forming one's belief that *p* and how the latter belief is true and justified. It is essential to being in a Gettier situation that one not be alerted to the situation's not being normal in these respects. Consequently, even within a Gettier situation there is a simple way to have knowledge: Reacting *normally* within a Gettier situation can give one the knowledge. (Consider, too, that if someone is not in a Gettier situation, she is *less* likely to know: there is no guarantee within other situations of having even a justified true belief. By definition, each Gettier situation contains a justified true belief – more epistemic bounty than is often present within life's situations.)

What, though, of this objection to section 3.1's argument?

> The Gettier-circumstance highlighted in that argument – the belief that no Gettier-circumstance is present – can equally well be present in non-Gettier situations. In any Gettier situation and in any non-Gettier situation, an epistemic agent will probably believe there to be no Gettier-circumstance present. Most likely, in each situation she believes it to be normal in that respect. Accordingly, section 3.1's argument has not described a distinctive Gettier-circumstance.

But it is question-begging to assume that Gettier situations, in themselves, *are* so distinctive.[19] We have been modelling an imagined dialectic, with a proponent of the Expanded Standard Gettier Interpretation arguing for knowledge's being absent from Gettier situations. In this dialectical setting, he may not assume the Standard Gettier Interpretation; and so his methodology for analyzing such situations should not assume their relevant distinctiveness. This point was reinforced by our dialectical reconstruction of 7. Gettier situations may easily be *assimilated* to non-Gettier situations, due to our surprising result that knowledge is readily present even in Gettier situations.

4. Silent Gettier-circumstances: an example

Section 3.1's pivotal idea was that of a *silent* Gettier-circumstance. The accompanying account was somewhat abstract. So, I will illustrate how that idea applies to Gettier's job-and-coins situation. Here is his complete description of that situation:[20]

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[19] My use of "in themselves" allows that Gettier situations are *ex*trinsically distinctive – in that epistemologists treat them as (intrinsically) distinctive. Such treatment does not make the situations distinctive within themselves, though.

[20] Gettier, "Is Justified," 122.

> Suppose that Smith and Jones have applied for a certain job. And suppose that Smith has strong evidence for the following conjunctive proposition:
>
> (d) Jones is the man who will get the job, and Jones has ten coins in his pocket.
>
> Smith's evidence for (d) might be that the president of the company assured him that Jones would in the end be selected, and that he, Smith, had counted the coins in Jones's pocket ten minutes ago. Proposition (d) entails:
>
> (e) The man who will get the job has ten coins in his pocket.
>
> Let us suppose that Smith sees the entailment from (d) to (e), and accepts (e) on the grounds of (d), for which he has strong evidence. In this case, Smith is clearly justified in believing that (e) is true.
>
> But imagine, farther, that unknown to Smith, he himself, not Jones, will get the job. And, also, unknown to Smith, he himself has ten coins in his pocket. Proposition (e) is then true, though proposition (d), from which Smith inferred (e), is false. In our example, then, all of the following are true: (i) (e) is true, (ii) Smith believes that (e) is true, and (iii) Smith is justified in believing that (e) is true. But it is equally clear that Smith does not know that (e) is true; for (e) is true in virtue of the number of coins in Smith's pocket, while Smith does not know how many coins are in Smith's pocket, and bases his belief in (e) on a count of the coins in Jones's pocket, whom he falsely believes to be the man who will get the job.

Did Gettier make explicit every detail of epistemically explanatory significance to his question of whether being justified and true suffices for a belief's being knowledge? Almost so; as we may appreciate by comparing two possible retellings of his story. I will outline two competing ways in which, at a particular moment in his narrative, Gettier could have said more as to how he was about to continue it. Each of these ways shares this initial segment of his tale:

> Suppose that Smith and Jones have applied for a certain job. And suppose that Smith has strong evidence for the following conjunctive proposition:
>
> (d) Jones is the man who will get the job, and Jones has ten coins in his pocket.
>
> Smith's evidence for (d) might be that the president of the company assured him that Jones would in the end be selected, and that he, Smith, had counted the coins in Jones's pocket ten minutes ago. Proposition (d) entails:
>
> (e) The man who will get the job has ten coins in his pocket.
>
> Let us suppose that Smith sees the entailment from (d) to (e), and ...

And... and what? Here, we pause. Here, we face a choice. We can imagine the story being continued either by (1) *or* by (2):

> (1) ... what is Smith now to believe? Is he to form the belief that (e)? Suddenly he hesitates, unaccountably suspicious: "I realise that (d) entails (e). Is (d) therefore describing how (e) is true? Possibly so; but possibly not. I'm not sure either way." Smith fails to believe that nothing odd is present in the situation – nothing, that is, which would render the belief that (e) true in some way other than how his evidence indicates its being made true.

> (2) ... what is Smith now to believe? Is he to form the belief that (e)? That would be natural. Especially so, since he also believes that nothing odd is present in the situation, regarding how (e) is true. Smith believes that nothing about the situation would render the belief that (e) true in some way other than how his evidence indicates its being made true.

Gettier does not tell us explicitly that one of those alternatives is the key to his story. Even so, one of them *is* that important, as the following remarks show.

If we were to allow alternative (1), and if Smith was nevertheless to form the belief that (e), we might well deem his belief *unjustified*: alternative (1) substantially weakens the strength of evidence (d) as a reason for believing (e) to be true.[21] Smith himself could well realize that this belief would be unjustified. Accordingly, he might well not proceed to *have* the belief that (e). In either event, the resulting situation would no longer *be* an (e)-Gettier situation (a Gettier situation centred upon (e)). For either Smith would have the belief that (e), but it would not be justified; or he would lack the belief that (e). In one way or the other, that Gettier situation would fade away: without a justified true belief that (e), there is no (e)-Gettier situation.

In contrast, incorporating alternative (2) within the story would generate no such outcome. The story could continue *wholly as before in Gettier's own telling, because it was always* taking (2) for granted:[22]

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[21] "But (1) contemplates (e)'s being true in some *other* way. Hence, (1) still envisages (e)'s being true. How, then, does (1) significantly weaken the justificatory support for (e)?" The reason is that (d)'s support – for (e)'s being true in the way described by (d) – is weakened in (1) by a suspicion which does not compensate for this intrusion by providing *evidence* for (e)'s being true in an alternative way. *Merely* a suspicion of the latter state of affairs is present.

[22] This is not to say that Smith was assumed to be thinking *consciously* that his situation was normal in this way. Rather, the *story* was taking for granted what need only have been *Smith's* taking for granted the situation's being normal in that way.

> [and therefore Smith] accepts (e) on the grounds of (d), for which he has strong evidence. In this case, Smith is clearly justified in believing that (e) is true.
>
> But imagine, farther, that [... and on continues the story, exactly as in Gettier's own version].

Alternative (2) allows Gettier's story to unfold as already occurs. In fact, the story-with-(2)-inserted *is* Gettier's famous situation – only with what was, in his story-telling hands, a merely implicit aspect of the situation now being made explicit by our recognizing (2)'s role.

That role is real. To exclude (2) is to include (1); which, as we saw, is to destroy the Gettier situation as such. The situation's very *existence* depends partly upon Smith's believing the situation not to include any pertinent Gettier-circumstances bearing upon (e). In other words, the (e)-Gettier situation *must* include (2) – Smith's having that belief. His doing so could have been made explicit in the story's original version. Still, Gettier all-but-made it so, by telling us of Smith's not having any beliefs registering the presence of Gettier-circumstances. We may interpret his account charitably in this respect. We may attribute to Smith the belief in question – that the situation is normal. And we may do this on the basis of Gettier's explicitly describing Smith as unaware, seemingly in a normal way, of the Gettier- circumstance. In any event, Smith's having this belief is as essential to the situation's being an (e)-Gettier situation as are any other circumstances.

His having that belief is essential in the same *way*, too. (It is not like the presumption of his continuing to breathe, say.) The belief's *contribution* is similar to how the situation's usually noticed aspects contribute. For Smith to believe that the situation is normal, in the proposed way, is for him to believe that his evidence in (d) is not misleading as to how (e) is being made true. This turns his *evidence* for (e) into the conjunction of (d) and the "normality belief" – instead of (d) alone. The "normality belief'" is not mentioned among the evidence which Gettier *calls* Smith's evidence. It contributes, nonetheless – even if silently so.

And, with this, we may return to section 3.1's argument, confident anew of its rightness. Let us repeat that argument's conclusion. The Expanded Standard Gettier Interpretation is mistaken (and so, therefore, is the Standard Gettier Interpretation) – because there is a simple way of *having* knowledge within a Gettier situation.

5. Disposing of alternative explanations of Gettier situations

Standard doubts might linger. This section will dispose of two of the more powerful ones.

No-false-lemmas. William Lycan,[23] (for instance, offers a sustained defence of a no-false-essential-assumption analysis of knowledge – his modification of the traditional no-false-lemmas analysis. Lycan would say that whenever an epistemic agent within a Gettier situation centred upon *p* believes her situation not to be a Gettier one, she relies upon an essential *yet false* belief – thereby lacking knowledge that *p*. Section 3.1, however, shows why that is not so. This important false belief does not drive away the knowledge that *p*. Far from it; surprisingly, the epistemic agent's having that specific false belief (hence her knowing that she has the belief) helps to *give* her the knowledge that *p*. So, we should not analyse Gettier situations as ones where, because a false belief (even a substantial one) is relied upon, there is no knowledge that *p*.

Luck. Probably the most widespread initial ("intuitive") analysis of Gettier situations describes the *flukiness* inseparable from them:

> The epistemic agent lacks knowledge because she only luckily gains a belief which is true and well-albeit-fallibly justified.

But this cannot be correct, even broadly speaking. Insofar as the luck is constitutively crucial to Gettier situations, the following obtains:

> If someone knows that she is in a Gettier situation centred upon p, then (from section 2.2) she knows that p and she knows that she luckily has a true belief that p which is well-albeit-fallibly justified.

Hence, she would know that *p even* while knowing of the flukiness in her belief's being both true and justified. This entails that the luck does not entail her lacking knowledge that *p*. It is possible to be in a Gettier situation, along with that luck, even while knowing.

To this, we might object that, whenever someone is in a Gettier situation, this involves her *not* knowing of the luck. But this lack of knowledge would in turn be part of her not knowing that she is in a Gettier situation. (It would probably accompany her believing that she is not in a Gettier situation.) And we have seen (in section 3.1) why that – the epistemic agent's not knowing that she is not in a Gettier situation – will not generate a compelling argument for her lacking knowledge that *p*. On the contrary: she can *have* knowledge that *p* even while not knowing of the Gettier situation's distinctive luck. In order for knowledge that *p* to

[23] William G. Lycan, "On the Gettier Problem problem," in *Epistemology Futures*, ed. Stephen Hetherington (Oxford: Clarendon Press, 2006), 148-68.

be present (all else being equal), she need only know that she believes her situation not to be a Gettier one.

A generalisation. The preceding two arguments may be generalised. Consider *any* putative *analysans A* of the lack of knowledge that *p* within a Gettier situation centred upon *p*. The proposed analysis would take this form:

> Within the Gettier situation, A is present yet knowledge is not. This is no coincidence: the knowledge is absent because A is present. (The knowledge thus requires A's absence – such as the absence of any essential false assumptions or any notable flukiness in a belief's being justified and true.)

To which, my reply is as follows:

> From section 2.2: To the extent that A's presence is vital to a situation's being a Gettier one, the epistemic agent knows that she is in such a situation only if she knows that A is present.24 By knowing that she is in a Gettier situation centred upon p, however, she would also know that p. Consequently, A's presence is not enough to preclude knowledge that p.
>
> From section 3.1: And even if the epistemic agent does not know that she is in a Gettier situation centred upon p, it transpires that – while within that situation – she may still know, quite easily, that p.

Again, therefore, *A*'s presence within a Gettier situation is not enough to preclude knowledge that *p* – no matter *what A* is.

6. Reacting to Gettier situations as wholes

We might suspect that section 5's generalized argument does not do justice to how epistemologists *use* putative analyses of Gettier situations. Suppose that a given epistemologist attributes the lack of knowledge within a Gettier case to the presence of some *A* – luck, an essential false assumption, or something similar. Will her accompanying explanation then proceed more *atomistically* and *sequentially* than section 5 envisaged? (And so is section 5's argument beside the point?) This is the question of whether epistemologists react – rightly so – just to *part* of the whole

[24] Here, I am relying upon a graded closure condition like this: *To the extent* that *A* is constitutive of something's being a Gettier situation, knowing that one is in such a situation requires knowing that *A* is present. For an application of a more general condition like this, see Stephen Hetherington, "Knowing (How It Is) That *P*: Degrees and Qualities of Knowledge," in *Perspectives in Contemporary Epistemology,* ed. Claudio de Almeida, *Veritas,* 50 (2005): 129-52, and Hetherington, *How To Know*, ch. 3.

situation (so that, in effect, knowledge is precluded *before* the rest of the situation need be described).

Here is an example of what I mean by that way of thinking. (The example treats flukiness as a representative *analysans* of the situation's putative lack of knowledge.)

> (a) If an epistemic agent within a Gettier situation centred upon p was to know first of the situation's flukiness, most probably she would not proceed to believe that p. If she was nevertheless to proceed to form that belief, it would not be justified. Hence, given her awareness just of the situation's containing marked luck, her knowing that p would not arise – because she would not proceed both to believe that p and to be justified in doing so. (b) Even if she never becomes aware of such luck operating within her situation, onlookers (such as epistemologists) can infer on her behalf the absence of the knowledge that p. And they can do this on the basis just of her situation's containing the marked luck. (c) From (a) plus (b), we might say that the luck preemptively drives away the knowledge that p.

In other words, all we need to notice is the flukiness, say, if we are to ascertain the knowledge's absence. Nothing else in the situation – we are confident – would undo the epistemic damage wrought by that pronounced luck. Nothing else in the situation would "restore" the knowledge already removed by that pronounced luck.

Reasoning along those lines could well be contributing significantly (even if unstatedly) to standard reactions to Gettier situations. En route to denying knowledge's presence within such situations, epistemologists do generally remark upon the luck (or some other putative failing). And then, in effect, they halt – due to their not thinking that more needs to be described if the knowledge's absence is to be explained. Unfortunately, however, such reasoning explains at most why there is a lack of knowledge within a Gettier situation, *if* such a lack obtains. It does not entail that there *is* such a lack.

Why is this so? Here is what we *must* grant, after accepting that Gettier situations include notable luck or oddity:

> Such flukiness within a situation is unlikely to yield a justified true belief. (For example, if the epistemic agent was to be told only of there being flukiness affecting her belief-forming situation, then yes indeed: she should be doxastically cautious.)

How far does that observation take us, though? The unlikelihood which is being described reflects how flukiness operates *normally* – within situations in general. It reminds us of how a situation's including odd luck *normally* affects

believers – which is to say, by decreasing their chances of gaining a justified true belief and thence knowledge. However, that observation is not sensitive to how the luck operates within Gettier situations specifically. These situations are special – *not* normal – in the present respect: within these situations, flukiness *has* generated, or allowed there to be, a justified true belief. We may allow that, for a plausible value of "*A*" (such as flukiness in forming a justified true belief), one would in *general* be lucky to know. But that remains compatible, in the following way, with knowledge's being a justified true belief:

> Given normal flukiness within a situation where one is forming a belief that p, one would be lucky there to know that p. Yet this could be because one would be lucky to form a justified true belief that p – with such a concatenation being knowledge that p.

It remains possible, therefore, that an epistemic agent knows that *p* within the abnormal confines of a Gettier situation in particular – where, after all, the flukiness has *not* prevented a justified true belief that *p* from arising.

At any rate, this is so, unless (as is perhaps being claimed standardly) flukiness in forming a justified true belief is *already* sufficient in any possible situation for that belief's failing to be knowledge. But section 4 showed that flukiness *per se* lacks this power, *not* entailing the absence of knowledge that *p*.[25]

It might be useful to generalise the foregoing argument:

> The proffered analysans A (such as flukiness or an essential false belief) would normally suffice for an absence of justified true belief that p – and thereby of knowledge that p (if justified true belief is necessary to knowledge). But this effect could be counteracted within appropriately abnormal situations; which is what occurs within Gettier situations. What would normally be the effect of A's presence is reversed within Gettier situations – where there are justified true beliefs.

The point is as follows. Suppose we reach the Standard Gettier Interpretation by noticing the luck, or some significant false assumption, say, involved in the epistemic agent's gaining her justified true belief within a Gettier situation. Then our Standard Gettier Interpretation will reflect the fact that such a circumstance – the luck; the significant false assumption – *normally* chases away knowledge: we will therefore deny that in this particular situation there is knowledge. Now,

[25] We may even – if this paper is right – understand Gettier situations as having the potential to *show* or *display* this putative entailment's not obtaining.

Gettier situations are not normal belief-forming situations. Are they therefore situations from which knowledge is absent? I return to this question in section 7, asking whether there is something prescriptively definitive about how normality interacts with knowing. Until then, a simple manoeuvre is available. We may surmise that what is *normally* the consequence of luck, for example, within a belief-forming situation – namely, an absence of knowledge – need not obtain in *all* situations containing such luck. We may parry the Standard Gettier Interpretation with this thought: What normally chases away knowledge need not always do so.

Accordingly, in assessing whether, within a particular situation, this banishment of knowledge occurs, we must take into account the situation as a *whole*. If the situation is suitably abnormal, we might even need to modify the initial pessimistic epistemic assessment of it – the one that seemed correct when we were reacting only to *part* of the situation. We need not *always* deny that knowledge is present, when a circumstance is present which *normally* chases away knowledge. Gettier situations are not normal; and earlier sections have shown that within these situations (each considered as a whole) knowledge *is* possible. Hence, we judge such situations too limitedly, reflecting what are probably our own normal situations, if either (i) we ignore their particular form of abnormality or (ii) we assume that it automatically chases away knowledge.[26]

[26] Bear in mind how much freedom we have when describing the abnormality within Gettier situations. I have been talking generically of luck or flukiness or oddity, for instance. By describing the luck so vaguely, I was strengthening my opponent's case (the argument for knowledge's absence), because we are then free to imagine *bad* luck's affecting the various Gettier situations. But I could instead have talked of good luck, noting its resulting in a justified true belief that *p*. Would *this* mode of description obviously provide sufficient reason to deny knowledge that *p*'s presence? Not manifestly; which is why this section began with the idea of the lack of knowledge that *p* being established *before* we reach further, less clearly epistemically threatening, descriptions of details within a Gettier situation. Nevertheless, *all* these descriptions are equally applicable. Consequently, it is question-beggingly arbitrary (in spite of being standard practice) to assess the epistemic agent's epistemic fortunes within a Gettier situation in terms of some single favoured one of those possible descriptions – reacting merely to her being lucky, or to her using a false belief, for instance. We have found that when we survey the *whole* situation, a different assessment could well emerge, with knowledge being present after all. Thus, such situations are ones about which our initial epistemic impressions can be misleading. For more on this methodological moral – Gettier-*holism*, I call it – about interpreting Gettier situations, see Hetherington, *How To Know*, ch. 3).

7. Normality and knowledge

Inadvertently, therefore, what Gettier described was not necessarily a way of lacking knowledge. It was potentially a way of *having* knowledge – albeit an unusual way, perhaps a lucky way. He overlooked this possible interpretation of his stories, as others have done since then. Why has this happened? Here, section 6's talk of normality is suggestive.

Within a Gettier situation centred upon *p*, let us agree, no knowledge that *p* arises in a normal way, a standardly replicable way.[27] Yet people expect – or so I am suggesting – that it is *normal* to have knowledge that *p* (for most values of "*p*", certainly for "normal" values). Accordingly (they also believe), such knowledge is only ever present in normal *ways*. Thus, it seems, people expect knowing to be a fundamentally normal accomplishment.

By this, I do not mean merely that they expect knowing to *normally* be accomplished normally. Rather, they expect it *always* to occur in a normal way (a normal way for a given piece of knowledge's subject-matter). *Deep* normality is presumed to be part of knowing. Is it any wonder, then, that analytic philosophers readily and definitively test knowledge-claims via "intuitions", "what we say", "what is plausible", and the like?[28] Epistemologists' reactions to Gettier situations are a paradigm exemplification of that analytic philosophical methodology. Seemingly, they think like this:

> There could not be normal knowledge that p within a Gettier situation centred upon p. Therefore, no knowledge that p at all is there.

But that normal thinking is too conceptually limited. We have found the potential for Gettier situations to reveal *not* all knowledge to be like that. Correlatively, we will continue misinterpreting such situations until we discard that needlessly restrictive conception of knowledge. We should be open to the possibility of knowledge – even knowledge of everyday truths (such as about who will get a job or about someone's seeing a barn) – arising in odd ways. Even a "normal" *p* might be known in an abnormal way – as Gettier has unwittingly revealed. He described a kind of situation where someone might know that *p*, even

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[27] Significantly, the value of "*p*" in the usually discussed Gettier situations is always quite mundane. It is not abstruse or technical, in ways that would make knowledge that *p* difficult – hence abnormal in that sense – to attain.

[28] Exceptions are allowed when the object of the putative knowledge is technical. But, as the previous note mentioned, epistemological discussions of Gettier situations typically do not attend to such cases.

a "normal" *p*, partly by believing in the relevant normality of her situation, *and* in spite of this belief of hers being false (as it is within Gettier situations). The knowledge would not be normal, although she would believe it to be. No matter; we do not always know that we know that *p*, even when we do know that *p*. Nor need we always know *how* we know that *p*, even when we do know that *p*. Gettier – supplemented by this paper's analysis – helps to make this apparent. We can know within Gettier situations, without knowing that or how we do.

8. Knowing within all Gettier situations?

As section 2.1 acknowledged, Gettier took what we may now appreciate as an initial step towards showing how that is possible. Still, we have needed a few further steps (which is why section 7 all-but-began with the word "potentially"). Gettier was right to mention Smith's *not knowing the Gettier-circumstance's presence* (even if he did this when saying why Smith *lacked* knowledge that (e)). But Smith would most likely lack that knowledge, of any Gettier-circumstance's being present, not through any *failing* on his part. He would most likely – and quite normally – believe *the situation to be normal by being free of Gettier-circumstances*. As section 3.1 showed, if he also knows that he has the belief – probably not difficult knowledge for him to have – then he *does* know that (e).

Confronted by a Gettier situation centred upon *p*, therefore, we need only ask whether its epistemic agent knows that she believes the situation to be free of Gettier-circumstances. If she lacks this belief, she is allowed even by my analysis not to have knowledge that *p*. For she would fail what section 3.1 identified as a sufficient condition of having such knowledge within such a setting (a condition which may, moreover, be the only such sufficient condition).

And that sufficient condition might *often* be satisfied within Gettier situations. Satisfying it could even be normal within a Gettier situation: since one would never be *aware* of being embedded within the abnormality of such a situation, it would be natural to regard one's situation as epistemically normal. It would be normal within *any* situation to presuppose or believe that the situation is free of Gettier-circumstances. Hence, too, such a belief would be easily possessed within Gettier situations. It would then be correlatively easy to know that one has a belief to that effect. And to have this knowledge within a Gettier situation is to satisfy section 3.1's sufficient condition of knowing within such a situation. Could this occur within *all* Gettier situations? Surely so; in which event, knowledge would likewise be present within all Gettier situations.[29]

[29] As to whether knowledge *is* present in this way within all Gettier situations, my account – appropriately – makes this an empirical matter. Within a particular Gettier situation, does the

Or is that presumption of normality overly generous? Do people generally have the concept of a Gettier-circumstance, let alone the belief that their neighbourhood contains no such circumstances? I have been using the term "Gettier-circumstance" schematically, applying no particular precisification. Indeed, section 3.1 did indicate that we may state the paper's sufficient condition (of knowing within a Gettier situation) in such "everyday" ways as these:

> The epistemic agent knows that she believes her justified true belief to have been formed normally, not flukily.
>
> The epistemic agent knows that she believes no further aspect of the situation to be precluding her justified true belief's being knowledge.

Her knowing herself to have a belief like one of those (e.g. "I'm sensing, reasoning, and believing normally, within a normal setting – where nothing else prevents these from giving me knowledge") would be part of *why* she has her belief on the basis of her specific evidence – feeling no need for further evidence. In short, it is not at all difficult to believe that one's situation is epistemically normal, in some way extensionally equivalent to the absence of Gettier-circumstances.

Quite possibly, therefore, we have an explanation of both (i) the falsity of the Standard Gettier Interpretation, and (ii) why the Standard Gettier Interpretation arises so readily. Throughout the paper, I have been emphasising (i); but (ii) matters for understanding why epistemologists have overlooked (i).

First (from section 2.3), the Standard Gettier Interpretation is true only if the Expanded Standard Gettier Interpretation is true; and (from section 3.1) the latter interpretation is false. When we tried to show the Expanded Standard Gettier Interpretation to be true, we discovered how easily an epistemic agent can *have* knowledge within a Gettier situation.

Second, the Standard Gettier Interpretation arises readily (with no accompanying recognition of its needing to become the Expanded Standard Gettier Interpretation), because epistemologists overlook something almost too apparent and simple to be taken seriously. They do not notice, within any Gettier situation, the epistemic agent's knowing that she regards her situation to be epistemically normal. (Yet this is part of why she is then presumed to reason normally within the Gettier situation.)

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epistemic agent have a particular belief (the one I have described as amounting to a silent Gettier-circumstance)? Does she also know that she does? Those are empirical questions.

Thus, from (i) and (ii), we see why knowledge has seemed to epistemologists to be absent from Gettier situations – *and* why it is not.

Does this imply, unwelcomely, that there has been no point to epistemologists developing their accompanying theories of knowledge over the past forty-five-plus years – talking about causality, defeasibility, reliability, and so on? No. We have learnt much from those theories. We have been taught extensively about shapes and shades of justification, along with forms that can be exemplified by instances of knowledge. Our mistake has been in expecting these theories also to model the correctness of the Standard Interpretation of Gettier situations; for that interpretation is false. We should respect the theories independently, without expecting them to provide understanding of why knowledge is absent from Gettier situations.

I noted in section 2.1 that Williamson[30] gazes upon the history of what he regards as fruitless attempts to use such theories to solve the Gettier problem; he then interprets that history as good evidence of knowledge's being unanalysable. But an alternative interpretation of that frustrating epistemological history is available, as we have found in this paper. Because the Standard Interpretation of Gettier situations was mistaken from the outset, epistemologists should *never* have inferred the existence of a Gettier problem.

[30] Williamson, *Knowledge*, ch. 1.

PHÄNOMENOLOGISCHE BEGRIFFE BEI ERNST CASSIRER. AM BEISPIEL DES TERMINUS 'SYMBOLISCHE IDEATION'

Christian MÖCKEL

ABSTRACT: The decisive occasion for the following paper was the discovery, during the editorial work, of the expression "symbolische Ideation" (symbolic ideation) in the posthumous manuscript of Ernst Cassirer, "Prägnanz, symbolische Ideation". The occurrence of this expression raises one more time the question of the relation between Cassirer and the system of concepts of Husserl's phenomenology. The present research gets to the conclusion that Cassirer uses the concept of "symbolische Ideation" (symbolic ideation) in a sense which basically expresses his own philosophical position, rather than Husserl's, who links the "symbolische Ideation" with the term "Ideation", meaning the unmediated self-giveness of the General, of the Identical. But still, one can also discover some common points between Cassirer and Husserl.

KEYWORDS: symbolic ideation, philosophy of symbolic forms, phenomenology, essence, form

§ 1. Die im Briefwechsel gut dokumentierte philosophische – und persönliche – Nähe des Marburger Neukantianers Paul Natorp und des Phänomenologen Edmund Husserl[1] überträgt sich auch auf den Natorp-Schüler Ernst Cassirer[2], dessen "Philosophie der symbolischen Formen" ihren Autor methodisch über den Neukantianismus hinaus führt. Auf die Tatsache, daß sich Husserl und Cassirer gegenseitig wertschätzen, obwohl sie in einigen entscheidenden Fragen gegensätzliche Positionen vertreten,

[1] Vgl. Edmund Husserl, *Briefwechsel. 10 Bände* in *Husserliana Dokumente*, Bd. III: *Briefwechsel*, Hrsg. von Karl Schuhmann in Verbindung mit Erika Schuhmann (Dordrecht-Boston-London: Kluwer, 1994), Bd. V: *Die Neukantianer.*

[2] Cassirer widmet sein Werk *Das mythische Denken* (PsF II, 1925) "Dem Andenken Paul Natorps".

wurde schon mehrfach verwiesen.[3] Die philosophische Nähe und Wertschätzung der beiden Vertreter zweier bedeutender philosophischer Richtungen resultiert nicht zuletzt aus dem gemeinsam vertretenen Idealismus, der sich u.a. als Betonung des ideellen sinngebenden Momentes bereits in den elementaren Wahrnehmungsakten artikuliert. Aber auch Natorps gegenläufige Methoden von Konstruktion und Rekonstruktion[4] werden im Prinzip sowohl von Husserl als auch von Cassirer geteilt.[5]

§ 2. Obwohl bereits zahlreiche Analysen des prinzipiellen Verhältnisses von Phänomenologie und Philosophie der symbolischen Formen vorliegen,[6] besteht weiterhin Klärungsbedarf hinsichtlich des inneren, detaillierten Bezuges von Cassirers reifer Philosophie zur Husserlschen phänomenologischen Methode, die in nahezu jedem seiner Texte seit den 20er Jahren des XX. Jahrhunderts erwähnt oder gar in Anspruch genommen wird. Diese Klarstellung wird nicht nur dadurch verdunkelt, daß Cassirer, obwohl er sich in der Vorrede zum dritten Teil seines Hauptwerkes *Philosophie der symbolischen Formen* I-III (1923-1929) eindeutig zur Hegels Phänomenologie bekennt,[7] im Werk selbst terminologisch nicht klar

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[3] Vgl. z.B. Christian Möckel, "Die anschauliche Natur des ideierend abstrahierten Allgemeinen. Eine Kontroverse zwischen Edmund Husserl und Ernst Cassirer" in Ders., *Phänomenologie. Probleme, Bezüge, Interpretationen* (Berlin: Logos, 2003), 43-62.

[4] Vgl. Paul Natorp, *Allgemeine Psychologie nach kritischer Methode. Erstes Buch: Objekt und Methode des Psychologie* (Tübingen: Mohr, 1912).

[5] Vgl. dazu Christian Möckel, "La teoria dei fenomeni di base di Cassirers e il suo rapporto con Husserl e Natorp" in Stefano Besoli, Massimo Ferrari, Luca Guidetti (a cura di), *Neokantismo e fenomenologia. Logica, psicologica, cultura e teoria della conoscenza* (Macerata: Quodlibet-Quaderni di Discipline Filosofiche, 2002), 149-172, 152.

[6] Vgl. z.B. Martina Plümacher, *Wahrnehmung, Repräsentation und Wissen. Edmund Husserls und Ernst Cassirers Analysen zur Struktur des Bewußtseins* (Berlin: Parerga, 2004).

[7] "hier bleibt nur noch übrig, eine kurze Erklärung und Rechtfertigung des Titels zu geben, den ich für die Untersuchungen dieses Bandes gewählt habe. Wenn ich von einer 'Phänomenologie der Erkenntnis' spreche, so knüpfe ich hierin nicht an den modernen Sprachgebrauch an, sondern ich gehe auf jene Grundbedeutung der 'Phänomenologie' zurück, wie Hegel sie festgestellt und wie er sie systematisch begründet und gerechtfertigt hat. Für Hegel wird die Phänomenologie zur Grundvoraussetzung der philosophischen Erkenntnis, weil er an diese letztere die Forderung stellt, die Totalität der geistigen Formen zu umspannen, und weil diese Totalität nach ihm nicht anders als im Übergang von der einen zur andern Form sichtbar werden kann. Die Wahrheit ist das 'Ganze' – aber dieses Ganze kann nicht auf einmal hingegeben, sondern es muß vom Gedanken, in seiner eigenen Selbstbewegung und gemäß dem Rhythmus derselben, fortschreitend entfaltet werden. Diese Entfaltung macht erst das Sein und das Wesen der Wissenschaft selbst aus." – Vgl. Ernst Cassirer, *Phänomenologie der Erkenntnis* (*Philosophie der symbolischen Formen. Teil III*) in Ernst Cassirer, *Gesammelte Werke. Hamburger Ausgabe*, Hrsg. von Birgit Recki [*ECW*], Bd. 13, (Hamburg: Meiner, 2002), VIII.

zwischen den Bezügen zur Husserlschen Phänomenologie und solchen zur Hegelschen Phänomenologie des Geistes unterscheidet.[8] Auch die Tatsache, daß er trotz seiner prononciert symbolphilosophischen Positionen, die den für die Phänomenologie entscheidenden Erkenntniswert der unmittelbaren – sinnlichen und allgemeinen – Anschauung ausschließen, sowohl im Hauptwerk als auch in den später entstandenen Schriften, darunter in vielen nachgelassenen Texten, ausführlich und unübersehbar Gebrauch von phänomenologischen Termini macht bzw. betont, die phänomenologische Methode beim Feststellen wesentlicher Tatbestände anzuwenden[9], erschwert diese notwendige Klärung. Am konzentriertesten zeigt sich die terminologische und konzeptionelle Annäherung an die phänomenologische Terminologie bekanntlich im Werk *Phänomenologie der Erkenntnis* (PsF III, 1929) und in den wenige Jahre später verfaßten, metaphysisch anmutenden Betrachtungen "Über Basisphänomene", in denen es zu einer zumindest partiellen Annäherung an den Begriff der Intuition kommt, wie er von Husserl gebraucht wird. Zur Entdeckung der drei Basisphänomene "Ich" (Monade), "Du" (Anderer/ Wirken) und "Es" (Werk) habe, so Cassirer, nicht zuletzt das "Ideal jener deskriptiven Psychologie" beigetragen, wie es Dilthey, Husserl und Natorp vertreten haben.[10] Seine Nähe zur Phänomenologie betont Cassirer auch, wenn er im selben Text die für drei Grundrichtungen geistiger Tätigkeit stehenden Basisphänomene "die 'originär-gebenden' Intentionen im Sinne Husserls" nennt.[11]

§ 3. Die Übernahme der phänomenologischen Termini und Methodenansätze durch den Symbolphilosophen wirft nun allerdings die Frage auf, ob diese dabei ihren ursprünglichen phänomenologischen Sinn behalten oder ob ihnen eine neue, den Intentionen des symbolischen Idealismus[12] gemäße Bedeutung beigelegt wird. Aus der Vielzahl der in Frage kommenden Fälle soll der zentrale phänomenologische Begriff der Ideation (Verwesentlichung, Wesensschau) ausgewählt werden, den

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[8] Vgl. Christian Möckel, "Hegels 'Phänomenologie des Geistes' als Vorbild für Cassirers 'Philosophie der symbolischen Formen'?" in *Hegels "Phänomenologie des Geistes" heute*, Andreas Arndt, Ernst Müller (Hrsg.), Reihe "Sonderband" der *Deutschen Zeitschrift für Philosophie*, Bd. 8 (Berlin: Akademie Verlag, 2004), 256-275, 266f.

[9] Im nachgelassenen Text "Präsentation und Repräsentation" (1927/28) heißt es z.B. ganz bestimmt: Die "vorurteilslose phänomenologische Auffassung und Prüfung" lasse "sofort die Eigenart der symbolischen Funktion ins Auge" springen. (Beinecke Library, Yale University, New Haven, Gen Mss 98, Box 23, folder 425, Ms.-S. 6r).

[10] Vgl. Ernst Cassirer, "Über Basisphänomene" in Ders., *Zur Metaphysik der symbolischen Formen*, Hrsg. von John M. Krois in *Nachgelassene Manuskripte und Texte* [*ECN*]. Bd. 1 (Hamburg: Meiner, 1995), 138.

[11] Cassirer, *Basisphänomene*, 132.

[12] Vgl. Cassirer, *Basisphänomene*, 261, 263.

Cassirer als "symbolische Ideation" insbesondere häufig – und in Beziehung gesetzt zu dem Begriff "symbolische Prägnanz" – in den nachgelassenen Texten aus dem Jahr 1927/28 verwendet, die im Umkreis von PsF III entstanden und die von mir bearbeitet und zur Veröffentlichung im Felix Meiner Verlag Hamburg vorbereitet wurden.[13] Im Folgenden soll sowohl die Bedeutung des Terminus "Ideation" umrissen werden, die ihm von Cassirer zugeschrieben wird, als auch der Frage nachgegangen werden, inwieweit dies noch den Husserlschen Intentionen entspricht. Dabei ist insbesondere zu klären, inwieweit das Adjektiv "symbolische" [Ideation] einen feinen, entscheidenden Unterschied im Verständnis von Ideation markiert.

§ 4. Den Terminus "symbolische Ideation" setzt Cassirer – ohne Begriffserklärung und meist ohne expliziten Bezug auf Husserl – in den Texten der Jahre 1927/28 ein, um gegen verkürzende sensualistische Auffassungen der Wahrnehmung seine idealistisch genannte Position deutlich zu machen, wonach "das, was man gemeinhin 'sinnliche' Wahrnehmung nennt, in Wahrheit 'symbolische' Wahrnehmung"[14] ist. An anderer Stelle bezeichnet er die Tatsache, daß "schon das bloße Bild (image) ein Werk des 'Geistes'" ist, "in unserem Sinne [ein Werk – C.M.] der symbolischen Ideation".[15] Das heißt zunächst erst einmal, daß in und mit jeglicher Wahrnehmung grundsätzlich auch eine geistige – ideelle – Aktivität in Analogie zur produktiven Einbildungskraft (Kant) vollzogen wird. Das Bestehen auf einer geistig (ideell) strukturierten, geformten und sinnbestimmten Wahrnehmung verbindet ihn mit Husserl, der ebenfalls immer wieder gegen die einfache sensualistische Auffassung des Wahrnehmungsdinges als einer "angeblichen Empfindungskomplexion" polemisiert. So heißt es z.B. in der 2. Aufl. der LU II/2, daß die "faktisch erlebte Empfindungskomplexion" nichts ohne die "objektive Apperzeption" ist, die "allererst den Wahrnehmungssinn, also das erscheinende Ding intentional konstituiert."[16] Ist

[13] Vgl. Ernst Cassirer, "Über symbolische Prägnanz, Ausdrucksphänomen und Wiener Kreis", in *Nachgelassene Manuskripte und Texte* Bd. 4, Hrsg. von Christian Möckel (Hamburg: Meiner, 4. Quartal 2010).

[14] Vgl. Ernst Cassirer, Ms. 'Präsentation und Repräsentation'. Beinecke Library, Yale University, New Haven, Gen Mss 98, Box 23, folder 425, Cap. I., Ms.-S. 49. Die "symbolische Wahrnehmung" bzw. den "Symbolwert der Wahrnehmung" sieht Cassirer darin aufscheinen, daß "in jedem scheinbar einzelnen Sinneseindruck [sich] das Ganze des Bewußtseins aus[prägt]", daß "jeder bewußte Eindruck eben [...] ein Ausdruck dieses Ganzen" ist (Cassirer, *Präsentation*).

[15] Ernst Cassirer, Ms. "Prägnanz, symbolische Ideation". Beinecke Library, Yale University, New Haven, Gen Mss 98, Box 23, folder 424, Ms.-S. 24r.

[16] Edmund Husserl, *Logische Untersuchungen* [*LU*] Bd. II/2: *Untersuchungen zur Phänomenologie und Theorie der Erkenntnis*, in *Husserliana* [*Hua*] Bd. XIX/2. Hrsg. von Ursula Panzer (The Hague: Martinus Nijhoff, 1984), Beilage, 765.

diese ideelle "objektive Apperzeption" Husserls nun dasjenige, was Cassirer als symbolische Ideation bezeichnet, die jeglicher Wahrnehmung als ideelles Ingredienz (Kant) einwohnt? Husserl zumindest deutet diese Apperzeption als "reine, immanente Intuition", wobei "rein" aber auch im Sinne der "Ideation", d.h. der "apriorischen Forschung" auf ideellem Gebiet zu verstehen sei.[17]

§ 5. Die von Cassirer in PsF III entworfene "Phänomenologie der Wahrnehmung"[18] bringe nun die Erkenntnis vom symbolisch-ideellen Ingredienz jeglicher Wahrnehmung ans Licht. Hier stoßen wir auch das einzige Mal in den gedruckten Schriften Cassirers auf den uns interessierenden Terminus symbolische Ideation: Bei der geistigen Leistung innerhalb der Wahrnehmung handele es sich, so schreibt er im II. Kapitel "Ding und Eigenschaft" im 2., dem Problem der Repräsentation beim Aufbau der empirisch-anschaulichen Welt gewidmeten Abschnitt, um "einen Akt der ursprünglichen Formung, der die Anschauung als Ganzes betrifft und sie als Ganzes erst 'möglich macht'. Wenn wir diesen Akt [...] als einen Akt 'symbolischer Ideation' bezeichnen, so gilt es daher einzusehen, daß diese Art der Ideation kein 'sekundärer und gleichsam accidenteller Faktor' ist, der das jeweilige Sehen [eines Dinges – C.M.] mitbestimmt, sondern daß er, geistig genommen, das Sehen erst konstituiert. Denn es gibt für uns kein Sehen, und es gibt für uns nichts Sichtbares, das nicht in irgendeiner Weise der geistigen Sicht, der Ideation überhaupt, stünde."[19] Der Bezug zu Husserl wird wenige Zeilen später de facto hergestellt, wenn Cassirer zum Ausdruck bringt, daß die "rein phänomenologische Betrachtung" die Ideation, d.h. die "Weise der geistigen Sicht" bzw. die "Art der Sicht", als das Primäre der sinnlichen Anschauung nehme, "weil erst in ihr und durch sie die Bedeutung des Gesehenen hervortritt [...]."[20] Eine der Formulierungen in den beiden bereits zitierten nachgelassenen Texten, die der Ausarbeitung des Ms. von PsF III dienten, wird der Bezug zum Kantschen Begriff der Einbildungskraft explizit hergestellt: "Der Begriff der 'symbolischen Ideation' tritt [bei ihm, Cassirer, – C.M.] an Stelle des Kantischen Begriffs der 'produktiven Einbildungskraft'."[21]

§ 6. Der Begriff symbolische Ideation steht bei Cassirer also sowohl für ursprüngliche Formung als auch für geistige Sicht (Konstitution), wobei "geistig" sowohl "ideell", als Gegenteil zu sinnlich und reell, als auch "a priori", im Gegensatz zu erfahrungsmäßig, meint. Das Problem besteht nun weniger in der Auffassung der

[17] Husserl, *LU* II/2, 765.
[18] Vgl. u.a. *ECW* 13, 143.
[19] Cassirer, *ECW 13*, 150.
[20] Cassirer, *ECW 13*, 151.
[21] Cassirer, *Prägnanz*, Ms.-S. 23r.

Ideation als ursprünglicher "geistiger Sicht", d.h. als ideellem bzw. apriorischem "Schauen"[22], als ursprünglicher Formung, die sinnliches Dingwahrnehmen erst ermöglicht, sondern darin, daß dieses "Sehen" oder "Schauen" als "symbolisches", und das heißt doch als vermitteltes, mittelbares, repräsentierendes oder darstellendes gedeutet wird. Widerspricht es doch damit – zumindest auf den ersten Blick – dem Husserlschen Verständnis von anschaulicher Ideation, d.h. von einer Verwesentlichung, die, vollzogen als ideierende Abstraktion, Wesens- oder Ideenschau, das Geschaute "unmittelbar gibt". Cassirer selbst notiert diesen Gegensatz in weiteren nachgelassenen Aufzeichnungen jener Zeit: es gelte "den Grundunterschied zwischen dem Symbolischen und dem Intuitiven" zu entwickeln, scheine doch "die geistige Richtung auf das Symbolische direct" der "Richtung auf das rein Intuitive" zu "widerstreiten".[23] Dieser Problemaufriß wird von Husserl ja geteilt, fehlt nach dessen Überzeugung doch den bloß symbolischen Akten bzw. dem bloß symbolisch Erfaßten der anschaulich-unmittelbar gebende – und damit der "eigentliche" Erkenntnis rechtfertigende – Charakter. Da jede ideale Bedeutung auch erfüllt werden und somit "unmittelbar gegeben sein" kann, habe man, so Husserl in den LU II/1, "den erkenntnistheoretisch fundamentalen Unterschied zwischen den symbolisch-leeren Bedeutungen und den intuitiv erfüllten fest[zu]stellen".[24] Allerdings bleibt die Frage zunächst offen, ob derjenige Sachverhalt, den Cassirer mit Symbolcharakter oder Symbolwert der Wahrnehmung bezeichnet hat, also die Repräsentation des Ganzen im und durch den einzelnen Wahrnehmungsakt, die Offenbarung des Ganzen (des Sinns) im einzelnen Akt, unter Umständen unmittelbar, also intuitiv vollzogen werden kann.

§ 7. Wie steht es nun um die Gemeinsamkeit zwischen beiden Erkenntnistheoretikern, handelt es sich um eine nur scheinbare, um eine rein terminologische oder um eine in der Sache? Zunächst irritiert noch einmal die Tatsache, daß Cassirer das Anschauliche in der Regel ausschließlich für die sinnliche Wahrnehmung von Einzeldingen reserviert, während Husserl immer auch die allgemeine Anschauung im Auge hat. Allerdings finden sich in den nachgelassenen Texten des Jahres 1927/28 auch Belege für eine zumindest teilweise Übereinstimmung der Auffassung des Symbolischen als etwas Unmittelbaren, unmittelbar Gesetztem. So weist Cassirer in an einer Stelle darauf hin, daß sich Dank des beim Wahrnehmen

[22] Bei Cassirer ist immer wieder die Rede von „symbolischem Schauen" (*PsF* III in *ECW*13, 207) und „geistigem Schauen" (Cassirer, *ECW 13*, 214).

[23] Ernst Cassirer, *Symbolische Formen. Zu Band IV*, in *ECN1*, 267.

[24] Edmund Husserl, *LU* II/1: *Untersuchungen zur Phänomenologie und Theorie der Erkenntnis,* in *Hua* XIX/1, Hrsg. von Ursula Panzer, 187.

physischer Einzeldinge vollziehenden geistigen, ideellen Sehens, bei dem die kategoriale Sicht die indifferente Materie der Empfindung "durchdringt"[25], ein "symbolisch-intuitives" Verschmelzen der jeweiligen Funktion der ideellen Formung (Bedeutung) mit dem sinnlichen Inhalt ereigne.[26] Symbolisch-intuitives Verschmelzen scheint zu meinen, daß Sinnlich-Anschauliches und Ideell-Formendes miteinander verschmolzen sind, Eins sind, was eben den Symbolcharakter der Wahrnehmung ausmacht. Diese Verschmelzung, so heißt es weiter, lasse sich intuitiv (d.h. unmittelbar) – im Gegensatz zu diskursiv (durch die Begriffsform vermittelt) – erfassen, hätten wir doch dabei ein "intuitives Beisammen von 'Inhalt' und 'Bedeutung'", d.h. eine unmittelbar, ursprünglich verstehbare Einheit von sinnlichem Inhalt und ideeller Bedeutung vor uns.[27] Mit anderen Worten, im Wahrnehmungsakt werde grundsätzlich der "Sinn als Ganzes" erfaßt[28], die "spezifische Sinn-Einheit" (die "Einheit eines Bedeutungszusammenhanges", eines "Bedeutungskreises") bedarf als das Erste, Ursprüngliche keiner mittelbaren Erklärung, keiner Her-oder Ableitung.[29] Die erwähnte Verschmelzung erlaubt es uns, das Ideelle in einem unmittelbaren, keiner vermittelnden Erklärung bedürftigen Akt zu verstehen, den Cassirer deshalb einen intuitiven Akt nennt.

§ 8. Auch die damit in engem Zusammenhang stehende "symbolische Prägnanz", ein weiterer zentraler Begriff der Philosophie der symbolischen Formen Cassirers, besitzt – neben ihrem nicht-anschaulichen (im Sinne von nicht-sinnlichen sondern sinnhaften) Aspekt[30] – diese eben erläuterten intuitiven Züge. Prägnanz sei nämlich die "symbolisch-intuitive", d.h. in einem Akt unmittelbar erfaßbare "Repraesentation eines Zusammenhanges" in einem Einzelnen, das sich wiederum aus bzw. durch diesen Zusammenhang bestimmt.[31] Prägnanz des Wahrnehmungserlebnisses bedeutet für Cassirer damit, daß im Akt des Wahrnehmens "ein Moment intuitiv als einem [Sinn-Zusammenhang – C.M.] angehörig erfaßt wird",[32] weshalb sie, die Prägnanz, folglich als "die symbolisch-intuitive Zusammenfassung" von Teil und

[25] Cassirer, *Prägnanz*, Ms.-S. 13r.
[26] Cassirer, *Prägnanz*, Ms.-S. 15v, 25r.
[27] Cassirer, *Prägnanz*, Ms.-S. 25r
[28] Cassirer, *Prägnanz*, Ms.-S. 20v.
[29] Cassirer, *Prägnanz*, Ms.-S. 40v.
[30] "Unter 'symbolischer Prägnanz' soll also die Art verstanden werden, in der ein Wahrnehmungserlebnis, als 'sinnliches' Erlebnis, zugleich einen bestimmten nicht-anschaulichen 'Sinn' in sich faßt und ihn zur unmittelbaren konkreten Darstellung bringt." – Ernst Cassirer, *PsF* III in *ECW*13, 231.
[31] Cassirer, *Prägnanz*, Ms.-S. 25v.
[32] Cassirer, *Prägnanz*, Ms.-S. 26r.

Ganzen aufzufassen ist.[33] Die symbolische Prägnanz bildet somit den nicht-sinnlichen, sondern ideellen "Symbolwert der sinnlichen Wahrnehmung".[34] Der "Symbolwert" wiederum ist für Cassirer eine unableitbare "Urtatsache, nicht etwa 'bloße' Anthropomorphisierung" von Wahrnehmungen.[35] Der sich hier aufdrängenden Frage, inwieweit symbolische Ideation und symbolische Prägnanz unter Umständen zwei verschiedene Ausdrücke für ein und denselben Sachverhalt sind, soll und kann nicht weiter nachgegangen werden.

Der Terminus "symbolisch" besitzt bei Cassirer, ebenso wie der Begriff intuitiv, also eine Doppelbedeutung. Der Ausdruck „symbolisch-intuitiv" impliziert nämlich – als "intuitiv" – ebenso die Abgrenzung zu "diskursiv" (sukzessiv, in Schritten, vermittelt) wie zu "ideell" (nicht-anschaulich, mittelbar), während er als "symbolisch" nicht nur das Moment des ideell-Ganzen, der ideellen Sinnordnung bezeichnet, sondern auch die Abgrenzung von "substantiell" impliziert. Entscheidend beim Begriffsgebrauch ist für Cassirer aber, daß zum Ausdruck gebracht werden soll, daß ein einzelnes sinnliches Moment intuitiv-unmittelbar als Repräsentanz erfaßt wird, da es die "Repräsentanz des Bedeutungsmäßigen in einem sinnlichen Zeichen" ist.[36] Dabei wird das repräsentierte Sinnganze erkannt, "eingesehen", als ideelles Ganzes "geschaut".

§ 9. Ist nun bei Cassirer der "schauende" Akt der Ideation auch auf das unmittelbare "Geben" des ideellen Sinnganzen gerichtet, wie Husserl der Ideation unterstellt, oder zielt er mehr auf eine "Verdichtung" des Sinnganzen zu einem es repräsentierenden sinnlichen Moment, wobei Verdichtung einen "Urakt" bedeutet, in dem ein Teilinhalt als Repräsentant aus dem Ganzen herausgehoben wird.[37] Mit anderen Worten, wenn Cassirer von "symbolischer 'Verdichtung'" spricht, dann meint dies, daß durch sie aus der "Einheit des Sinngefüges" ein einzelnes Moment "herausgesehen" wird, dem die "Kraft innewohnt, das Ganze [...] zu vertreten".[38] Wenn wir uns die Cassirersche Argumentation vornehmen, dann scheint die im Wahrnehmungsakt vollzogene ursprüngliche Formung (d.h. "Gestaltgebung") nach seinem Dafürhalten vor allem als "Verdichtung" vonstatten zu gehen, geleistet durch ein ideell-intuitives Vermögen, das Cassirer gelegentlich in Anlehnung an Kant auch als "Schematismus der Einbildungskraft" bezeichnet. Diese Verdichtung setze das

[33] Cassirer, *Prägnanz*, Ms.-S. 26v.

[34] Cassirer, *Prägnanz*, Ms.-S. 43r.

[35] Vgl. Cassirer, *Präsentation*, Ms.-S. 9v.

[36] Cassirer, Cap. I., Ms.-S. 51r. Repräsentation versteht Cassirer auch als "'Hinweisen', [...] Hinausweisen des 'Inhalts' über sich selbst" – Cassirer, Ms.-S. 7r.

[37] Cassirer, *Präsentation*, Ms.-S. 22v.

[38] Cassirer, *Präsentation*, Ms.-S. 40r.

"Urphänomen" bzw. die "Urfunktion" der Prägnanz voraus, d.h. das Bestimmtwerden des Momentes durch den Gesamtsinn, der wiederum durch das so Geformt-Gestaltet-Verdichtete repräsentiert, symbolisiert wird.[39] Deshalb nennt Cassirer diesen Vorgang, und damit die Ideation, auch eine "(symbolische) Anschauung" bzw. eine "symbolische Formung".[40] Die vollzieht sich nun in "verschiedenen 'Kategorien' der Auffassung", die jeweils verschiedene Sinnregionen (symbolische Formen) konstituieren. Auch hinsichtlich des Terminus des Kategorialen sprechen sowohl Cassirer als auch Husserl auf den ersten Blick gleichsam von "kategorialer Sicht" bzw. "kategorialer Anschauung", ein Anschein, dem hier nicht vertiefend nachgegangen werden kann.[41] Die "symbolische Ideation überhaupt" fungiert eben

[39] Cassirer, *Prägnanz*, Ms.-S. 23v.

[40] Cassirer, *Prägnanz*, Ms.-S. 23r.

[41] In den hier ausgewerteten Texten versteht Cassirer darunter aber den jeweiligen Modus, die jeweilige Sinnrichtung der ideellen Sinngebung, Formung: mythischer, sprachlicher, ästhetischer Sinn bzw. Sinnganzes. (Vgl. Cassirer, *Prägnanz*, Ms.-S. 23r/v). So vollziehe sich die "prägnante 'Schau'", die in die "Einheit der Schau, der ideellen Sicht" alles "zusammensieht", "zusammennimmt", "verklammert"(Cassirer, *Prägnanz*, Ms.-S. 33v), in der jeweiligen "kategorialen Form" bzw. der jeweiligen "kategorialen Formung" ("kategorialen 'Bedeutsamkeit'") (Cassirer, *Prägnanz*, Ms.-S. 35v). Das Kategoriale der einheitbildenden Form enthält somit die "spezifische Gliederung'' ('Hinsicht', 'Kategorie') der "ideellen Sicht'' in die Sinnformen, als ein je "spezifisches Zusammenschauen", als eine je "spezifische 'Prägnanz'", d.h. als eine mythische, religiöse, ästhetische wissenschaftliche Modalität. (Cassirer, *Prägnanz*, Ms.-S. 34v). Dies meint ganz offensichtlich nicht dasselbe wie der Begriff der dem Stoff des Vorstellens entgegengestellten grammatischen "kategorialen Formen", deren Anschauung und Erfüllung Husserl im II. Abschn. der 6. Logischen Untersuchung behandelt. (Hua XIX/2, §§ 40-51) Hier gehen die Gegenstände der fundierenden sinnlichen Akte in die Intention der fundierten mit ein. Allerdings, wenn er vom geänderten "Auffassungssinn" spricht, der 'kategoriale Formen' neu "formt", sinnliche Gegenstände (Wahrnehmungsinhalt) in neue "kategoriale Zusammenhänge" stellt, was deren Bedeutung verändert (nominale Funktion), dann dürfte Cassirer dem kaum widersprechen. (Cassirer, *Prägnanz*, Ms.-S. 685f.). Einige der Bestimmungen, die Husserl den "Formen der kategorialen Verknüpfung" beilegt, so daß sie "zur Weise der Akt-Synthesis gehörige Formen" sind (Cassirer, *Prägnanz*, Ms.-S. 684), oder daß der "Begriff der Kategorie" "alle gegenständlichen Formen in sich begreift, die aus den Auffassungsformen und nicht aus den Auffassungsstoffen herstammen" (Cassirer, *Prägnanz*, Ms.-S. 709), gilt ebenso auch für Cassirers 'kategoriale Formen'. Diese sind jedoch wohl eher mit den "kategorialen Akten" vergleichbar, die Husserl zur "allgemeinen Anschauung" rechnet "(*LU* II/2, §§ 52 ff.)". In diesen Akten der Ideation (ideierender Abstraktion) kommt die Idee, das Allgemeine des unselbständigen Momentes zum "aktuellen Gegebensein". (Cassirer, *Prägnanz*, 690). Soweit diese 'kategoriale Anschauung' als Wesensschau und Ideation von Idealem auf Gegenstände regionaler Ontologien zielt, nähern sich beider Begrifflichkeiten einander an.

in vielen "Grundformen", vor allem aber in der Sprachform, als "sprachliche Ideation".[42]

Sprachliche Ideation gilt Cassirer als "'Fusionseinheit' des Namens mit dem 'ideellen Objekt'".[43] Wir haben es z.B. bei der Wortwahl immer mit einer schematischen "'Konstruktion' (= symbolische Ideation)" zu tun.[44] Die "symbolische Ideation" als "schematische 'Konstitution'" und als "ideelle 'Sicht'" gemäß eines "kategorialen Index" erweist sich als ein "charakteristisches Grundphänomen" *sui generis* der menschlichen Weltwahrnehmung, des menschlichen Weltaufbaus,[45] wobei diesem Grundphänomen grundsätzlich dem die Qualität der "Prägnanz" eignet. Die ideelle Form selbst, das Sinnganze, scheint dabei keineswegs den eigentlichen Gegenstand der Intention des Aktes der Ideation zu bilden, vielmehr die Verdichtung und somit die Repräsentation. "Symbolische Ideation" ist für Cassirer somit letztlich nur ein anderer Ausdruck für die "Symbolfunktion".[46] Er nennt die "symbolische Funktion" deshalb auch eine "intentionale Funktion".[47]

§ 10. Diese Zuschreibungen von Bedeutung lassen sich, so lautet die These des Beitrages, nicht ohne Weiteres auf Husserls Begriff der Ideation (Wesensschau) übertragen. Dieser versteht zunächst – in den LU I (1900) – unter Ideation eine sich von der sensualistischen unterscheidende – "ideierende" – Abstraktionsmethode, die eine "Spezies" (Allgemeines) als "ein ideal Identisches [...] gegenüber der Mannigfaltigkeit möglicher Einzelfälle" darbietet.[48] Weil die "Akte der Ideation" von einer singulären Tatsache der Wahrnehmung ausgehend in mehreren, variierenden und sich akkumulierenden Akten vollzogen werden, bedeuten sie eine spontane, leistende Tätigkeit. Die Wesensschau besteht also nicht "in einem rein rezeptiven geistigen Erblicken eidetischer Sachverhalte", sondern beruht auf einer spontanen Tätigkeit – auf "der eidetischen Variation".[49] Wir haben es hier laut Husserl mit der eigentümlichen Fähigkeit zu tun, "ideierend im Einzelnen das Allgemeine, in der empirischen Vorstellung den Begriff schauend zu erfassen und

[42] Cassirer, *Prägnanz*, Ms.-S. 23v.
[43] Cassirer, *Prägnanz*, Ms.-S. 23v.
[44] Cassirer, *Prägnanz*, Ms.-S. 24r.
[45] Cassirer, *Prägnanz*, Ms.-S. 33v.
[46] Cassirer, *Präsentation*, Ms.-S. 5r.
[47] Cassirer, *Präsentation*, Cap. I., Ms.-S. 31v.
[48] Edmund Husserl, *LU* I: *Prolegomena zur reinen Logik* in *Hua* XVIII, Hrsg. von Elmar Holenstein (The Hague: Martinus Nijhoff, 1975), 109.
[49] Klaus Held, "Horizont und Gewohnheit. Husserls Wissenschaft von der Lebenswelt" in Heinz Vetter (Hrsg.), *Krise der Wissenschaft – Wissenschaft der Krisis?* (Frankfurt/Main u.a.: Lang, 1998), 18.

uns im wiederholten Vorstellen der Identität der begrifflichen Intention zu versichern".[50] Ideation bedeutet demnach ein "Meinen" (Intendieren) und anschaulichgebendes Erschauen des idealen Identischen im sinnlichen Einzelfall ("anschaulichen Konkretum") desselben.[51]

Damit scheinen bei Husserl die Akte der ideell-intuitiven Ideation auf das Erfassen des ideal Identischen abzuzielen, bei Cassirer erfassen wir in diesen, die Wahrnehmungserlebnisse ermöglichenden Akten, das ideelle Sinnganze "mit", während wir auf die Erkenntnis des sinnlichen Momentes, des "anschaulichen Konkretums", abzwecken. Diese Erkenntnis findet dabei in der ideell-anschaulichen Prägnanz und der Verdichtung die Bedingungen ihrer Möglichkeit. Damit dürfte Cassirer die von Husserl beschriebenen Akte der Ideation sozusagen rückwärts (rekonstruktiv) in den Blick nehmen. Es stellen sich hier außerdem noch zwei weitere Fragen: Läßt sich bei Husserl die Beziehung von idealem Wesen (Identischem) und konkret-Einzelnem als Repräsentation – im Sinne symbolischer Prägnanz – auffassen? Sprechen Cassirer und Husserl im selben Sinne von der Anschaulichkeit beim Erfassen des Ideellen? Beide Frage sind wohl eher abschlägig zu beantworten.

§ 11. So spricht Husserl zwar davon, daß wir die "Einheit" der im "Akte der Ideation schauend" erfaßten Spezies "gegenüber der Mannigfaltigkeit tatsächlicher [...] Einzelfälle" "einsichtig zu vertreten vermögen".[52] Dies "zu vertreten vermögen" meint aber ganz offensichtlich keinen Akt der Repräsentation. Dies gilt auch für die Aussage, daß der "einheitlichen [idealen, identischen – C.M.] Bedeutung" im "aktuellen Bedeutungserlebnis ein individueller Zug als Einzelfall jener Spezies entspricht".[53] Auch dieses "entspricht" meint kein "darstellt" oder "repräsentiert" im Sinne der Cassirerschen Symbolphilosophie bzw. seines Begriffs der "symbolischen Prägnanz". Nachdem Husserl in den 90er Jahren des XIX. Jahrhunderts der "Logik der symbolischen Vorstellungen und Urteile"[54] und dem Problem der

[50] Husserl, *LU* I in *Hua* XVIII, 109.

[51] "Und so, wie wir, auf das Konkret-Einzelne hinblickend, doch nicht dieses, sondern das [generelle, identische – C.M.] Allgemeine, die Idee meinen, so gewinnen wir im Hinblick auf mehrere Akte solcher Ideation die evidente Erkenntnis von der Identität dieser idealen, in den einzelnen Akten gemeinten Einheiten." – Husserl, *LU* I, 135.

[52] Husserl, *LU* I, 109.

[53] Vgl. Husserl, *LU* II/1 in *Hua* XIX/1, 108.

[54] Edmund Husserl, "Zur Logik der reinen Zeichen (Semiotik)" in Ders., *Philosophie der Arithmetik*, in *Hua* XII, Hrsg. von Lothar Eley (The Hague: Martinus Nijhoff, 1970), 365.

Repräsentationen – d.h. den "uneigentlichen Vorstellungen"[55] – große Aufmerksamkeit geschenkt hatte, was 1901 in den LU II/2 als "Lehre von der kategorialen Repräsentation" bzw. von den Repräsentanten der kategorialen Anschauung noch nachwirkt,[56] nimmt er in der 2. Auflage (B) der LU II/2 (1920) bekanntlich davon als unausgereiften und verfehlten Ansichten endgültig Abstand.[57]

Nach Husserl ist uns das Identische in den Akten der Ideation weder bloß signifikativ (d.h. als reine Bedeutungsintention) noch bloß symbolisch (d.h. nicht als Sache selbst, sondern, stellvertretend, repräsentativ und somit vermittelt) gegeben, sondern selbst (d.h. nicht-symbolisch) und intuitiv erfüllt, selbstgegeben (d.h. nicht-signifikativ). Hier wird auch noch einmal deutlich, daß Cassirer und Husserl insbesondere den Terminus "symbolisch" sehr unterschiedlich gebrauchen. Im "eigentümlichen Bewußtsein" bekundet sich nach Husserl zum einen der "lebendig empfundene Sinn der [Wort-] Zeichen" des Allgemeinen, zum anderen ist uns in den Akten der Erfüllung, d.h. in "der einsichtigen Ideation" "das Allgemeine 'selbst' gegeben".[58] Dies macht nicht zuletzt "das Eigentümliche der reinen 'Ideation', der adäquaten Erschauung begrifflicher Wesen und wesensgesetzlicher Allgemeingültigkeiten" aus.[59] Es handelt sich hierbei um eine "intuitive Vergegenwärtigung des Wesens in adäquater Ideation".[60] In den *Ideen* I (1913) ist für Husserl Ideation gleichbedeutend mit "Wesensschau", die als "das Wesen gebende [...] Erschauung" fungiert.[61] Hier wird aus der Ideation (Wesensschau) als "originärgebender adäquater Wesenserschauung" ein freierer Begriff, "der jedes schlicht und direkt auf ein Wesen gerichtete und es fassende, setzende Bewußtsein

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[55] Edmund Husserl, "Über Anschauungen und Repräsentationen" in Ders., *Aufsätze und Rezensionen (1890-1900)* in *Hua* XXII Hrsg. von Bernhard Rang (The Hague: Martinus Nijhoff, 1979), 105; siehe auch 'Vorstellung als Repräsentation' in Husserl, *Hua XXII*, 283ff.

[56] "Die Repräsentanten sind es, welche den Unterschied zwischen 'leerer' Signifikation und 'voller' Intuition ausmachen [...]." Die intuitiven Akte bringen den idealen kategorialen Gegenstand dadurch zur Anschauung, "daß ein Repräsentant da ist, den die Auffassungsform als Analogon oder als das Selbst des Gegenstandes auffaßt." Die kategoriale Anschauung könne und müsse so gefaßt werden, "daß sie eben Repräsentation ist, daß sie das Gegenständliche inhaltlich vor uns hinstellt, daß sie erlebte Inhalte als Repräsentanten des gemeinten Gegenstandes auffaßt." – Husserl, *LU* II/2 in *Hua* XIX/2, 700.

[57] Husserl, *LU* II/2, 535.

[58] Husserl, *LU* II/1 in *Hua* XIX/1, 149.

[59] Husserl, *LU* II/2 in *Hua* XIX/2, 733.

[60] Husserl, *LU* I in *Hua* XVIII, 246.

[61] Edmund Husserl, *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. Buch I: Allgemeine Einführung. [Ideen I]* in *Hua* III/1 Hrsg. von Karl Schuhmann (The Hague: Martinus Nijhoff, 1977), 13.

umspannt".[62] Mit anderen Worten, sie ist "originär gebendes Bewußtsein von einem Wesen"[63] und kann als "intuitive 'Ideation'" auch "Idee-Erschauung" genannt werden.[64]

Die geistige Sinnform Cassirers ist uns demgegenüber grundsätzlich nicht "originär gegeben", sondern immer nur symbolisch-repräsentativ-vermittelt. Allerdings vermögen wir sie intuitiv, unmittelbar mitzuerfassen, wenn wir das geformte, sinngeprägte Moment wahrnehmen und verstehen. In diesem Sinne bedeutet für ihn "alle 'Prägnanz' [...] ein anschauliches Enthaltensein des 'Ganzen' in jedem einzelnen 'Moment'", das wiederum durch seine Repräsentation des Ganzen dieses Sinnganze "unmittelbar symbolisch lebendig" macht.[65] Der prägnanten Wahrnehmung kommt eben "neben ihrem unmittelbaren 'Inhalt'" die "'Funktion' zu, einen 'Sinnkomplex' [...] zu symbolisieren, dem Bewußtsein unmittelbar als solchen gegenwärtig zu machen".[66] Diese "Sinnprägnanz" der Wahrnehmung erweist sich bei Cassirer, wie wir schon wissen, als ein echtes unableitbares "Urphänomen".[67]

§ 12. Resümee: Unsere Analyse hat offenbart, daß Cassirer mit dem Terminus "symbolische Ideation" ein geistiges, ideelles Schauen meint, dem primär Prägnanz und damit ein Repräsentationsverhältnis einwohnt. Mit anderen Worten, der Terminus bezeichnet ein Schauen, das den Akt der Repräsentation des ideellen Bedeutungs – oder Sinnzusammenhanges durch das bzw. in dem Einzelmoment, welches sich in diesem Akt durch Verdichtung erst als solches konstituiert, vollzieht und erfaßt. Es ist ein "geistiges Sehen" gemäß spezifischer kategorialer Formen, die unterschiedliche ideelle Sinneinheiten (symbolische Formen) konstituieren und verstehen lassen. Der wahrnehmende Blick auf das einzelne Moment, auf das Einzelding vollzieht den Akt der symbolischen Ideation mit, bzw. er wird durch diesen überhaupt als sinnvoller, verstehender möglich. Die Ideation gilt Cassirer insofern als anschaulich, da sie unmittelbar verstehend – und nicht vermittelt-diskursiv – eine prägnante Repräsentation des Sinnganzen im wahrgenommenen, einzelnen Moment leistet. Das bezieht sich auf das unmittelbare Verstehen des im Einzelnen spezifisch repräsentierten (vergegenwärtigten) ideellen Ganzen. Das Ideierte, das ideelle spezifische Bedeutungsganze, das wir beim Wahrnehmen unmittelbar (anschaulich) im Moment miterschauen, scheint dabei aber nicht intentional als eigentlicher Gegenstand der Aufmerksamkeit zu fungieren, es bleibt

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[62] Husserl, *Ideen I*, 15 Anm. 1.
[63] Husserl, *Ideen I*, 50.
[64] Husserl, *Ideen I*, 347
[65] Cassirer, *Prägnanz*, Box 23, folder 424, Ms.-S. 39r.
[66] Cassirer, *Prägnanz*, Ms.-S. 43r.
[67] Cassirer, *Präsentation,* Box 23, folder 425, Ms.-S. 7v.

im Einzelnen repräsentiert und folglich kann von einem anschaulichen, der Aufmerksamkeit unmittelbar "Geben" keine Rede sein. Allerdings handelt Cassirer hier eben ausschließlich von Wahrnehmungsakten und nicht von der Bildung von Allgemeinbegriffen. Dieses bei jeglicher Wahrnehmung Im-Blick-Haben eines Sinnganzes (Form, Kategorie) gilt ihm als eine geistige konstitutive Aktivität, der er Ideation nennt. Die Leistung jedoch, bei der dies über den symbolisch verdichteten Teil geschieht, der sich in einer intuitiv verstandenen Repräsentation des Ganzen konstituiert, bezeichnet er als "symbolische Ideation".

Unter Husserls Aussagen zur Ideation (Verwesentlichung) finden sich zwar auch Überlegungen darüber, daß Wahrnehmungsakte ideierende Akte implizieren, voraussetzen, zumindest der Möglichkeit nach, wenn auch ohne eigentliche Intention des Ideellen. So sei "keine individuelle Anschauung möglich [...], ohne die freie Möglichkeit des Vollzugs einer Ideation".[68] Dennoch überwiegt bei ihm der Gedanke, daß die Wahrnehmungsakte als notwendig fundierende Akte, als Ausgangspunkt für die beabsichtigten Akte der Ideation dienen, denn es liege "in der Eigenart der Wesensanschauung", daß ihr eine individuelle Anschauung "zugrunde liegt".[69] Der Phänomenologe erschaue dabei "nur Ideen von solchem, was er jeweils im Exempel vor Augen hat",[70] auch wenn Ideation als Wesensschau durchaus auch an Phantasiegestalten vollzogen werden kann.[71] Es geht Husserl letztlich vor allem um den "logischen" bzw. "phänomenologischen Ursprung" allgemeiner Begriffe, des Allgemeinen.[72] Er faßt bekanntlich das Allgemeine als idealen Gegenstand auf, erschaut in entsprechenden kategorialen Akten, durch kategoriale Anschauung, in welcher sich kategoriale Bedeutungsformen (Satzform, Kopula) anschaulich erfüllen. Deshalb fordert er den "Rückgang auf ihre Wesen in ideierender Intuition".[73] Und deren ideeller Bestand wird uns dabei gegenständlich originär unmittelbar selbstgegeben, anschauliche Erfüllung findend. "Im Abstraktionsakte [...] ist uns das Allgemeine selbst gegeben. [...] Wir erfassen es, wir erschauen es."[74] Die anschauliche Ideation, wie sie der Phänomenologe vollzieht, wird jedoch von der in der Mathematik geübten unanschaulichen deduktiven Idealisierung grundsätzlich unterschieden. Der Phänomenologe "beschreibt" dabei das ihm in der

[68] Husserl, *Ideen I* in *Hua* III/1, 15.
[69] Husserl, *Ideen I*, 15.
[70] Husserl, *Ideen I*, 172.
[71] Husserl, *Ideen I*, 345.
[72] Husserl, *LU* I in *Hua* XVIII, 246.
[73] Husserl, *LU* I, 246.
[74] Husserl, *LU* II/2 in *Hua* XIX/2, 691.

Anschauung unmittelbar gegebene Eidetische, der deduktiv vorgehende Mathematiker leitet es mittelbar ab.[75]

Fazit: Der Husserlsche Wesensbegriff ist mit dem symbolischen Formbegriff Cassirers nicht gleichzusetzen. Wenn Husserl hier ein "bloß symbolisches" Erfassen ausschließt, dann meint das auch nicht dasselbe wie "symbolisch" im Sprachgebrauch Cassirers. Die Polemik gegen die symbolische Deutung bzw. Erkenntnis, die Husserl seit den LU II (1900) immer wieder aufs Neue führt,[76] richtet sich gegen die damit in den Vordergrund gerückte "Mittelbarkeit eines unanschaulichen, etwa eines symbolisch-leeren Denkens".[77] Ein solches hat es nicht mit der Sache selbst, mit dem intendierten Gegenstand selbst zu tun, sondern mit seinem Stellvertreter, mit seinem Repräsentanten. Husserl schließt allerdings keinesfalls aus, daß es in unserem Weltverhalten nicht auch rein symbolische oder repräsentierende Denk- und Erkenntnisvollzüge gibt. Vielmehr behauptet er lediglich, daß symbolische Akte keine "echten" Erkenntnisse im Sinne der strengen Wissenschaft zu liefern bzw. zu rechtfertigen vermögen, weil sie mittelbar, distanziert zum Erkenntnisgegenstand bleiben, ihn nicht als originär oder selbst gegebenen anschaulich erfüllen. Mit einem Wort, die Termini "Ideation" (Wesensschau) und "symbolische Ideation" vereint eine Reihe von Intentionen und Beschreibungen ihrer Autoren, ebenso trennen sie entscheidende philosophische Positionen und Voraussetzungen.

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[75] Husserl, *Ideen I* in *Hua* III/1, 148f.

[76] Husserl, *LU* II/1 in *Hua* XIX/1, 5. *Logische Untersuchung*, § 21; *LU* II/2 in *Hua* XIX/2, 6. *Logische Untersuchung*, §§ 14, 23; *Ideen I* in *Hua* III/1, §§ 40, 43, 52.

[77] Husserl, *LU* II/2, *Vorwort zur 2. Auflage [1920]* in *Hua* XIX/2, 534.

REMARKS ON POINCARÉ' NOTION OF MATHEMATICAL RIGOUR

Shahid RAHMAN

ABSTRACT: Between 1906 and 1911, as a response to Betrand's Russell's review of *La Science et l'Hypothèse*, Henri Poincaré launched an attack on the movement to formalise the foundations of mathematics reducing it to logic. The main point is the following: the universality of logic is based on the idea that their truth is independent of any context including epistemic and cultural contexts. From the free context notion of truth and proof it follows that, given an axiomatic system, nothing new can follow. One of the main strategies of Poincaré's solution to this dilemma is based on the notions of understanding and of grasping the architecture of the propositions of mathematics. According to this view mathematic rigour does not reduce to "derive blindly" without gaps from axioms, mathematical rigour is, according to Poincaré, closely linked to the ability to grasp the architecture of mathematics and contribute to an extension of the meaning embedded in structures that constitute the architecture of mathematical propositions. The focus of my paper relates precisely to the notion of architecture and to the notion of understanding. According to my reconstruction, Poincaré's suggestions could be seen as pointing out that understanding is linked to reason not only within a structure but reasoning about the structure.

KEYWORDS: architecture, mathematical rigour, logic and mathematics

Between 1906 and 1911, as a response to Betrand's Russell's review of *La Science et l'Hypothèse*, Henri Poincaré launched an attack on the movement to formalise the foundations of mathematics reducing it to logic. The main point is the following: the universality of logic is based on the idea that their truth is independent of any context including epistemic and cultural contexts. From the free context notion of truth and proof it follows that, given an axiomatic system, nothing new can follow. If mathematics is reducible to logic, then there is no place for creation. Philosophers would express this in the following way: logical proofs are analytic, that is provide no new information beyond the the premises or axioms, but mathematics does provide information: mathematics is thus synthetic and hence different of logic.

As pointed out by Detlefsen[1], one of the main strategies of Poincaré's solution to this dilemma is based on the notions of *understanding* and of *grasping the architecture* of the propositions of mathematics. According to this view mathematic rigour does not reduce to "derive blindly" without gaps from axioms, mathematical rigour is, according to Poincaré, closely linked to the ability to grasp the architecture of mathematics and contribute to an extension of the meaning embedded in structure that constitute the architecture of mathematical propositions. The focus of my paper relates precisely to the notion of architecture and the notion of understanding. I will suggest a diachronic and synchronic reconstruction of the notion of architecture – the latter considers the architecture as a cultural object. Actually what I will try to do is to link Poincaré's arguments against the logicians with his paper *La science et les humanités* of 1911 where he argues that the development of the ability to grasp the architecture (intuition) must be studied as the result of the refined ability of understanding acquired by means of the practice of humans sciences in a given culture.

To expresses it bluntly, according to Poincaré, mathematics is intimately related to culture because it is about the construction of a structure of relations between propositions and this structure is not universally given, but developed within the cultural conventions of a community.

1. The Problem and Poincaré's solution: Rigour in Mathematics and Rigour in Logic

In a manner reminiscent of Kant's opening remarks to the First Part of the Transcendental Problem of the Prolegomena, Poincaré opens *La Science et l'Hypothèse* with these words:

> La possibilité même de la science mathématique semble une contradiction insoluble. Si cette science n'est déductive qu'en apparence, d'où lui vient cette parfaite rigueur que personne ne songe à mettre en doute? Si, au contraire, toutes les propositions qu'elle énonce peuvent se tirer les unes des autres par les règles de la logique formelle, comment la mathématique ne se réduit-elle pas à une immense tautologie? Le syllogisme ne peut rien nous apprendre d'essentiellement nouveau et, si tout devait sortir du principe d'identité, tout devrait s'y ramener. Admettra-t-on donc que les énoncés de tous ces théorèmes qui remplissent tant de volumes ne soient que des manières détournées de dire que A est A? ... Si l'on se refuse à admettre ces conséquences, il faut bien concéder que le raisonnement mathématique a par lui-même une sorte de vertu créatrice et par conséquent qu'il se distingue du syllogism.

[1] Michael Detlefsen, "Poincaré Against the Logicians," *Synthese* 90, 3 (1992): 349-378.

> La vérification diffère précisément de la véritable démonstration, parce qu'elle est purement analytique et parce quelle est purement stérile. Elle est stérile parce que la conclusion n'est que la traduction des prémisses dans un autre langage.[2]

The dilemma seems to be linked to the notion of mathematical rigour:

1) Mathematics is perfectly rigorous,

2) Mathematical proofs are not merely logical inferences. Furthermore, conclusions of mathematical proofs can, and often do, constitute extensions of the mathematical knowledge represented by the premises. Thus, mathematical proofs do not seem to be purely logical.

Hence, though mathematical proof is rigorous it is not reducible logical rigour. The point now is to specify what rigour is.

Important is to see that with this formulation we would like to avoid to reduce Poincaré's point to the trivial remark that the axioms of mathematics are indeed not logical but everything else follows logically from them. It looks that Poincaré links mathematical rigour with *mathematical understanding* or *mathematical insight* (perspicacité et pénétration), that is topic-specific knowledge. It is not by leaving some gaps in a demonstration that qualifies it as non rigorous but because of lack or mathematical insight (perspicacité et pénétration) or understanding of the mathematical object.

Moreover, Poincaré formulates this as a general epistemological problem. Poincaré idea is that given a set of mathematical axioms, the inferences of the mathematicians have a distinctive epistemological feature which distinguishes it from the inferences drawn by a logician from the very same axioms. Leaving by side the qualification of synthetic to the inferences drawn by the mathematician and of analytic of those drawn by the logician is that the notion of knowledge involved is different. The notion of knowledge involved by the mathematician is strongly linked with understanding the mathematical field while the notion of the logician is so to say contextually independent. In other words, knowledge of a body of mathematical propositions, plus mastery over their logical manipulation, does not amount to mathematical knowledge either of those propositions or of the propositions derived from them.

[2] Henri Poincaré, *La science et l'hypothèse* (Paris: Flammarion, 1902), 9-13.

It really looks as Poincaré is aiming at a much more general epistemological point that has too close links with Kant, namely, that different kind of sciences might have a proper notion of inference and because Frege's Russell's logic is based on a general notion of inference this makes it, on Poincaré's view, trivial.

But what is this mathematical understanding or insight (perspicacité et pénétration) of the mathematical object? How is this achieved? Here is Poincaré less precise and makes use of three notions that triggered important developments, namely: the notions of

- construction,
- intuition,
- system or architecture.

The leading idea here is of system. Once more a Kantian topic: each science has its own architectonic or system that consists on non logical relations between propositions. Knowledge of this architecture is knowledge to produce these relations and create new ones, here does Poincaré speak of *intuition*. A mathematical proof is related to establish a link between the architecture in which the premises are embedded and the architecture of the conclusion. Poincaré calls this type of knowledge "intuition". Different to Kant, Poincaré does not think that this architectonic is given a priori: it is a synthetic process by which the system is *constructed*. Voilà here we have the three notions mentioned above.

Certainly though challenging this is not precise enough, let me know briefly mention what Brower and the intuitionists made of these remarks.

2. The Structure of the Domain and the Intuitionistic Interpretation

Let me express the intuitionistic interpretation and further development of Poincaré's remarks beyond perhaps his own ideas in the following way: Kant's great contribution consisted in realizing not only that mathematics as every other science has its own characteristic architectonic that systematizes it but also that mathematics has a special structured domain. On this view, the domain of mathematics is being structured by time. Thus mathematical objects are constructions and rigorous inferences are those that always keep track of the construction of the objects the propositions involved are about. Brower interpreted Poincaré's appeal to *intuition of the structure of the domain* as *experience* of the mathematical object, meaning: the experience of constructing the object at stake.

In this framework, the proof by mathematical induction has central place: it is the most typical way of proving adequate to mathematical constructions. Proof by

mathematical induction is precisely Poincaré's most cherished example of a rigorous mathematical inference that is not logical but purely mathematical.

Despite Brower's own sceptical attitude towards logics intuitionistic logicians, particularly Ardent Heyting, went a step forward and dared to describe a logical system that carries the structure of the domain to the structure of the propositions.

For the first time a logical system was not seen only as pure logical relation between propositions but as relation where the epistemic subject is introduced. Logical relations are not seen as being established by logical consequence, but by inference, where inference is the relation between propositions but between judgements, and judgements carry the epistemological structure of the domain. That is, the formal structure of inferences should be based on the constructions of the domain. In other words, mathematical objects are the result form constructions and this applies to proofs too. Time thus structured the domain of objects and the inferential relations between judgements. This has as consequences that some venerable logical axioms and logical proofs based on those axioms will fail, namely, third excluded, double negation and indirect proofs such as via absurdum.

Notice that the development of a logic that claims to be based on the idea of the structure of the domain seem to work against not only of Brower's but also against Poincaré's rejection of logics as describing mathematical proof.

The development of an inference system that carries in its deductive structure the epistemic structure of the system of mathematics was linked too to some remarks of Poincaré where he compares the knowledge of the winning strategy in a chess game with the knowledge of the way to construct a proof. In analogous way that it is not enough to know that there is a winning strategy to win the game, it is not enough to know that there is a proof to say that mathematical proof has been performed. We must be able to show how to construct this proof. A proof beyond our abilities to construct it is not proof at all. Intuitionistic epistemologists linked this idea to the challenge of the truth as given: a truth beyond our abilities to find it can not provide the foundations of the notion of inference. It is rather the other way: human playable or reachable proof provides the foundation to the notion of inference and truth.

Michael Dummett developed intuitionistic logic into a general conception of logic beyond mathematics and antirealism was born. Dummett and Hintikka brought into the discussion Wittgenstein's language games that provided a more precise framework to work out the notion of human playable. Indeed if language games are to work as a benchmark for the studying language and even to function as meaning

mediators between language and world, these games have to be humanly playable games. Humanly playable language games were linked by the dialogical and the game theoretical tradition of Hintikka to Poincaré's and the intuitionist notion of a humanly constructible proof.

Now is that the end of Poincaré's epistemological project? Was Poincaré with the words of Brower a pre-intuitionist like Borel and Lebesgue who motivated or pre-announced the intuitionistic movement and we should go further on without him? Interesting is that Poincaré did not in fact claim against any particular logical law, but rather insisted in the notion of inference in a system and as developing the system or architecture. Let me now push this idea forward.

3. Structures and Modality

According to my reading Poincaré has a double strategy: the first strategy consists arguing from philosophy to mathematics and the second from mathematics to philosophy. From the first strategy it results that mathematics is mainly an act, a construction and from this point of view it is synthetic. From the second strategy it is an object, the result of the construction and from this point of view it is analytic and can be done in abstraction of the context where this construction was achieved.

The very point of Poincaré's argument against the logicians is that systems of sciences are not only a set of propositions related by logical consequence. There are other, extralogical or metalogical relations which build the structure of the corresponding science. The structure of these propositions might indeed be based on the structure of the objects the propositions of that science are about, like in the intuitionistic interpretation. But the idea is more general than that and I think it could be understood when related to the recent structural approaches to modal logic

3.1. Inferences within and about a structure

Let us recall that the truth definition of modal logic tell us what formulae are true in what possible world of any given model.[3] The valuation function of such model gives

[3] **DEFINITION**: Model, Frame, Truth.
A model $<W,R,v>$ for modal propositional logic consists of
a non empty set W of positions (traditionally interpretedc as possible worlds, contexts or scenarios: like temporal states, states of information etc.)
a binary relation R on W called *accessibility relation*
a valuation function v which assigns a truth value $v(a)$ to each propositional letter of the propositional language in each position $w \in W$

us the values of the propositional letters and the truth definition extends this to the complex formulae. The difference of this truth definition to the classical case is that the truth is here made relative to the value of the positions in the structure of the model at stake. Furthermore the evaluation is dependent too on the interrelations between the given positions in that structure.

And here we are; modal logic displays the interrelation between inference and structure in such a way that each structure yields its own notion of inference. Moreover, one can at the object language level display axioms that describe the structure, usually given at the meta-language level. This is called frame validity. In this framework we would say that Poincaré is searching for those inferences the result of which describes the structure. The modern modal logician would say that Poincaré is searching for object language laws to characterize frame validity.

We should then distinguish between the logic of the model, that is, driving the logical consequences within the structure, what Poincaré might want to call the purely logical manipulation of the propositions **in** the structure (that amounts to truth in a model), and the use of propositions at the language level to describe the structure in which this propositions are embedded (truth in the frame).

3.2. The structure of propositions and the structure of the domain as an object

What happens if we would like to describe the structure of the domain? At this point we meet the famous Barcan formulae that in the philosophical tradition regulate the passage from possibility to existence and from the purely structural point of view describe one particular structure of the domain.

If the propositional frame is extended with a structure where the domains of each position at the structure are (at least) decreasing then the passage from possibility to existence is assured:

$\Diamond(\exists x)Px \Box (\exists x)\Diamond Px$

A set W with a suitable accessibility relation is called a *frame* or *structure*. Thus given a frame <W,R> we can turn it into a model by the addition of the valuation function *v*. Moreover any given frame can be turned into a variety of different models, depending on the valuation function which is added. For a frame only establishes the positions we are dealing with and fixes which are accessible from which. A valuation is needed to establish what is the case in each of the possible positions and in general there will be many ways to do that. Each of this ways is a model establishing the factual conditions under which our logical explorations will take place. The frame will provide the basis of anyone of a variety of such factual conditions.

If the domains are not decreasing (and not constant) then the formula does not hold. Moreover if the domains are at least increasing the inverse Barcan formula holds. That is the inverse Barcan formula describes at the object language level a so to say constructive property of the domain.

$(\exists x)\Diamond Px \rightarrow \Diamond(\exists x)Px$

Certainly if both hold then there is no construction: the domain is constant!

Now, does not the latter hold too for intuitionist first order logic? The point is here that the Barcan formulae describe the structure of the domain independently of the structure of the propositions! We have a way to describe the domain without touching the classical propositional validity of any logical law.

4. Structure as an Act: Creativity

We are assuming that the structure is given, now, let us drop that assumption. The point is then the following. Let us assume that because of topic-related knowledge, including perhaps some no complete knowledge of the structure involved, we take that a given proposition is true and even valid, but we do not have a complete description of the structure. Then we could ask the following question: how should this structure be completed or how should it be if the given proposition has to be valid. This will takes us to a kind of structural abduction that is indeed not reducible to pure logical inference. Completing a conceptual structure within mathematics extends mathematical knowledge and this is what creativity is all about.

On my view the whole movement triggered by Poincaré and Brower relates to one deep epistemological point: the core result of the building of mathematics and logic were achieved by means of the creative effort of human imagination. Mathematics and logic are creation in the same sense that art is. The challenge to fully understand the epistemological implications of this point are still there and they do not seem to stop to fascinate and puzzle us again and again.

ON THE EPISTEMOLOGY OF PLATO'S DIVIDED LINE

Nicholas RESCHER

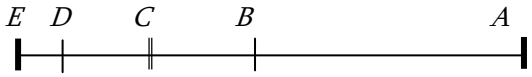
ABSTRACT: In general, scholars have viewed the mathematical detail of Plato's Divided Line discussion in Republic VI-VII as irrelevant to the substance of his epistemology. Against this stance this essay argues that this detail serves a serious and instructive purpose and makes manifest some central features of Plato's account of human knowledge.

KEYWORDS: Plato, Plato's epistemology, Divided line, Platonic Section, Proportionality

1. The Divided Line and its Divisions

In Book VI of his classic dialogue, *The Republic*, Plato contemplated four types of objects at issue in inquiry and cognition: ideals or ideas (such as perfect beauty, justice, or goodness);[1] mathematical idealizations (such as triangles, circles, or spheres); mundane, visible objects made by nature or man; and mere images, such as shadows and reflections. For abbreviative convenience we shall refer to these Platonic types as ideas, mathematicals, sensibles, and images, respectively.

With this classification in view, Plato proceeded to envision our knowledge about the world in terms of an arrangement which stands roughly as follows:



In setting this out he proceeded as follows:

> Suppose you take a line [EA], cut it into two unequal parts [at C] to represent, in proportion, the worlds of things seen [EC] and that of things thought [CA], and

[1] Contemporary discussants often call these *forms*. But a rose by any other name...

> then cut each part in the same proportion [at D and B]. Your two parts in the world of things seen [ED and DC] will differ in degree of clearness and dimness, and one part [ED] will contain mere [sensory] images such as, first of all shadows, then reflections in water then surfaces which are of a close texture, smooth and shiny, and everything of that kind, if you understand.[2]

The realm of ideas is generated and organized under the aegis of a supreme agency, the Idea of the Good. In the lead-up to the discussion of the Divided Line in book VI of the *Republic*, Plato (or, rather, his protagonist Socrates) acknowledges (506d-e) his incapacity to expound the Idea of the Good itself, instead mainly explaining its role in accounting for certain consequences, its "offspring" (*ekgonos*) and the "highest studies" (*mathêmata megista*, 504A) that provide a pathway towards it. And this path, so he maintains, can be illustrated by means of that diagramatic line. And Plato's Socrates then goes on to explain that in moving along a line from the mundane to the ideal we have the following situation:

> In the first part [*EC*] the soul in its search is compelled to use the images of the things being imitated [that lie in *DC*]... In the second part [*CA*], the soul passes from an assumption to a first principle free from assumption, without the help of images which the other part [*EC*] uses, and makes its path of enquiry amongst idealizations themselves by means of them alone. (510B)

Plato correspondingly distinguished between the visible "things of the eye" (things seen, *horata*) and the intelligible "things of the mind" (things thought, *noêta*). Preeminent in the later category are the "ideas" or "forms" (*ideai*) that provide the model or prototype (*paradeigma*) conformity to which constitutes things as the kind of thing they are. Yet not these ideas alone, but also the mathematical idealizations have a paramount role in the realm of intelligibles:

> When geometers use visible figures and discuss about them, they are not thinking of these that they can see but rather the ideas that these resemble; a square *in itself* is what they speak of, and a diameter *in itself*, not the one they are drawing . . . What they seek is to see those ideas which can be seen only by the mind. (510D)

Plato accordingly divided his line of cognition into two parts that represent the intelligible and the visible realms, and then divides each of these into two parts, higher and lower, each dealing with a correlative sort of object, as follows:

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[2] Plato, *Republic*, 509D. Henceforth otherwise unspecified references are to this dialogue.

I. "Intelligibles"

1. Higher : ideas (*AB*)

2. Lower : mathematicals (*BC*)

II. "Visibles"

1. Higher : sensibles (*CD*)

2. Lower : images (*DE*)

Display 1
HOW CAPACITY CONCERNS DIFFER

Capacity	*Mode of Cognition*	*Objects*	*Temporal Aspect*	(*Mundane Spatio-Physical Aspect*)	
aisthesis	*eikasia* (supposition conjecture or imagination)	Images (*eikones*)	Fleeting	Present	Sensible Domain
aisthesi	*pistis* (observation-based conviction or belief)	Sensibles (*aisthêta*)	Transitory	Present	
logos	*logos dianoia* (rationcination or discursive thought)	Mathematicals (*mathêmatika*)	Unchanging	Representable	Intelligible Domain
nous	*epistêmê* (rational insight or reason)	Ideas (*ideai*)	Timeless	Absent*	

*NOTE: What is here called *mathematicals* may encompass symbolically mediated thought in general. While physical objects such as diagrams and counters ("calculi") can represent mathematicals, the physical world's objects only "participate" in ideals and cannot *represent* them. Participation reaches across a wider gap than does representation.

The corresponding ontology is thus dualistic, contemplating two realms, the changeable and the unchangeable. However, the epistemology is quadratic, contemplating higher and lower modes of knowledge with respect to either category.

As Plato saw it, what is pivotal with each of these four cognitive capacities in their relation to spatio-temporal issues can be indicated on the lines of Display 1.[3] The four modes of cognition at issue thus differ in standing and status. At the top of the scale stand the Ideas – the timeless ultimates of Platonic concern. As G.W. Leibniz was to put it:

> The Platonists were not far wrong in recognizing four kinds of cognition of the mind... conjecture, experience, demonstration, and [finally] pure intuition which looks into the connections of truth by a single act of the mind and belongs to God in all things but is given us in simple matters only.[4]

At the very bottom of the scale stand the "images" (*eikones*) at issue in suppositions based on the fleeting and superficial seemings of things: "shadows, reflections in pools and hard, smooth and polished surfaces, and everything of that sort" (510A).[5] The formal deliberations of ratiocination and the concrete observations that ground our convictions about the world's objects come inbetween.

As regards the mathematicals, there is an instructive passage in a critique of Plato in Aristotle's *Metaphysics*.

> Besides the Sensibles (aisthêta) and the Forms (ideai) he says that there are mathematicals (mathêmatika). These, so he says, are intermediate (metaxa) differing from the Sensibles in being eternal and immutable and from the Forms in that there are many like instances whereas the form itself is in each case unique. (Metaphysics 987b, 14-18).

Presumably one must construe this as saying, in effect, that an individual Idea/Form is a single unique unit, despite there being a plurality of concrete particulars that participate in it. But a geometrical shape, for example a circle, has

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[3] Plato uses the term *hexis*, i.e., capacity or skill or facility involved with a certain practice, what translators often render as *facility* (Greek *dianamis*) a terms which, in this context, awaits Aristotle. But for dianamis in the sense of power see 509B.

[4] Gottfried Wilhelm Leibniz, *Philosophical Papers and Letters*, ed. Leroy E. Loemker (Dordrecht & Boston: Springer, 1969), 593. [Letter to M. G. Hansch on the Platonic Philosophy: 25 July 1707.]

[5] For lucid accounts of *eikasia* see H. J. Paton, "Plato's Theory of *Eikasia*," *Proceedings of the Aristotelian Society*, 22 (1921/22): 69-104, and D. W. Hamlyn, "*Eikasia* in Plato's *Republic*," *The Philosophical Quarterly*, (1958): 14-23.

many abstract representations (differing in diameter, say), which are not concrete – though admitting of concrete participants in their turn.[6]

In summarizing the Divided Line discussion, the *Republic* has it that one should:

> Accept the four response-capacities (pathêmata) of the soul as corresponding to those four sectors: rational insight (noêsis) as the highest, ratiocination (dianoia) as the second, conviction (pistis) as the third, and supposition (eikasia) as the last; and arrange them proportionately, considering that they involve clarity (saphêneia) to the extent that the objects involve actual truth (alêtheia). (511E)

As Display 2 indicates, Plato's translators have used a wide variety of rendering for the four Platonic faculties. While I believe my own translations come closest to what Plato has in mind, I think that the time has passed for every discussant to introduce his own terminology. And so while I myself believe that the best nomenclature would be:

Rational Insight/Ratiocination/Conviction/Supposition

nevertheless, in the interests of impartiality, I think that we can live with the majority-rules reading of:

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[6] On the *mathematika* see Jürgen Mittelstrass, "Die Dialektik und ihre wissenschaftlichen Vorübungen," in *Platon: Politeia*, ed. Otfried Höffe (Berlin: Akademie Verlag, 1997), 229-49. Admittedly, Myles Burnyeat is quite right, the *Republic* leaves the question of the ontological status of the mathematicals "tantalizingly open." [Myles F. Burnyeat, "Plato on Why Mathematics is Good for the Soul," in *Mathematics and Necessity: Essays in the History of Philosophy,* ed. Timothy Smiley, *Proceedings of the British Academy*, 103 (2000): 22]. However, see also Christopher Gill, "Plato, Ethics and Mathematic," in *Plato Ethicus: Philosophy is Life: Proceedings of the International Colloquium Piacenza*, eds. Maurizio Migliori, Linda M. Napolitano Valditara and Davide DelForno (St. Augustin: Academia Verlag, 2004),165-75; and Christopher Gill, "The Good and Mathematics," in *Pursuing the Good: Ethics and Metaphysics in Plato's Republic*, eds. Douglas L. Cairns, Herrmann Fritz-Gregor, and Terry Penner (Edinburgh: Edinburgh University Press, 2007).

Intellect//Thought//Belief//Imagination

Display 2
DESIGNATION FOR THE PLATONIC CAPACITIES

epitêmê//*logos*//*pistis*//*eikasia*
rational insight//ratiocination//conviction//supposition
intuition//demonstration//belief//conjecture[7]
intelligence//thinking//belief//imagining[8]
reason//understanding//belief//imagination[9]
reason//understanding//belief//conjecture[10]
intelligence//understanding//faith//conjecture[11]
intelligence//thinking//belief//illusion[12]
intelligence//thought//conviction//conjecture[13]
understanding//thought//confidence//imagination[14]
understanding//thought//belief//imagination[15]
intellect//thought//trust//fancy[16]

On this basis, every polled interpreter gets to have *something* their own way excepting – alas! – myself. Still, for the present I shall sink my own preferences in deference to the common good.

Be the issue of terminology as it may, the fact remains that a definite four-rung ladder is at issue here, which conjointly characterizes both a type of knowing and a grade of knowledge. In ascending order these four are: superficial

[7] William Whewell, *The Philosophy of Discovery* (London: Parker & son, 1860).
[8] F. M. Cornford, *Plato's Theory of Knowledge* (London: Kegan Paul, 1935).
[9] Anders Wedberg, *Plato's Philosophy of Mathematics* (Stockholm: Almqvist & Wiksell, 1955).
[10] W. H. D. Rouse, *Great Dialogues of Plato,* trans. W. H. D. Rouse, eds. E. H. Warnaugh and P. G. Rouse (New York and Scarbourough, Ontario: New American Library, 1956).
[11] John Malcolm, "The Line and the Cave," *Phronesis*, 7 (1962), 38-45.
[12] R. C. Cross and A. D. Woozley, *Plato's Republic: A Philosophical Commentary* (Basingstoke: Macmilllan, 1964).
[13] Richard Robinson, *Plato's Earlier Dialectic* (Oxford: Clarendon Press, 2nd ed. 1984).
[14] Gail Fine, "Knowledge and Belief in Republic V-VII," in *Epistemology*, ed. Stephen Everson (Cambridge: Cambridge University Press, 1990).
[15] G. M. A. Grube, ed., *Plato's Republic* (Indianapolis: Hackett, 1974).
[16] Nicholas Denyer, "Sun and Line: The 'Role of the Good'," in *The Cambridge Companion To Plato's Republic*, ed. G. R. F. Ferrari (Cambridge: Cambridge University Press, 2007), 284-309.

inspection (*eikasia*), observation (*pistis*), mathematically informed understanding (*dianoia*), and rational insight (*epistêmê*). Here mind-managed *dianoia*, formal reasoning based on mathematics and logic, is seen as a more powerful cognitive intrumentality than anything that the senses have to offer us. But at the very top of the scale stands *epistêmê*, the authentic rational knowledge characterized by Plato as unerring (*anmarêton*: 477A), access to which is possible through dialectical reasoning alone. And what renders *dianoia*/mathematics inferior to *noêsis*/ideatics is that mathematical reasoning still relies on images (diagrams) and hypotheses while the methods of dialectic involve no such "contaminating" compromises with an inferior resource.

Those four Platonic capacities are not different stages of learning, let alone "stages of mental development." Rather they represent different sorts of knowledge that offer increasingly more accurate insight into the nature of True Reality.[17] Stocks[18] maintained that Plato subscribed "an old assumption, prevailed among the Greeks, [namely] that differences of apprehension must be due to differences of the apprehended."[19] There is, however, no reason to saddle Plato with the idea that different capacities *must* deal with different sorts of object, but only that they *can* do so. In specific, those "higher" capacities need not deal with a higher class of objects: it is just that they can do so on occasion.

As Plato thus sees it, fundamentally different sorts of cognitive processes are at work and they can relate to different sorts of things as their products. Overall, the matter stands as per Display 3. Accordingly, the question "Does the Divided Line discussion deal with process (modes of cognition) or with product (objects of cognition): does it deal with ontology or with epistemology?" has to be answered by saying: both! But at least in the first instance the issue is one of different modes of knowing rather than different topics of knowledge. All are addressed to one selfsame object, Reality, but they deal with it with very different degrees of clarity and adequacy.

Now the Divided Line narrative has it that a certain proportionality obtains uniformly throughout these divisions, as represented by the dual proportions:

$$I : II :: I_1 : I_2 :: II_1 : II_2$$

[17] However, on this dogmatic view of the matter see H. W. D. Joseph, *Knowledge and the Good in Plato's Republic* (London: University Press, 1948), who covers a wide range of opinion on the topic.

[18] J. L. Stocks, "The Divided Line of Plato Republic VI," *Classical Quarterly*, 5 (1911): 73-88.

[19] Stocks, "Divided Line," 76.

Thus overall, all of the following ratios (proportions) are all to be identical.

- opinion : knowledge (*EC* : *CA*)
- mathematical idealizations : ideal realities (*CB* : *BA*)
- appearances : perceptions (*ED* : *DC*)

Basic throughout is the crucial contrast between deep understanding (*gnôsis*) and mere superficial belief (*doxa*).

Display 3
PLATO'S VIEW OF COGNITIVE PROCESSES AND THEIR OBJECTS

Cognitive Resource or Capacity	*Process of Cognition*	*Products or Objects of Cognition*
I. KNOWING (*nous* or *gnôsis*) (*noêta*)	I. INSIGHT (*noêsis*)	I. INTELLIGIBLE THOUGHTS
1. Rational insight (*epistêmê*)	1. Intuitive grasps (*epistasis*)	1. Ideals and ideas, "Forms" (*ideai*, *gnôsta*)
2. Ratiocination (*dianoia*)	2. Formal reasoning (*dianoêsis*)	2. Mathematical Conceptions (*mathêmata*)
II. OPINING (*doxa)* [SENSING]	II. SENSORY APPREHENSIONS or (*aisthêta*)	II. SENSE JUDGMENTS (*doxasta*)
1. Conviction (*pistis*)	1. Observation (*horasis*) and more generally perception (*aesthesis*)	1.Observed Features (*horata*)
2. Conjecture and seeming (*eikasia*)	2. Imaging (*hêmoiôsis*)	2. Casual Appearances or "Images" (*phantasmata* or *eikona*)

The resultant situation is encapsulated in the line elaboration of Display 4.

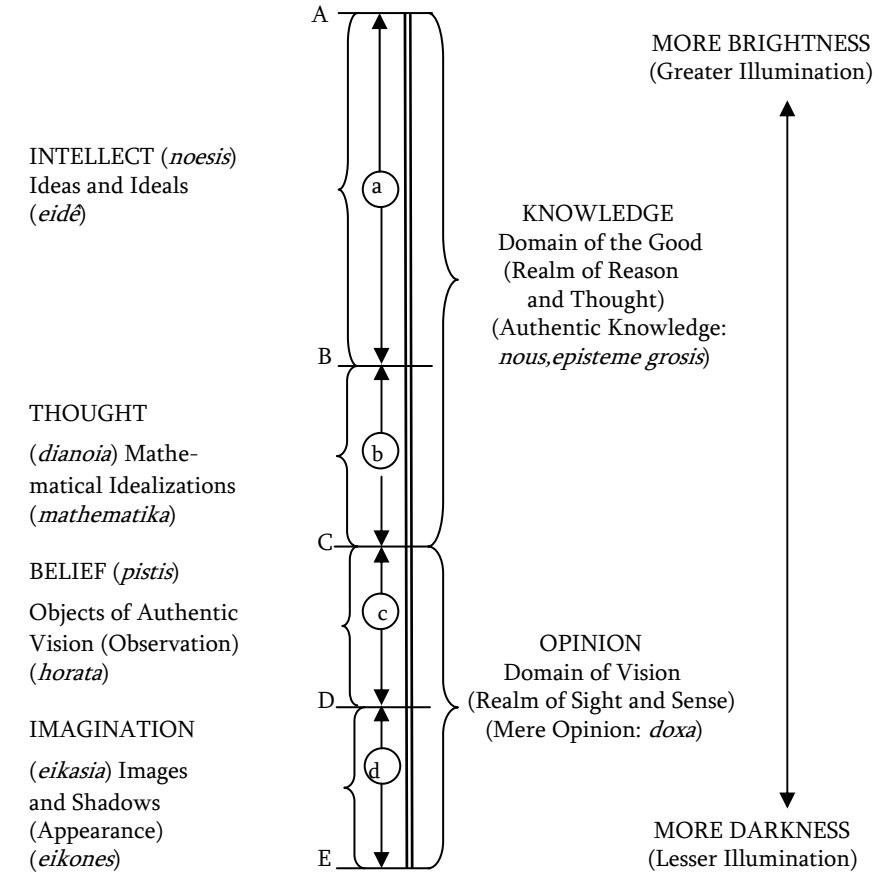
Against this background, the present discussion will implement a certain definite perspective and procedure. It proposes to take the Divided Line narrative seriously as it stands literally and not more than minimally figurative or metaphorical. And it then asks where this leads in regard to the larger issues of Plato's epistemology. So where most discussants have asked what Plato's epistemology means for the Divided Line, the present discussion proposes to reverse this interpretative line.

2. What do Those Proportions Represent?

The starting point of the line of thought at work in Plato's account is the idea of a relational comparison or analogy based on the pattern:

- Even as X is to Y in point of ϕ so also Z is to W in point of ϕ.

Display 4
PLATO'S DIVIDED LINE



On this basis, for example, the "ship of state" analogy would emerge roughly as follows:

- Even as a ship's people (crew and passengers) live under the aegis of a directive power (the captain) that is ultimately responsible for their well-being, so also do the people of a country live under the aegis of a

directive power (the government) that is ultimately responsible for their well-being.

What is at issue in all such cases is an analogizing proportionality of the fact:

$X: Y :: Z: W$ in point of ϕ

Now whenever ϕ happens to be a feature that is *quantifiable*, then we are in a position to transmute the analogizing proportionality at issue into an outright mathematical equation:

$$\frac{X}{Y} = \frac{Z}{W}$$

The ruling idea of Plato's Divided Line is to exploit just this prospect of transmuting descriptive analogies into mathematical proportions Plato's Divided Line narrative transmutes what is a mere *analogy* (in our present sense) into a qualitative equation, an *analogon* in Aristotle's technical sense of "an equating (*isotês*) of ratios or proportions (*logoi*)."[20]

In its analytical role, the Idea of the Good mirrors the dual function of the sum in both providing the warmth that sensations organic life and the light by which existing things can be cognitively apprehended. On the cognitive side we reach the basic proportionality on which this process rests is:

Light: Objects of sight: :the Good: Ideas in point of ϕ

But what is ϕ to be in the Divided Line context? Clearly, it must be something that is quantifiable in order to provide for what can function as an outright proportionality-equation as per:

$$\frac{(Sun)\text{ - }Light}{Sight\text{ - }objects} = \frac{The\ Good}{Ideas}$$

And Plato has it that this is to be illustrative – preeminently daylight, the light of the sun. What is at issue here with illumination is increasing clarity of

[20] Aristotle, *Niomachean Ethics*, 1131a31. On Plato's handling of analogies see A. S., Ferguson, "Plato's Simile of Light Again," *Classical Quarterly*, 28 (1934): 190-210.

vision be it by ocular sight or mental insight – the sort of thing inclined with the locution "Ah, it is now clear to me!"

This matter of providing for a quantifiable respect ϕ is crucial to Plato's reasoning. And here he sees the key factor as one of accessibility of thought. It is, in sum, a matter of providing for insight, for intelligibility, namely the power of *illumination*. As the discussion of the role of the sun at 507A-509B makes clear, the role of sunlight in apprehension is to mediate between the mind and its object. Just as the sun provides the power of visibility (*ta to horasai dunamis*) [509B], so the Good provides the power of intellection (*ta to noêsei dunamis*). Those proportions at issue are thus to reflect the comparative extent to which we are given significantly informative insights from the resources afforded by the mode of cognition at issue. The basic idea is that just as – and to the same extent that – sunlight makes sight-objects accessible to the mind through vision (*horasis*) so the Good makes ideas accessible to the mind through reason (*noêsis*)?

Light, of course, contrasts with darkness. At 478C-D we are introduced to yet another factor: ignorance (*agnioia*), and told that "opinion (*doxa*) is darker than knowledge (*gnosis*) and brighter than ignorance." So ignorance (utter darkness), is at the bottom of the scale – "off the chart" so to speak. (And perhaps the Good is to be located similarly at the other end.)

The divided line with its pinnacle of knowledge regarding the Ideas is joined to the simile of the Sun, that offspring (*ekgonos*) and resembler of the Idea of the Good (506E). And what both have in common is of course the illumination that constitutes a requisite for seeing things, be it with the eye of the body or the mind's eye. Plato apparently holds that even as sunlight both reveals actual things and produces their shadows, so the intellect both reveals the Ideas and engenders the mathematical abstractions that are their mere reflections.

3. The Analogy of Light

The Divided Line narrative presents us with a trio of proportionalities since we are told that:

$$\frac{a}{b} = \frac{c}{d} = \frac{a+b}{c+d}$$

This is the formal substance of what might be called the Platonic Section. But just what do these proportions mean? What is it that those comparative line-lengths are supposed to represent? Regrettably, Plato does not really offer as much information about this as one might wish for. Pretty much all the guidance he provides is that the proportions are to reflect a differentiation in respect to reality and truth (*dihêrêsthai alêtheia te kai mê* [510A]).

Both the general context of the discussion, and the Cave Allegory in particular, make it clear that those Divided Line segments are intended to correlate with the cognate power to give insight, to make intelligible, to *illuminate*. The crux of the matter is how much the information of a certain sort contributes to a proper understanding of the nature of reality and our place in it. Length is to reflect the comparative cognitive significance or importance in the wider setting of our knowledge of reality.

The overall situation that the Divided Line account puts before us accordingly stands as per Display 4 above. At the top, the dazzling brightness of the Idea of the Good yields greater – but not *infinitely* greater – information than that of our mundane observation. And this gearing to illumination means that the different parts of the line will deal – at least in the first instance – not so much with different *kinds* of knowledge as with different *grades* of knowledge.

The Divided Line is seen to provide a conjoint illustration of a cluster of proportions that implement the analogy of light. For explaining the proportions at issue, Plato tells us that the length of each segment measures the comparative "clarity and obscurity" (*saphêneia kai asapheia*) or "intelligibility" (*alêtheia*)[21] of what is at issue – i.e., its comparative contribution to knowledge and understanding. To be sure there are many cognitive virtues: probability, informativeness, reliability, accuracy, detail, clarity. But none of these quite fill the bill. Instead, what seems paramount here is inherent in the simile of light: lucidity, illumination, insight, enlightenment. The model is the capacity for being seen that sunlight provides (*ta tou horasthai dunamis* [509B]). Something like profundity of understanding seems to be the issue – *illumination* or *enlightenment* (*phanos*) in short. Just this, we may suppose, is what Plato had in mind in speaking of "clarity and obscurity." And just as the sum is the cause (*aitia*) of visual observation so the Idea of the Good affords "the very brightest illumination of being," (*tountos to phanotaton* [518D]) in the realm of thought. This circumstance – that the line orders those faculties in point of cognitive power, and that the size of its segments reflects the amount of illumination achieved in the correlative domain has been pretty much agreed upon since antiquity.[22]

Gail Fine concluded her instructive study of Plato's epistemology by insisting that "Plato does indeed explicate *epistêmê* in terms of explanation and

[21] See 509D and cf. 478C-D.

[22] Proclus' *Commentaries on the* Republic *of Plato* observes – as is Plutarch's view (in his *Platonic Questions*) – that in order of volume/quantity of information (rather than quality) one would have to reverse the size of the segments. See also Section 5 below and Denyer, "Sun and Line," 293.

interconnectedness, and not in terms of certainty or vision."[23] But this view of the matter is predicated on maintaining a sharp contrast between an holistic/coherentistic approach to knowledge and one that is based on insight and intellectual apprehension – between a discursive and an intuitive approach to cognition. And in taking this position one elides the prospect that the apprehension of explanatory interconnections is the fuel that energizes the interactive apprehension of certainties, so that the grasp of explanatory connections is the illuminative basis of intuitive certainty. One fails, in sum, to appreciate that discursive reasoning may open the door to intuitive insight. But it seems to be along just these lines that Plato saw the connection between illumination and inquiry. The cognitive level of authentic Knowledge (*epistêmê*) at issue in AB will always involve not just a certain fact but an explanatory rationale in which this certainty is grounded.[24] This sets the gold-plated standard by which the rest of our cognition must be judged. And illumination is the crux here since the mission of knowledge is to illuminate our way through this world's darkness to the conception of a good life as encapsulated in the Idea of the Good.

To be sure, it is not the formal structure of the line itself but the substance of the overall explanatory discussion that is going to be crucial.

It is clear that the proportions of the Platonic Section do not and by of themselves accomplish the job that the Divided Line Narrative is supposed to achieve. For all of the specified proportionality conditions are satisfied when $a = b = c = d = 1$. This circumstance line shows the justice of W. D. Ross' observation that "the line, being but a symbol, is inadequate to the whole truth which Plato meant to symbolize."[25] For clearly the idea that equal illumination is provided by Vision and by Reason is a non-starter for Plato who rejects prospect out from the outset (at 509D).

Just what is to be made of Plato's idea of illumination? It is clear, from what we are told, that even the image-mongering of mere "conjecture" (*eikasia*) provides *some* illumination and has some positive contribution to make. Granted, the illumination of the Good-illuminated Truth is vastly greater than that of the shadow-realm of mere images, but even this latter domain yields *some* illumination – and that of a magnitude that is proportionally limited to the magnitude of that former domain. However, in the quantitative perspective opened up by the Divided Line narrative, this contribution is comparatively very small.

Plutarch somewhat perversely suggested that the Divided Line narrative puts matters into reverse. As he sees it, shorter line segments would better reflect

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[23] Fine, "Knowledge," 115.

[24] *Meno* 98a, *Phaedo* 76b, *Republic* 531c, 534b.

[25] David Ross, *Plato's Theory of Ideas* (Oxford: Clarendon Press, 1951), 46.

coherence and unity of thought, while segments of greater length would better represent observability, indefiniteness, and of more obscure and less perspicuous knowledge.[26] But that's just not how Plato's account does it: his segments measure light rather than darkness. And even on the face of it, Plutarch's complaint that the Line should measure obscurity rather than illumination seems problematic. After all, with measurement of all sorts one accentuates the positive: one measures the weight of objects not their lightness, the duration of time and not its brevity, the height of persons not their shortness.

Overall, in coming to terms with the Divided Line narrative one must accordingly recognize:

1. What is at issue are not *items* of knowledge, nor yet bodies or *branches* of knowledge, but *types* of knowledge as defined by the *method of acquisition* at issue: respectively superficial inspection, sensory observation, ratiocination/ calculation, and dialectically developed insight. The focus is this less the product known than the process – the method of cognition that is at work.
2. What is at issue is not the *substance or theme* of the sort of knowledge in question, but its *significance or value*.
3. What is crucial in this valuation is neither the utility or applicative efficacy of the sort of true knowledge in question, nor yet the extent of time and effort needed for the mastery, but its illuminative strength: the extent to which it throw light on the condition of man in reality's scheme of things.
4. The highest form of knowledge is not thought, ratiocination and calculation, but rather the wisdom achieved in philosophy by the method of rational dialectic. However, even the world of shadows affords *some* instruction and enlightenment. While this is doubtless precious little, it cannot be set at nothing, even in a comparison to authentic *epistêmê*.

The key to the issue of Plato's perspective on cognition is that it is dialectic, the methodology of philosophizing, which stands at the forefront, and that philosophy – the queen of the sciences as it were – stands at the pinnacle. However, the proper assessment of the types of knowledge is a matter of proportion and harmony – the line and its proportionalities are plainly geometric and quantitative in nature. It would appear that in insisting on the philosophical importance of a mathematical informed view of things, Plato was putting his money where his mouth is in setting out the Divided Line narrative.

[26] Plutarch, *Platonic Questions*, 1001 d-e.

4. A Point of Contention: Did Plato Mean It? (Metaphor or Model?)

Scholars have long debated whether the Divided Line narrative is a mere flourish of literary ornamentation making the broad point that the realm of thought is superior to and more significant than the realm of sense, or whether something more substantial and significant is going on. Specifically, do those mathematical details matter? Some commentators have little patience with this entire Platonic exercise in mathematical epistemology. One recent discussant, for example, dismisses the fourfold division and its proportionalities with the breezy comment that they are "at best a framework on which to hang the comparison of mathematics and dialectic, [and] at worst an empty play with the idea of mathematical proportion."[27] (If this is critical elucidation, then what price is to be payed for obfuscation?)

To begin with, it should be acknowledged that W. D. Ross is right in saying that "the equality of *DC* to *CE*, though it follows from the ratios prescribed, is never [explicitly] mentioned."[28] Some see it as "an undesirable though unavoidable consequence of the condition, which Plato would have avoided if he had been able, and to which we should attach no significance"[29] with another commentator dismissing it as "as embarrassing detail."[30] But it would surely be unwise – as well as unkind – to fail to credit a geometer as sophisticated as Plato with recognizing consequences of his claims that would be at the disposal of a clever schoolboy. Anders Wedberg characterizes the equality of DC with CE as "obviously an unintended feature of the mathematical symbolism to which no particular significance should be attached."[31] One wonders who conducted the séance at which Plato informed Wedberg of its unintendedness?

The present discussion is predicated on the idea – the working hypothesis, if you will – the mathematical detail of Plato's discussion is to be taken seriously. It will thus be supposed that we are dealing not with some merely metaphorical analogy, but with a full-fledgedly mathematical description of man's cognitive situation. And we shall suppose that Plato, good geometer that he was, formed his account with intention aforethought – that it was not some random whim that

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[27] Richard Robinson, "Hypothesis in the Republic," in *Plato: A Collection of Critical Essays*, ed. Gregory Vlastos (Notre Dame: University of Notre Dame Press, 1978), 193.

[28] Ross, *Plato's Theory,* 45.

[29] Paul Pritchard, *Plato's Philosophy of Mathematics* (St. Augustin: Academia Verlag, 1995), 91. Here Prichard does not speak *in propia persona*.

[30] John Gould, *The Development of Plato's Ethics* (Cambridge: Cambridge University Press, 1955), 31.

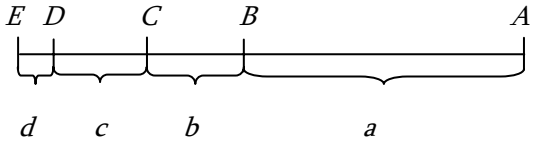
[31] Wedberg, *Plato's Philosophy*, 102-03.

philosophers should be geometricians (*mêdeis ageômetrêtos eisitô*),[32] and that Book VII of the *Republic* required that the training period in geometry for guardians be longer (indeed twice as long) as that in dialectical theory. Accordingly, the present deliberations will take the line that it is one of the salient tasks of an adequate interpretation to give some plausible account of why – and how – those quantitative relations would obtain on the basis of Platonic principles.

Approached from this angle, the pivotal problem becomes that of explaining just how it is that the various mathematical specifications that Plato incorporated into his Divided Line narrative function to inform his theory of knowledge and to account for its formative features. The interpreter of *Republic* VI-VII who leaves those proportions out of consideration is offering us Hamlet without the Ghost.

5. The Platonic Section

Proceeding in this direction, let us envision the idea of a Platonic Section based on a diagrammatic set-up of the format:



where, as already noted, the magnitudes at issue are subject to the following specified proportionalities:[33]

$$\frac{a}{b} = \frac{c}{d} = \frac{a+b}{c+d}$$

The unusual feature of the Platonic Section lies in its interrelating four quantities. This feature distinguishes it from the tripartite proportionality relations commonly treated in the Greek theory of proportions where, we find deliberations on such relations as

$\alpha : \beta :: \beta : \gamma$

[32] However uncharismatic the letter of this observation, its spirit seems thoroughly Platonic.

[33] Rosemary Desjardines, *The Rational Enterprise: Logos in Plato's* Theaetetus (Albany, NY: State of New York University Press, 1990), 481, has it that not only $\frac{a}{b} = \frac{c}{d}$, but also that $\frac{a}{c+d} = \frac{b}{c}$ This second proposition looks to be without visible means of support. Compare Pritchard, *Plato's Philosophy*, 97.

characterizing the geometric mean: $\alpha\gamma = \beta^2$. However, just this relationship plays a pivotal role in Plato's Allegory of the Cave,[34] and we shall shortly address the implications of this difference.

The design of the Platonic Section has an array of significant mathematical consequences. These include:

$$b = c$$

$$\frac{a}{b} = \frac{c}{d} = \frac{b}{d} = \frac{c}{d}$$

The appendices provided below will examine this situation more closely.

Plato himself was fully explicit with regard to at least some of these consequences. Thus he tells us that in its efforts at understanding the Ideas (i.e., in *AB*) "The mind treats as mere images (i.e., as a *DE* analogon) those actual things (*CD*) which themselves have mere images in the visual realm (i.e., in *DE*)."[35] We are thus presented with the proportion:

$$\frac{AB}{CD} = \frac{CD}{DE} or \frac{a}{c} = \frac{c}{d}$$

The position is that to just the extent that those mere images (*DE*) convey some contention of the objective features of things (*CD*), so the mathematicals (*BC*) convey some indication of the order of ideality (*AB*).

6. Why Should It Be That *B* = *C*?

Republic 510A says that the Divided Line's segments represent "a division in respect of reality and truth" and not "in respect of *decreasing* reality and truth." Yet nothing *about the proportionalities* at issue conflicts with the prospect that various segments have equal length. (However, Plato does block this prospect by a specific stipulation *ad hoc* at 509D). However, it follows from the proportionalities of the Line that $b = c$. (See Appendix 1.) Moreover, Plato's text nowhere explicitly acknowledges that $BC = CD$ (i.e., $b = c$), and some commentators therefore think that "it may be indeed that he himself failed to notice that it was a consequence".[36]

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[34] See Appendix 3.

[35] 511B.

[36] Cross and Woozley, *Plato's Republic,* 209. Raven speaks of it as "an unfortunate and irrelevant accident." (J. E., Raven, *Plato's Thought in the Making: A Study of the Development of his*

But could he really have been oblivious to this? Surely not! As Nicholas Denyer has rightly insisted, "Plato was too good a geometer for that."[37]

For Plato mathematically informed reasoning (*dianoia*) constitutes a mode of cognition superior to sense-based observation (*aisthesis/pistis*), seeing that it appertains to the intelligible rather than visible realm. On this ground, interpreters have been perplexed by the equating of *BC* and *CD* – the respective illumination afforded by those two cognitive resources. And such commentators have accordingly found it puzzling that a lower faculty should have as much to offer by way of cognitive illumination as a higher one. H. W. D. Joseph observes that "the second and third segments as equal: whereas if Plato had wished to set forth to prosper in four stages, he should have given us a continuous proportion in four terms."[38] And Denyer wonders how this "surprising equality" can be reconciled with Plato's view that cogitation/*dianoia* (Denyer calls it *thought*) outranks sense-belief/*pistis* (Denyer calls it *trust*).[39] So why should Plato hold that sensory *inspection* and mathematical *reflection* to be co-equal in point of illumination? However, such puzzlement fails to distinguish between process and product: a more powerful process need not necessarily yield a greater result; it could well provide a product of co-equal value more elegantly or effectively. After all, an electronic typewriter is a more powerful instrument than a pen, but whatever it can write can be written by a pen as well. An automobile is a morepowerful means of transport than Shank's mare, but wherever the former can take you, the latter also can (if you have the energy and time).

Through running together the Line and Cave, David Gallop depicts the line's parts as involving the distinction between waking and dreaming[40]:

A. the *noêsis* of dialectic: ("waking")
B. the *dianoia* of mathematic: ("dreaming")
C. the *horata* of the natural science: ("waking")
D. the *ekasis* of the plain man's observations: ("dreaming")

Metaphysics (Cambridge: Cambridge University Press, 1965), 145). And Pritchard notes that various commentators view this as "an undesirable though unavoidable consequence of the [specific] conditions, which Plato would have answered if he had been able, and to which we are to attach no significance" (Pritchard, *Plato's Philosophy*, 91).

[37] Denyer, "Sun and Line," 213.

[38] Joseph, *Knowledge and the Good*, 32.

[39] Denyer, "Sun and Line," 295.

[40] See David Gallop, "Image and Reality in *Plato's Republic*," *Archiv für Geschichte der Philosophie*, 47 (1965): 113-31.

But this raises real problems. In specific why should mathematical cognition be a mode of "dreaming"? And why should the "dreaming" of B yield every bit as much illumination as the "waking" of C? Most likely, rather different considerations are at work in the Line and the Cave accounts – as will emerge more clearly below.

And yet, the circumstance that while $b = c$, Plato himself does not make anything of this exerts a strange fascination on his interpreters. It emboldens them to think that they know Plato's thoughts better than the master himself. Thus J. E. Raven writes:

> As Plato's failure to mention the fact suggests, it is an unfortunate and irrelevant accident [that $b = c$]. Although it is a geometrical impossibility at once to preserve the [specified] proportions, which are all important, and to make each segment longer than the one below it, *this is what Plato had it been possible, would have wishes to so*[41] (my italics)

So quoth the Raven. But how can he possibly know?

Julia Annas endeavors to solve the problem by declaring that "Plato is not interested in having each section of the Line illustrate an increase in clarity ; his interest lies in internal studies of each [segment], not in the whole line that results."[42] Yet one cannot but wonder why, if the Line structure is indeed immaterial, Plato should go to considerable lengths to set it out. No sign of disinterest, that!

Morrison[43] maintains that "the contents of the two middle subsectors (i.e., *BC* and *CD*) are identical in the lower subsection (*CD*) they are used as originals and in the upper subsection (*BC*) used as likenesses." But this looks decidedly far-fetched. The crude diagram of the geometry-teacher at issue with visualization is surely not a *likeness* of the theoretical mathematician's abstract figure, but a crude representation (*eikon*) of it. The concerns of *dionoia* are a step upward from more vision towards the Ideas, not a retrogression from them towards the phantasms of *eikasia*.

Perhaps $BC = CD$ might obtain because everything in the world has a dual aspect: both a mathematically characterizable shape and a sense-provided qualitative texture. This idea is favored by Paul Pritchard who writes: "This much is clear, the objects in *DC* are the same as those in *BC* but now they are used as images of something else."[44] We are, that is, dealing with the same items regarded from different systemic points of view. And this perspective might well be grounded in

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[41] Raven, *Plato's Thought*, 145.

[42] Julia Annas, *An Introduction to Plato's Republic* (Oxford: Oxford University Press, 1981), 248.

[43] J.S. Morrison, "Two Unresolved Difficulties in the Line and Cave," *Phronesis*, 2 (1977): 212-31.

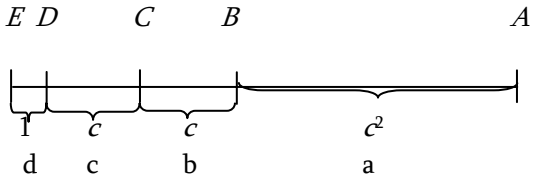
[44] Pritchard, *Plato's Philosophy*, 92.

Plato's Pythagorean inclinations. After all, Plato seems drawn to the Pythagorean precedent of holding that such cognitive grasp as we securely have upon the mundane actualities of the world is mediated by mathematics.[45] Accordingly, the guiding thought would be that the worlds realities of this world can be regarded either from the standpoint of empirical observation or from that of geometric analysis and that these approaches are of co-equal significance because each is informatively impotent without the other. Thus, equating *BC* and *CD* might be the result of the view that observation can only yield adequate illumination insofar as it can be mathematically rationalized. In other words: observation yields reliable information ("insight") only – but to exactly the same extent – that it is mathematically formalizable. In the end, then, it may be that the relationship should be as one of coordination and that here something of a Kantian perspective is called for: observation without theory is blind and theory without observation is empty. The data of sensory perception (*aesthesis*), are only illuminating where rigorous reasoning (*dianoia*) can make sense of them, and conversely *dianoia* cannot do its illuminative work without having the materials of *aesthesis* to address.

7. Why should it be that $a = b^2 = c^2$ (When $d = 1$)?

Analysis of the proportions at issue with the Divided Line, indicates that *d*, *c*, *b*¸ *a* stand to one another as per *d*, *kd*, *kd*, k^2d. We shall designate these correlations as the Whewell Relations because this situation was first noted and discussed by William Whewell in his 1860 *Philosophy of Discovery*.[46]

These relations have it that when we do our measuring in terms of *d* as a unit (so that $d = 1$), we are lead straightway to the result that $a = b^2 = c^2$. And this opens up some larger vistas. For it means that when we use *d* as our unit of measure, then the overall proportionalities of the Divided Line will stand as follows:



[45] On Plato's Pythagoreanism see Erich Frank, *Plato und die sogenannten Pythagoraer* (Halle: Max Niemayer, 1923, 2nd ed., Darmstadt: Wissenschaftlishe Buchgesellschaft, 1962).

[46] Whewell, *Discovery*, 444. See Appendix 2 below. There should be little wonder that Whewell had a firmer grip than most on the mathematics of the Divided Line, for alone among Platonic scholars he was a senior wrangler at Cambridge.

During 1860-80, the Whewell Relations were considered by several commentators,[47] but misunderstood by them as having *d*, *c*, *b, a* be 1, *c*, c^2, c^3 rather than 1, *c*, *c*, c^2 as the just-given diagram indicates. (This error was noted by Henry Jackson in his 1882 paper.[48]) Still, after the brief debate among the 19th century interpreters, the Whewell Relations simply dropped from sight. As far as I can see, no 20th century commentator has touched on these relations, and the question of their rationale remains in limbo.

They do, however, have interesting ramifications. Specifically, they mean when we measure length in *d* units (with $d = 1$), we have it that the overall length of AE is $1 + c + c + c^2 = 1 + 2c + c^2 = (1 + c)^2$. On this basis we can say that the total illumination available in AE is exactly the square of the mundane illumination provided by the senses (in CE). Accordingly, *c* alone – the measurement of illumination afforded by the senses – can be seen as the determinative factor for the illumination provided by cognition at large.

Can anything be said about the relationship of magnitude as between *a* and *d*? Not really! For the ratio *a* : *d* is left wide open. Nothing about those Line proportionalities bears upon the size of the other segments in relation to DE. That c^2 is vastly greater than *d* is an *ab extra* supplementation to the postulated proportionalities, for – as already noted – nothing in the Platonic proportionalities prevents the prospect that $a = b = c = d$. (Clearly, these proportions tell only a part of the story!) After all, the Divided Line narrative must be construed in such a way that c is larger than *d*, and that in virtue of this *a*, which aligns with c^2, becomes really enormous. The illumination of mind sight is vastly greater than that of eyesight. In context – but only then – are those proportionalities are effectively designed to carry a significant lesson. And so, when Sidgwick cavalierly dismisses "the fourth segment as of no metaphysical importance" he ignores the inconvenient circumstance that the ratio *d* : *a*, albeit doubtless small, is nevertheless not zero.[49]

Yet why should Plato hold that $a = b^2 = c^2$? Why should the illumination of Reason so greatly amplify descriptive deliverances of qualitative perception and quantitative conception?

Presumably the insight here is that we do not really understand something until we have embedded it within a larger framework of "scientifically" organized

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[47] See Benjamin Jowett, *Plato's Republic: Text, Translation and Commentary*, 3 vol.'s (Oxford: Clarendon Press, 1894), and Henry Sidgwick, "On a Passage in Plato's Republic, B. VI," *The Journal of Philology*, 2 (1869): 96-103.

[48] Henry Jackson, "On Plato's Republic VI, 509D sqq," *The Journal of Philosophy* 10 (1882): 132-150.

[49] Sidgwick, "On a Passage," 102.

systematization – that is until we comprehend its place and role in the larger scheme of things and are able to characterize it descriptively but to *explain* it "scientifically." Only when we know how an item figures in the larger explanatory framework of environing fact do we really understand it. Our comprehension of things is not *real* knowledge until we understand them in their wider systemic context. In short, what Plato seems to have in view is that higher kind of knowledge which Spinoza characterized as "an adequate knowledge of the essence of things" (*adaequata cognitio essentiae rerum*). In sum, intellect – that topmost "scientifically informed cognition" if you will – vastly amplifies the illumination provided by sensory information. In this perspective, Divided Line marks Plato as a quintessential rationalist.

Still, why should it be that $a = b^2 = c^2$ (with length measured in *d* units). Why is it a matter of *squaring* – why not have *a* come to c^3 or $1000c$?

Dialectics, so Plato tells us, calls for "a synoptic survey (*sunopsis*) of facts studied in the special sciences then relationships to one another and to the nature of things" (537C). And so this square root relationship should really not be seen as all that puzzling. After all, when *n* items are at issue there will be *n* stories to be told by way of individual description. But if systemic understanding demands grasping *how these items are related to one another*, then there will be $n \times n = n^2$ stories at issue.

And there is a further interesting aspect to the issue. This turns on a striking parallelism to a relationship in the modern theory of information known as Rousseau's Law[50] which maintains that the sort of cognitively significant amount of higher-level *knowledge* (*K*) provided by a body of raw *information* (*I*) stands merely at the square root of this body's size:

$$K = \sqrt{I} \quad \text{or} \quad K^2 = I$$

Such comparisons do of course involve something of a coincidence, very different sorts of considerations being at work in those two ranges of discussion. But all the same, there seems to be a commonality of perspective, rooted in the idea that there is a vast gap between the cognitive significance – the "illumination" provided by raw empirical information and that provided by a scientifically based systematization – constitutes a disparity to which a square-root relationship gives a seemingly natural mathematical embodiment.

[50] On Rousseau's Law see Nicholas Rescher, *Epistemology* (Pittsburgh: University of Pittsburgh Press, 2004).

8. The Allegory of the Cave (514A-521B)

How is one to fit the Divided Line narrative of *Republic* VI into the wider framework of Plato's epistemology, and, in particular, to coordinate it with the Cave Allegory of *Republic* VII? Especially because The Cave Allegory lacks the formalization of the Divided Line narrative, commentators have expended much ink on the question of how the two are related.[51]

It is clear that the Cave story envisions three regions: (1) the cave wall with its fire-projected shadows and images, (2) the entire cavern with its fire-illuminated visible objects, and (3) the exterior with its sun-illuminated realities assembled to the Platonic Ideas. As regards these, a fundamental proportionality is contemplated, for Plato tells us that "The realm of sight is like the habitation in prison [i.e., the cave], and the firelight there is like the sunlight" (517B). So overall, we are presented with the dual proportionality:

the Good : ideas :: the sun : worldly things :: worldly things : images

Interestingly, Plato begs off (at 506b-507a) from dealing with the Good as such in favor of dealing with its "offspring." In effect, he says "Don't ask me what the Good *is*, ask me rather about what it *does*." (William James would love that!) And his response is that what the Good does is to serve a dual role. For one must distinguish between two questions "What is it that makes *p* be the case?" and "What is it that makes us think that *p* is the case?" – that is we can ask both about the ontological truth makers and the epistemological truth-markers that render the truth cognitively accessible. And Plato's line here is that as far as the world's facts are concerned one and the same potency plays both roles. For the idea of the Good is the basis both of the world's realities and of their knowability. As N. P. White concisely puts it, the idea of the Good is regarded by Plato "as the cause both of the being of intelligible objects as well as of our knowledge of them!"[52] Like the sun which enables living creatures both to exist and to be seen, the Idea of the Good is the basic source both of the knowable and of its knowability.

There is nothing all that strange about the fundamental idea of the Cave Allegory. The Platonic parallelism between eyesight and insight, between vision and understanding, between the light of the sun and the enlightenment of thought,

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[51] Virtually every commentary cited in our bibliography has much to say on the subject.

[52] Nicholas P. White, *A Companion to Plato's Republic* (Indianapolis.: Hackett, 1979), 180. It is striking, but not untypical, that White's commentary leaves the mathematical proportionalities of the Divided Line out of consideration.

is actually pretty much taken for granted by everyone. The student who grasps a mathematical concept immediately says "Now I see it." We say that it was a "flash of insight" that led Archimedes to exclaim *eureka*! In everyday use, "illumination" is as much mental as visual.

In the Cave Allegory, three relationships are thus analogized in terms of proportionality among three triads:[53]

The Good//Rational Insight//Ideas

The Sun//Sight//Visible Objects

The Fire//Supposition//Shadows & Images

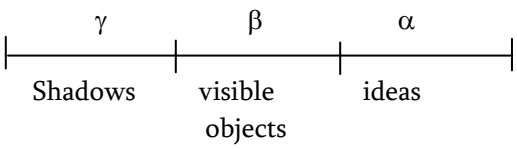
The guiding idea is that the light of the fire in relation to the objects of the cave is like the illustration of the sun in relation to the objects outside. And so The Cave narrative envisions the analogy:

Shadows : objects : : object: ideas

But if we now adopt a mathematical perspective and shift from analogy to proportion some basic facts come more sharply into view. For looking at the situation in terms of a linear arrangement (something that the Cave Allegory invites but does not explicitly state) we would have:

Display 5
POSSIBLE CAVE-TO-LINE CORRESPONDENCES

Cave	*Redistributional Match-Up of line Segments*			
	I	II	III	IV
α	*a*	*a*	*a* + *b*	*a*
β	*b*	*b* + *c*	*c*	*c*
γ	*c* + *d*	*d*	*d*	*d*



[53] Scholars have disputed about just how many epistemic division are in play with the Cave Allegory. See, for example, Robinson, *Earlier Dialectic*, and John Malcolm, "The Line and the Cave," *Phronesis*, 7 (1962): 38-45. The tripartite picture contemplated here looks to be not only the simplest but also the most natural reading of the text.

with the result of the following proportionality:

$$\frac{\gamma}{\beta} = \frac{\beta}{\alpha} \text{ or equivalently } \alpha\gamma = \beta^2$$

This relationship is, in effect, simply the well-known geometric section of a harmonic mean amply elaborated upon in antiquity in the treatises of Niomachus and of Pappus.[54] So if we once more conduct our mensuration in terms of γ-units, (so that γ = 1), then we again have β = $\sqrt{\alpha}$. Mathematical proportionalities once more confront us.

But now there arises the critical question of bringing books VI and VII of the *Republic* into unison is this: Can the Divided Line narrative be reconciled with the Cave Allegory? A good deal of ink has been spilt over the question of whether the Cave and the Line account can be resolved. Robinson 1952 maintains that Plato's characterization of the Cave situation "forbids us to put it in exact correspondence with his Line," but other commentators have disagreed: for example, Gould,[55] Malcolm[56] and Morrison[57].

One potential strategy of reconciliation would proceed by reconfiguring the line segments to achieve a correspondence. The possibilities available

Display 6
FOUR COGNITIVE PERSPECTIVES UPON THREE SORTS FOR OBJECTS

Perception	SUPERFICIAL IMPRESSIONS	mere sense-impressions	
	OBSERVATIONS		mundane realities
Cognition	GEO-METRICAL FACTS		
	IDEALIZATIONS	pure theorizing	

here are inventoried in Display 6. As just noted, the Cave Allegory requires that:

[54] See T. L. Heath, *A History of Greek Mathematics*, Vol. 1 (Oxford: Clarendon Press, 1921), 87.
[55] Gould , *Development.*
[56] Malcolm, "The Line," 38-45.
[57] Morrison, "Two Unresolved," 212-31.

$$\frac{\gamma}{\beta} = \frac{\beta}{\alpha}$$ or equivalently $\alpha\gamma = \beta^2$

However, the Divided Line narrative requires both that $b = c$, and further that $a = b^2$ when d is 1. So in relation to those Display 6 cases we now re- quire the following equations for transposing the α-to-γ range into the *a*-to-*d* range:

Case I. $b^2(b + 1) = b^2$. Not possible unless $b = -1$ or $b = 0$.

Case II. $b^2 = (2b)^2$. Not possible unless $b = 0$.

Case III. $b^2 + b = b^2$. Not possible unless $b = 0$.

Case IV. $a = c^2$. No problem! [See section 7 above!]

And so unless $b = 0$, the only viable match-up between Line and Cave is represented by IV which, exactly as one would surmise, leaves the Divided Line mathematicals (here represented by *b*) entirely out of view. We thus have a choice: we can annihilate the mathematical or simply let them drop out of sight. For on such an approach, *dionoia* with its concern for *mathematika* is dismissed. It simply appears to have vanished from the Cave account.[58] How can this be?

It would be tempting to try to reconcile the Line and the Cave accounts by the speculation that what is at issue is a matter of four cognitive perspectives upon three sorts of objects – rather along the lines of Display 6. Substantially this approach to the matter is taken in Wieland 1982. As he sees it, the things at issue with *b* and *c* the sensibles and the arithmeticals represent one selfsame group of items, the natural world's concreta, viewed two different prospectives, one qualitatively as objects of perception (*Gegenstände der Wahrnehmung*) and once quantitatively as material representations of forms (*Abbilder* [*der Ideen*]). Since merely different dispositions (*Einstellungen*) toward the same objects are at issue, the two representing segments should be equal. This all sounds plausible enough, but as the analysis relating to Display 5 clearly shows, it just does not square with the treatment of the mathematicals in the Divided Line narrative. For the preceding analysis blocks this otherwise attractive prospect of amalgamating *b* and *c*. While the overall account insists on their being co-equal, it blocks the prospect of their fusion via the impracticability of alternative II above.

Again, it might be tempting to conjoin *dianoia* and *epistêmê*, then consolidating the two higher cognitive facilities into one. But the impracticability of alternative III rules this out.

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[58] That those accounts are irreconcilable is sometimes maintained. (See, for example, Robinson, *Earlier Dialectic*, 181-82.) However the simplicity of the reason for this – viz., the Cave's indifferent to *dionoia* – has not been duly emphasized.

By a bit or fanciful legerdemain I.M. Crombie revamps the Cave account into four "stages" of image-to-original relationship in a way that coordinates the Cave with the Line, claiming that "Plato intended us to suppose that in the parable of the Cave he was putting flesh upon the bones of the skeleton he set out in the Line."[59] In effect he resorts to the match-up:

a	α
b	β (part)
c	β (part)
d	γ

This seemingly provides for a smooth coordination between the Line and the Cave representations. But when we look at the matter in the reverse direction (from Cave to Line) we return to Case II of Display 5 and fall back into unavoidability.

Rosemary Desjardines goes yet further in having it that $a = c + d$.[60] Not only does this fail to be endorsed by Plato,[61] but in the context of the ratios that he explicitly specified it would have some strange consequences. For example, since

$$\frac{a}{b} = \frac{a+b}{c+d}$$

it would mean that

$$a^2 = b(a + b)$$

Note now that if we constructed out measurements in terms of *a* as a unit ($a = 1$), then the ratio d : c : b : a would be .38, .62, .62, 1.0 which would be bizarre given the intended interpretation of the Line.

W.D. Ross believes that further ratios are also needed "and that this is mathematically impossible is only an indication of the fact that the line, being a symbol, is inadequate to the whole truth which Plato wanted to symbolize."[62] And some commentators incline to think that the mathematician's symbols are somehow akin to shadows of the Cave allegory.[63] (After all, both leave substance and content aside and deal only with structure and thus suggests a coordination of

[59] I. M. Crombie, *An Examination of Plato's Doctrines, Vol. I: Plato on Man and Society* (London: Routledge & Kegan Paul, 1962), 116.

[60] See Desjardines, *Rational Enterprise*, 491.

[61] See Pritchard, *Plato's Philosophy*, 97-98.

[62] Ross, *Plato's Theory*, 45-46.

[63] Ferguson, "Plato's Simile," 148.

dianoia and *eikasia*.) But once again, the requisite detail for such an approach simply cannot be implemented satisfactorily.

Colin Strang[64] analyzes the Cave/Line relationship in a somewhat eccentric manner. With respect to the Line, he views it as having *five* divisions:

noêsis, dianoia } epistêmê
doxa
pistis
eikasia

This introduces *doxa* as a separate division on a level with the other standard four. And as regards the Cave, he sees *all* five of these as functioning outside (i.e., above and beyond) the Cave and its firelight in the outer realm of the sun. It is unclear, however, both how this makes good textual sense, let alone how it provides for a more cogent philosophical systematization. Accordingly, Strang is constrained to insist that Plato's own contention involves a variety of "misdirections," and maintains that "No interpretation... can hope to emerge unscathed from the text," claiming that his account "makes better philosophical sense than its rivals and can more easily explain away the anomalies that remain." The first part of this contention may well be true, but the second part looks to be adrift in a sea of troubles. In particular, Strang's account simply ignores the whole manifold of mathematical proportionalities that lay the groundwork for the Divided Line.

Plato himself was keenly aware that the Divided Line narrative leaves a great deal unsaid and that its adequate exposition would require a much further explanation. In Book VII of the *Republic*, he has Socrates say: "But let us not, dear Glaucon, go further into the proposition between the lines representing the opinionable (*doxaston*) and the intelligible (*noêton*) so as not to involve ourselves in any more discussions than we have had already" (534A) Here Plato is clearly not *retracting* the Divided Line narrative but simply noting that it need not be further elaborated for the limited purposes just then at hand. And as Wedberg rightly observes "it is merely about the object of mathematics that [further] information is being withheld" at this particular juncture.[65]

So, what is one to make of this? How can one possibly account for the disappearance of the mathematics-oriented *noêsis* of segment *b* in the transit from

[64] Colin Strang, "Plato's Analogy of the Cave," *Oxford Studies in Ancient Philosophy*, IV (1986): 19-34.

[65] See Wedberg, *Plato's Philosophy*.

the Line to the Cave account? There is, it would seem, one plausible way to do it – one that involves a fundamental shift of perspective.

Suppose that *dianoia* is not conjoined with *epistêmê*, and *b* combined with *a* as per Case III of Table 6, but rather it is that the operations of *dionoia* are folded into and absorbed into *epistêmê*, high-level so that *b* effectively vanishes and its function is now provided for from within. The point is that even if we refrain from seeing the objects of mathematizing *dionoa* as themselves being Ideas (or Form), nevertheless as abstract and unchanging realities, they will fall into the same generically sense-transcending domain. Mathematics is thus seen as one integral part of a complex effort to detach people from the realm of sense: "to turn the soul's attention upwards from the sensible to the intelligible" as one recent commenter puts it.[66] To achieve real understanding we must leave any and all experientially guided suppositions behind, abandoning mere hypotheses for the solid ground of rationally apprehended principles.

Mathematics itself thus becomes transformed into a science not just of basic ratiocination (which must inevitably proceed from premisses) but one of rational insight because the fully trained mathematician comes to see why those hypotheses (those four fundamental definitions, axioms, and possibilities) come to be just what they are.[67] Mathematics is now effectively seen as part of dialectic and mathematical training becomes an integral component of the *paidea* of the philosopher-king. That is, we effectively shift from *ousia* to *paideia*, from ontology to taxonomy. On this basis, mathematics is no longer to be seen as a distinct discipline with a subject-matter realm of its own (the *mathematica*), but rather a methodology of thought-descriptive that is an essential part of the training of the philosopher-kings.[68] Mathematics is thus cast in the role of the training-ground for abstracting from the mundane details of the sensible world and ratiocination (*dianoia*) is comprehended *within* reason (*epistêmê*) and *b* is not a supplement to *a* but a component part of it. In this regard, the present analysis gives full marks to Henry Jackson, who wrote well over a century ago:

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[66] Ian Meuller, "Mathematical Method and Philosophical Truth," in *The Cambridge Companion to Plato*, ed. Richard Kraut (Cambridge: Cambridge University Press, 1992), 189. Here one need not go quite as far as Erich Frank and hold that "Plato die Idea noch rein quantitativ als die blosse mathemeatische ideale Form der Dinge, d. h. als Zahl gefasst hat" (Frank, *Pythagoraer*, 60).

[67] Compare Myles F. Burnyeat, "Platonism and Mathematics: A Prelude to Discussion," in *Mathematics and Metaphysics in Aristotle*, ed. Andreas Graeser (Bern & Stuttgart: Paul Haupt, 1987) and Burnyeat, "Plato", as well as Gill, "Plato" and Gill, "The Good".

[68] On this issue see Ian Robins, "Mathematics and the Conversion of Mind: *Republic* VII 522C1-531E3," *Ancient Philosophy*, 15 (1995): 359-91.

> There is no place for the mathematika [in the cave account]. Plato, as I understand him, is here concerned not with mathematika as apposed to other noêta, but with mathematika as types of noêta.[69]

From this standpoint, the condition of *dianoia* (*b*) is like that of a conquered state that is neither annihilated by nor annexed to another, but rather bodily absorbed into it. So regarded mathematics acquires a different status, not as a distinctive field of inquiry but as a characteristic methodology of thought – a circumstance that merits the substantial emphasis that it in the educational deliberation of Book VII. But something comparatively radical is clearly needed.

No wonder, then, that with such a shift of perspective considerable confusion might arise. In some of the expositions of Books VI and VII of the *Republic* – Fine 1990 for example – the mathematical aspect of the Divided Line is a non-entity, with the detail of those proportions seen as philosophically irrelevant. Other accounts take note of such detail as the fact that $c = d$ but do not venture into an explanatory rationale. (Fogelin 1972, for example.) But be this as it may, it should be stressed that no interpretation of Books VI and VII of the *Republic* deserves to be deemed adequate that does not integrate the philosophical views being articulated with the mathematical detail being used in their articulation. And, above all, the Whewell Relations cannot simply be dropped from view.

Granted, the proportionalistic structure of the Divided Line, which, after all, is its very reason for being as such, is something that simply does not interest various commentators. No doubt, the tentative suggestions of the present discussion can and should be improved upon. But the overall project of getting this sort of thing right would seem to be something from which Plato's interpreters cannot consciously beg off, and the offhand dismissal of the whole project by various interpreters is something that does little credit to Platonic scholarship. A couple of generations ago, A. S. Ferguson wrote that: "The similes of the Sun, Line, and cave in the *Republic* remain a reproach to Platonic scholarship because there is not agreement about them."[70] This may be going a bit too far. It is simply too much to expect scholars to agree on *what Plato meant*. But *that he meant something* – and something sensible at that – ought not be to a bone of contention.[71, 72]

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[69] Henry Jackson, "On Plato," 141.

[70] Ferguson, "Plato's Simile," 190.

[71] I cannot forego the observation that with regard to the specific issue being investigated here – namely the proportionalities at work in the Divided Line narrative of *Republic* VI and the Cave Allegory of *Republic* VII – I find the 19th century Platonic commentators – and in specific Whewell, Jackson, and Ferguson – more helpful than their 20th century successors.

[72] I am grateful to Paul Scade for his constructive comments.

Appendix 1

PROOF THAT $b = c$

$$\frac{a}{b} = \frac{c}{d} = \frac{a+b}{c+d}$$

is given as basis

Now observe:

$$b = \frac{a(c+d)}{a+b} = \frac{ac+ad}{a+b} = \frac{ac+bc}{a+b} = \frac{c(a+b)}{a+b} = c$$

Note: It further follows that we shall also have:

$$\frac{a+b}{c+d} = \frac{a+c}{b+d} = \frac{a+b}{b+d}$$

Appendix 2

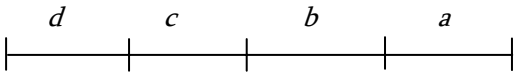
PROOF THAT $a = b^2 = c^2$ WHEN d IS THE UNIT OF MEASUREMENT

Let the ratio of c to d be r, so that $c = dr$. Then since $b = c$, we also have $b = dr$. But since the ratio of a to b is also to be r, we have $a = rb = dr^2$. Thus the quartet d, c, b, a will be d, dr, dr, dr^2. This is exactly what Whewell noted in *The Philosophy of Discovery* – and so represents what may be referred to as the Whewell Relations. Accordingly, if we employ d as the unit of measure, so that $d = 1$, then this quartet will be 1, r, r, r^2. On this basis $a = b^2 = c^2$ in the special case when $d = 1$, thought in general we shall simply have $a = b^2/d = c^2/d$.

Appendix 3

OBSERVATIONS ON THE PLATONIC SECTION

The abstract proportionalities at issue with Plato's Divided Line will not of themselves determine the relative size or magnitudes of the quantities involved. For consider once more those proportions superimposed upon the linear scheme



namely

$$\frac{a}{b} = \frac{c}{d} = \frac{a+b}{c+d}$$

Here *a* could in theory be as small as *d* itself, seeing that $a = b = c = d = 1$ will satisfy all of these proportionalities. On the other hand, *a* can be larger than the rest by any desired quantity whatsoever. For let us once more proceed to measure length in terms of *d*-units (i.e., $d = 1$). Then a discrepancy in the size in the magnitudes at issue of any size whatsoever will be able to satisfy all those proportionalities – however large is may be – as long as:

$a = k$
$b = \sqrt{k}$
$c = \sqrt{k}$
$d = 1$

with the magnitude of *k* left open. So as regards the potential disparity of *c* and *a*, the sky is the limit.

An interesting perspective emerges when measurement is made in terms of *b* ($b = 1$). For *d*, *c*, *b*, *a* will now stand as *d*, 1, 1, $\frac{1}{d}$. For since $b = c = 1$, a relationship of reciprocal complementarity between *d* and $a = \frac{1}{d}$ must obtain. That is, with *d* a very small quantity *a* will be a very big one (and conversely). The dimness of those mundane reflections is in diametrical contrast with the brightness of sunshine.

THE IDEOLOGICAL FOUNDATIONS OF SOCIAL KNOWLEDGE[1]

Daniel ŞANDRU

ABSTRACT: Assigning a positive signification to the concept of 'ideology,' the basic hypothesis of this paper is that both what we call social reality and what we understand by the expression social knowledge are the result of an ideological projection. In other words, it is my opinion that ideology accomplishes a double purpose: on the one hand, it actively participates in the construction of social reality; on the other hand, it also plays the role of an instrument of social knowledge. To support this assertion, I advance the idea of ideological conventions that are constituent parts of the social projection of reality and that emerge as 'landmarks' of the process of understanding it. I provide arguments that, as long as that they are found at the level of social institutions and thus being reproduced in discourse, including symbolically – as codes, norms, rules, habits, behaviours, etc., both formal and informal – , ideological conventions are an expression of social identity, being useful in explaining and understanding social reality and its possibilities of evolving. Finally, taking into account the premise that while social knowledge is not entirely ideological, the ideological element is unavoidable in the process of configuring this knowledge (contributing in a decisive manner to the changes emerging at the societal level), I propose an integrated, interdisciplinary model of ideological analysis.

KEYWORDS: ideology, social reality, social knowledge, ideological conventions, ideological analysis, integrated model.

Introduction

The main objective assumed in this paper[2] is to provide a series of arguments in favour of the existence of an ideological process of constructing reality and,

[1] ACKNOWLEDGEMENT: This paper was made within The Knowledge Based Society Project supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU ID 56815.

[2] This study has been developed within a postdoctoral research scholarship I carried out, in August 2010, at the University of Konstanz, Germany, where I was invited by the Wissenschaftsforum operating within this institution. I want to thank Prof. Dr. Jürgen Mittelstraß for the support he offered me in order to carry out this research scholarship.

implicitly, social knowledge. By conferring a positive meaning to the concept of ideology, my conjecture is that both what we usually call *social reality* and what we understand by the expression *social knowledge* are the products of an *ideological projection.* The grounds of the latter lie at the level of the beliefs produced by the social imaginary that influence some action-oriented strategies depending on a series of prescriptive frameworks, which are also instituted with the help of ideology. In other words, it is my opinion that ideology accomplishes a double purpose: on the one hand, it actively participates in the construction of social reality; on the other hand, it also plays the role of an instrument of social knowledge.

In order to launch a debate on such a hypothesis, in the first section of this study, I am interested in analysing how the ideological projection of social reality develops. Special attention is paid, in this direction, to the social imaginary and to the manner in which 'reality' is instituted by the unmediated contribution of the ideological projection. Of course, I do not assume the idea that this type of projection is the only one that contributes to the configuration of the framework wherein what we call "social reality" manifests itself. However, I believe that ideology is the 'strong figure' of the social imaginary, compared with its other projections, such as those designated by other concepts that are frequently evoked with reference to knowledge in social theory and in politics – myth and utopia. I shall not detail here the relationships between ideology, myth and utopia but I shall refrain to stressing the presence of ideology-based beliefs in the human manner of relating with the reality that is specific to each society. In this stage, I shall not take into account the political 'constraints' of ideology, that is, I am not going to refer to its particular forms, described as "isms." As long as the purpose of this text is to delineate the general context where the ideological foundations of social knowledge could be highlighted, the manner in which, during their development, the particular ideologies of modernity (such as liberalism, conservatism or socialism) have instituted, in their turn, various types of social reality, does not concern me here. The second section aims to reflect how *social meaning* is ideologically built. I refer here to the function that I consider to be decisive in stressing the importance of ideology at the level of reality and social knowledge, that of integration-identity, in the absence of which human community itself could not be possible.[3] To support this argument, I advance the idea of *ideological conventions,* which are constituents of the social projection of reality and emerge as "landmarks" of the process of understanding it. I argue that, since they are found at the level of social institutions and thus being reproduced in

[3] Bernard P. Dauenhauer, Paul Ricoeur: *The Promise and Risk of Politics* (Lanham, MD: Rowman & Littlefield, 1998), 215.

discourse, including in a symbolical manner – as codes, norms, rules, habits, behaviours etc., both formal and informal – , ideological conventions represent an expression of social identity, being useful to the explanation and understanding of societal reality, and of its possibilities of development. Finally, the third section of this study is oriented toward the *ideological analysis* of social knowledge. Here, I put to use the epistemological valences of the concept of ideology and thus I reveal the second role that I assign to it, that of an instrument of social knowledge. As a result, I intend to define, methodologically, the significance of ideological analysis and to stress the type of influence that ideology has on the development of knowledge and, by this, on the process of social change. The basic assumption I have in mind is that social knowledge is not entirely ideological, but the ideological element is inevitable in the process of configuring this knowledge, contributing in a decisive manner to the changes emerging in the societal field.

I believe that three additional specifications should also be made in the end of this introductory part. The first refers to the fact that this paper starts from the attempt to systematise, both from a theoretical-political and epistemological perspective, the issues related to ideology, in a direction that would go beyond the reductionist views found in Romanian specialised literature, be it philosophically, sociologically or politologically oriented. I take on here the 'central pillar' of the attempt 'to reinvent ideology,' that is, the way it is defined as a *system of beliefs shaped in any society, beliefs that operate at the level of the social imaginary and that, together with myths, legends, habits, behavioural and attitudinal patterns, play the role of marking out a normative and action-oriented framework referring to the operating style of that society*[4]. Aside from being a first step towards the theorisation of a normative approach to ideology, the definition quoted above allows, in my opinion, further openings to the empirical analysis of the manner in which particular ideologies have configured, since the modernity and up to now, various projects of social change. In this respect, I follow an idea specific to contemporary perspectives, according to which "a general concept of ideology not only provides a more solid framework for a critical approach, but also allows comparison among different kinds of ideologies, the changes of ideologies from systems of resistance to systems of domination (or vice versa), and a more coherent and complete study of the embedding of ideologies in social cognition as well as in social structure."[5] This study aims to be a propaedeutic approach to the latter subject. Secondly, I mention

[4] Daniel Şandru, *Reinventarea ideologiei. O abordare teoretico-politică* (*Reinventing ideology. A theoretical political approach*) (Iaşi: Institutul European, 2009), 157.

[5] Teun A. van Dijk, *Ideology. A Multidisciplinary Approach* (London: Sage Publications, 1998), 11.

that the methodology I use in order to accomplish the objective stated before involves compared conceptual analysis, definitional analysis and textual interpretation, with the purpose of 'extracting' the issue of the relationship between ideology and knowledge – be it social or scientific – from the strictly delineated framework of the history of political ideas, sociology of knowledge and epistemology. This is where I should make my third specification: supposing, clearly, a reference to all these fields – unavoidable in such a context – my interest is to create interdisciplinary connections with areas of knowledge such as those represented by discourse analysis, social psychology, social anthropology or communication sciences. I consider that, taking into account both the cognitive and epistemological and the theoretical-political, social, symbolic or discursive aspects of ideology, the subsequent development of an *integrated theory of ideology* may transform from an intellectual promise into a possibility.

1. Ideology and the projection of social reality

If we acknowledge that "ideology" is a term that, during its short intellectual history, has gathered a particular semantic ambiguity, we may also accept the idea according to which, paradoxically, the use of the concept has entered, in Marx's posterity, a 'routine' stage, its meaning being usually associated with a 'distortion' of reality. Both in epistemological research and in the studies belonging to social and political theory, 'Marx's trap' – the so-called scientific sentence according to which ideology expresses a false view on reality, being a tool by which the social establishment maintains its domination in order to fulfil its interest – seems to attract most theorists, despite the de-structuring of the analysis in terms of the 'class struggle.' I shall not insist here upon this manner of placing the various approaches to ideology, but I shall just briefly specify that both from the perspective of epistemology and social-political theory, we can identify a variety of views relating to this term.[6] What I intend to do is to identify – starting from a positive definition of the concept, with reference to its essentially social function, that of integration-identity – how ideology projects the type of reality wherein it can manifest itself. Epistemologically, we may recognise undoubtedly two types of reality: physical – often seen as 'objective', that is, independent from human or social presence, and social – deemed to be, above all, a field of individual and group intersubjectivity. Obviously, I am interested in

[6] I have attempted to draw up an analytical systematisation of the views belonging to the *epistemological perspective* – objectivist, relativist-relational and pragmatist – and also to the *theoretical-political and social perspective* – negative, neutral and positive – in Şandru, *Reinventarea ideologiei*, 48-116.

the latter form of reality, as at the level of its configuration we may highlight the presence of ideology. However, I stress the idea – that I shall not detail here – that, besides those belonging to social reality, the interpretation of the phenomena belonging to the physical reality may also be 'loaded' with ideological significations.

In what regards social reality, the subject of debate in this section, it must be said that its ideological projection is possible due to the existence of an *epistemic contextualism* shared by any human community. In other words, by their essentially social existence – and thus by the inter-individual and inter-group relationships that they develop – human individuals configure a common ground based on which they explain reality – participating as subjects to its construction – and that provides them, at the same time, with the tools needed for social knowledge. In this stage, I shall examine only the first assertion of the abovementioned double series – that is, the members of society build its reality. Why do I think that such a construction is actually an ideological projection? First, let's discuss the problem of society as a form of organisation of inter-individual and inter-group relationships. Beyond a simple sociological definition that would counterpoise the concept of "society" to that of "state" or that would analyse the former in relation to the latter, my hypothesis is that a given society may be understood as an ideological construction, that is, a framework wherein ideology (or particular ideologies operating in a procedural competition) manifests itself and whose evolution it may influence, decisively or secondarily, depending on certain socio-historical circumstances (understood as contingent, unpredictable and thus non-deterministic). It is not the case, I must add, of a static framework, for the plain reason that, as some contemporary theorists would suggest, "humanity is a project in the making."[7] To exemplify, I stress the fact that current Western-based democratic societies may be seen as products of an ideological projection as each of their institutions (the Constitutional framework, political, economic and social contractualism, the separation of powers, the distinction between the public and the private, and so on) represent expressions of an ideological instituting. The functioning of this framework, of the relationships that form it and of the institutions that express it – all these representing, in fact, the *reality* of that society – is nevertheless impossible in the absence of a common discursive universe whose general form is (beyond written norms and as their origin) *the social imaginary.* Or, at its level, the role of ideology is particularly obvious, as a system of beliefs that articulate a series of social practices that are continually evolving, practices that it also legitimates in discourse. Such an image expresses, from my point of view, what authors such as Cornelius Castoriadis

[7] Steve Fuller, *The New Sociological Imagination* (London: Sage Publications, 2006), 22.

named, during the second half of the last century, "the imaginary institution of society,"[8] even if this position was against the Marxist tradition to which they claimed to belong, wherein

> the link between ideology and the imaginary has generally been subsumed, however, to an overall opposition between reality and ideas; ideology and the imaginary stand together on the side of ideas, constituting a sort of ethereal medium which veils the hard reality of material production.[9]

As the sum of the discursive-symbolic elements belonging to a community, the social imaginary ideologically articulates a type of reality that bestows on the member of society the possibility of integration, and thus providing them with a sense of identity and also of 'ontological security.' Among these discursive-symbolic elements, developing as a system of beliefs expressed with reference to the social, economic or political present, ideology holds a privileged place. At the level of the social imaginary there are, of course, other discursive-symbolic elements whose nature is systemic, and the most notorious are myth and utopia. I shall not insist in this context on the details regarding the relationships between ideology, myth and utopia, discussed somewhere else,[10] but I shall just say that if myth may be included into the ideological level, utopia is an aspect of the imaginary that motivates the collective mind towards a radical change of the present, without offering, however, possibility guarantees for the projects it advances. By circulating beliefs regarding the current structure of the community, which also have a guiding role for social practices, the imaginary institutes ideologically certain attitudinal and behavioural practices. The reality produced as a result of this process is not a simple sum of particular isolated social practices but an evolving institutional framework wherein the members of society share individual and collective experiences by establishing relationships. Obviously, knowing this reality depends to a considerable extent on the individual's abilities, on the adaptive character of the knowing and acting subject but all these would result – at his level and in the absence of what I have previously called epistemic contextualism – in cognitive dissonance. The social imaginary and, consequently, ideology, plays a manifest part in the architectural design of the epistemic context wherein the members of society manifest themselves, mainly through language (be it verbal or non-verbal). In its absence,

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[8] Cornelius Castoriadis, *The Imaginary Institution of Society* (Cambridge, MA: MIT Press, 1975).

[9] John B. Thompson, *Studies in the Theory of Ideology* (Berkeley: University of California Press, 1984), 16.

[10] Şandru, *Reinventarea ideologiei*, 116-56.

not only social knowledge but also the institution of society would be impossible and, in this respect, ideology ensures the transmission of its main articulations from one generation to the other. Being the aspect of the imaginary that is permanently linked with social reality[11], ideology is, in its turn, influenced by it. Thus, the relationship between ideology and social reality is not unidirectional, purely causal, with the meaning that the former would be the cause of the latter. There is an ideological projection of society and of reality through which it expresses itself, just as there is, at the ideological level, the possibility to know this reality – a matter that I shall approach in the final section of the paper – but it is equally true that, in its turn, society and its corresponding reality influences the evolution of ideological schemes. Subsequently, we are dealing with a bi-univocal relationship: as a central figure of the social imaginary, ideology institutes a certain society and, corresponding to it, a certain type of reality (I do not discuss here if this happens in the interest of a group or if, having interest as a motivation, ideology also institutes, as a result, the phenomenon of domination, even if it is presumable that, where it manifests itself, interest and domination are, in Durkheim's acceptation, normal social facts) developing, at the same time, into an instrument of knowing this reality, but ideology is influenced, in its turn, by the social evolution that it motivates. And this bi-univocal relationship is visible over the entire road from ideas to social practices and back[12]. What emerges from this perspective is the fact that ideology manifests itself, on the one hand, at the level of the social imaginary shared by a society and at the level of its institutionalised practices (formal or informal), and on the other hand, at the level of the individual members of the community, owing to the existence of the epistemic context evoked before. The latter ensures the possibility of an intelligible and coherent discourse at the community level and the conditions necessary for any individual to adapt to social life. Hence, we should understand

[11] This aspect is also underlined by John B. Thompson (*Studies*, 26), when he says that "ideology is a type of discourse which no longer sustains legitimacy by referring to a transcendent realm, a realm of gods, spirits or mythical figures. Ideological discourse is inscribed in the social itself (…)."

[12] Even if he does not use the term *ideology*, the image of this bi-univocal relationship is expressively showed, I believe, by Charles Taylor: "What exactly is involved when a theory penetrates and transforms the social imaginary? For the most part, people take up, improvise, or are inducted into new practices. These are made sense by the new outlook, the one first articulated in the theory; this outlook is the context that gives sense to the practices. Hence the new understanding comes to be accessible to the participants in a way it wasn't before. It begins to define the contours of their world and can eventually come to count as the taken-for-granted shape of things, too obvious to mention" – Charles Taylor, *Modern Social Imaginaries* (Durham and London: Duke University Press, 2004), 29.

that, although it is essentially a collective product, ideology may be assumed individually, as with reference to its elements each member of the community is able to access its specific role in the social context. Subsequently, from this point of view,

> ideology's main socio-psychological function on an individual level is thus the normative one of endowing human beings with a sense of identity, purpose, and reality, and of enabling them to be convinced of the self-evident justification and normality of their actions, despite considerations apparent to external observers that may show these to be illusory, subjective, or generated by psychological drives, material interests, or supra-individual (historical) factors. As such, ideology is an integral and constitutive aspect of all human culture, and is endowed with the paradoxical quality of being, according to specific contexts, either replicatory and coercive, or innovative and emancipatory.[13]

Thus, we reach an issue that has been approached by the sociology of knowledge since the first stage of its development, under the "guidance" of Karl Mannheim, which was detailed afterwards in the context of Peter Berger and Thomas Luckmann's "constructivism" and was finally reiterated even more vigorously within the studies referring to the 'technology of science,' first by authors like David Bloor, during the first decades of the last century, and now by contemporary theorists such as Steve Fuller – the issue of the individual's positioning in relation to the social reality wherein he is 'encapsulated' and of his involvement in the very process of social cognition. If ideology is a collective product, and not an individual one, does this mean that the particular members of society are not given any possibility to leave their mark on the process of instituting the reality specific to it? So, this question draws our attention to the idea of the social determination of knowledge. In the attempt to answer it, I say once more that, although social knowledge is not entirely ideological, the ideological element is nevertheless present in the process of its configuration. Of course, individuals may have their own beliefs regarding social reality, beliefs that are not necessarily ideological. Beliefs are ideological and, as such, they are expressed in discourse or in the form of social practices when they are shared at the level of the group or at the general level of society. However, even particular beliefs that are not socially shared are not exclusively individual products, since, in the Lockean acceptation, the human mind is originally a *tabula rasa* that registers, through the means of the socialising process, the data necessary in order to integrate into the community. Thus, there

[13] Roger Griffin, "Ideology and culture," in *The Meaning of Ideology. Cross-Disciplinary Perspectives*, ed. Michael Freeden (London and New York: Routledge, 2007), 79.

are also projections that find their resources in the social imaginary and that may become ideological as long as they are shared by others. Hence, the ideological effect is visible at the crossroads between the subjective tendency to make sense of reality and the intersubjective expression of this reality, as it is projected by various discursive-symbolic elements. On the other hand, as a knowing subject who participates in the process of social cognition, the individual manifests his subjectivity in the attempt to explain reality. Of course, this does not mean that reality, be it physical or social, is a projection of the individual mind. If the former type of reality exists independently of the mental projections of the knowing individual – being likely to become, however, an object of interpretation, even theological interpretation – the latter is a collective product that may be subjectively valued by the individual. When such a subjective valuation is penetrated by the system of beliefs shared at the social level, being followed by the adoption of certain attitudinal and behavioural patterns and by the integrative participation in certain social practices, the individual contributes, as a member of the community, to the institution of the social. This results in at least two aspects: first, there cannot be a reality that could be called *social* in the absence of a collective perception related to it; secondly, this reality results from the meeting of the intersubjectivity specific to social relations and individual subjectivity. Social reality is therefore an ideological construction, its foundations being the beliefs that, dwelling in the imaginary and being socially shared, create an epistemic context owing to which the members of society are able to contribute both to the institution of the practices needed for structuring and to the development of social knowledge. The ideological projection of social reality implies the existence of a meaning accessible to all the responsible members of a society. This is the issue discussed in the following section.

2. Ideology and the construction of social meaning

Up to now, I have analysed the relationship between the 'strong figure' of the social imaginary, namely ideology, and social reality as an expression resulting from the process of instituting society. Next, I am interested in attempting to offer an explanation regarding how ideology provides the conditions needed for the *comprehension* of this reality by the members of an organised community and in this respect I talk about the construction of social meaning. Bearing in mind that ideology offers "(…) coherent sets of values around which individuals and groups may organize,"[14] I

[14] Raj P. Mohan and Graham C. Kinloch, "Ideology, Myths, and Social Science," in *Ideology and the Social Sciences*, eds. Graham C. Kinloch and Raj P. Mohan (Westport, Connecticut, London: Greenwood Press, 2000), 8.

follow the process of instituting *ideological conventions* whose role is to provide a collective sense of the reality that is socially organised through institutions and norms, both formal and informal, that, in their turn, are expressed in various social practices. From this perspective, my assumption is that these ideological conventions, whose position is essentially discursive, play a very important explanatory role, ensuring the semantic coherence between the subjective (individual beliefs) and the intersubjective interpretation (collective beliefs with an ideological nature) of social reality and, through it, the construction of social meaning. Integrated into a system at the level of society as a whole, beliefs appear as ideas that offer guidelines for social inclusion.[15] It becomes obvious that they are unavoidable in the process of social knowledge that will be ideologically analysed in the following section. Returning to the ideological construction of a social meaning accessible to all the responsible members of society, it should be specified that I do not adopt here the idea of "a single thought." On the contrary, I am aware of the fact that the individuals involved in the social game, being members of society as a whole as well as members of various groups and passing through a process of socialisation that may imply considerable differences from one case to the other, are compelled to put to use their own subjectivity in the attempt to configure the meaning of social reality. In this respect I do not refer to understanding ideology like a "total thought" that imposes on the individuals a single meaning of social reality – even when, as in the case of the particular ideologies of totalitarianism, this was attempted in the history of the 20th century, it led to social, political and human failure. Given the existence of a crossroads between the individual, subjective beliefs and those shared at the social level, intersubjective, I presume that their meeting results in the institution of the *ideological conventions* based on which ideology itself is able to fulfil its integration-identity function. Beyond it, it is clear that at the level of particular ideologies there are different interpretations regarding social reality (for example, the issue of the relations between the state and the economic field is interpreted in a different manner by liberalism, conservatism and socialism), but such a state of affairs does not annul the existence of some ideological conventions whose presence guarantees, within a democratic society, even the likelihood of a relative consensus on public policies among the ideological groups that are

[15] As underlined by an author who has already become a classic, "the production of these ideas, irrespective of their explanatory worth, is a social production. It is an effort undertaken by society as a whole to solve outstanding problems confronting man as a whole" – Irving Louis Horowitz, *Philosophy, Science and the Sociology of Knowledge* (Westport, Connecticut: Greenwood Press, 1976), 86.

procedurally competing. It is just as obvious that, at the individual level, there are various degrees of systematisation of the information acquired during the process of social knowledge. Without reiterating the idea, cherished by Marxism, that referred to class determinism, it should be remembered that the process of knowledge itself, be it social or scientific, is existentially determined and thus directly connected to the social and historical circumstances wherein it is produced.[16] Therefore, different individuals, members of different groups, will have a differentiated access to social meaning, based on the existence of some ideological conventions but this does not annul, nevertheless, the existence of a meaning that they discover during the process of social knowledge.

In this direction, following a Piaget-based approach but also trying to go beyond it, some theorists have talked about a specific form of understanding society, called "political reasoning,"[17] considering that it "(…) is itself a product not only of the individual subject, but also of the larger society. In my view, these two forces, subjective and collective, are dialectically related – each defines and is defined by the other. As a result, both individuals and societies may develop."[18] Developed in this form, the process of establishing a meaning relating to social reality, an essentially socio-psychological process, is characterised by the existence of three stages – sequential, linear and systematic – each generating corresponding structures of reasoning. Such a developmental approach implies, of course, the dependency of knowledge on the social environment, an environment ideologically 'impregnated' that stimulates the individuals to identify solutions of integration into the socio-political field. From this perspective, it becomes obvious that

> social life is therefore a collective product. Social organization and cultural definition are not a product of the individuals nor is their true nature understood by them. None the less, the individual does become aware of these collective constructions and is affected by them. They regulate his exchange with others and therefore apply to actions and definitions as he understands them. Consequently, they pertain to experience as he construes it and are recognized by him. Through his recognition, these collective constructions enter the individual's meaning-making activity.[19]

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[16] Howard Williams, *Concepts of Ideology* (Sussex: Wheatsheaf Books; New York: St. Martin's Press, 1988), 23-41.

[17] Shawn W. Rosenberg, *Reason, Ideology and Politics* (Princeton: Princeton University Press, 1988).

[18] Rosenberg, *Reason*, 85.

[19] Rosenberg, *Reason*, 90.

Being connected to social reality – an ideological projection at the collective level – the individual who is a member of the community passes successively from the stage of subjective construction to that of denying his own projections and then to that of meditating about the elements implied by the epistemic context and finally reaching the stage of reconstructing the social meaning. These stages are present, Rosenberg assures us, during all the three stages of development of political reasoning, whose comparative assessment is summarised in the table on the next page.

From this 'comparative table' of the three ideal-types of ideological thought or of "political reasoning" it clearly results that within the same type of society or – why not? – within the same ideological group there can be various degrees of social knowledge and, implicitly, differentiated ways of constructing a meaning related to social reality. As it is easily seen, the approach is one that pays special attention to the socio-psychological factors undoubtedly important in the context of a discussion referring to the ideological foundations of the social. Likewise, such elements may be heuristically valued within a debate focussing on the problem of the ideological foundations of social knowledge since we can identify, at the level of the "features of political thinking" described by Rosenberg, some elements of the epistemic context shared by the members of a society, elements that are institutionally expressed by what we have previously called *ideological conventions.*

Table 1

TYPES OF POLITICAL REASONING	FEATURES OF POLITICAL REASONING
SEQUENTIAL POLITICAL REASONING	"The questions which guide the intellectual activity of the sequential thinker are: What does this look like? What happens next?"[20] "The political reasoning of the sequential thinker is grounded in the concreteness and temporality of his observations of the social and political activity. It involves identifying phenomena by matching current observations with memories of earlier ones and understanding their use by observing how they are articulated in a sequential order of events."[21]
LINEAR POLITICAL REASONING	"The basic questions here are what was the cause of an observed effect or what future effect will an observed cause produce?"[22] "The political reasoning of the linear thinker does not simply involve a

[20] Rosenberg, *Reason*, 102.
[21] Rosenberg, *Reason*, 105.
[22] Rosenberg, *Reason*, 116.

TYPES OF POLITICAL REASONING	FEATURES OF POLITICAL REASONING
LINEAR POLITICAL REASONING	"The basic questions here are what was the cause of an observed effect or what future effect will an observed cause produce?"[22] "The political reasoning of the linear thinker does not simply involve a recording of what he observes or has reported to him. Rather, he naturally analyzes the component features of an event and constructs relations between them. Thus, he thinks of social and political life in terms of its constituent actions and considers these as they are causally related to one another."[23]
SYSTEMATIC POLITICAL REASONING	"Systematic thinkers juxtapose relationships among actions and beliefs. They recognize that these relationships are either objectively determined or subjectively constructed and therefore consider them relative to one another."[24] "The political space constructed by the systematic thinker is an encompassing one. On the one hand, it has an objective dimension and provides a context for interaction and exchange. On the other, it has a subjective dimension and provides a context for propositions and judgements. In both cases, this space extends beyond what is immediate and known to that which may be deduced."[25]

However, in order to identify their presence – referring to concrete elements visible in any society at the level of social institutions and that are reproduced in discourse from a generation to the other as codes, norms, rules, habits, behaviours, etc., formal as well as informal – we can resort to an argument coming from the area of the interdisciplinary research concerning ideology carried out by the theorist Teun van Dijk, who believes that defining ideology means referring, among others, to the fact that it is formed by "(…) social representations that define the social identity of a group, that is, its shared beliefs about its fundamental conditions and ways of existence and reproduction."[26] From this point of view, I think we can accept the definition according to which *ideological conventions represent the social-institutionalised expression of the beliefs shared by the members of a society,*

[22] Rosenberg, *Reason*, 116.
[23] Rosenberg, *Reason*, 119.
[24] Rosenberg, *Reason*, 137.
[25] Rosenberg, *Reason*, 144.
[26] Teun A. van Dijk, "Ideology and discourse analysis," in *The Meaning of Ideology. Cross-Disciplinary Perspectives*, ed. Michael Freeden (London and New York: Routledge, 2007), 111.

beliefs that serve as "landmarks" of social knowledge and that may modify their meanings in the context of the societal changes produced by this knowledge. What we can extract, first of all, from this definition of ideological conventions is that they are not the same thing as ideology itself, but are socially "grounded" expressions of the system of beliefs configured by ideology based on the constitution of an epistemic context. Secondly, owing to this context, the intersection of individual, subjective beliefs and of socially-shared, intersubjective beliefs becomes possible, and afterwards this allows the construction of the social meaning. Finally, based on this meaning, the individuals-members of a community may access social knowledge, a process whose fundamental product is social change. It should be stressed that, from my point of view, social change may influence in its turn the evolution of a society, implicitly affecting its ideological system of beliefs and all the elements related to it. As such, social change influences not only the beliefs ideologically systematised at the level of the social imaginary, but also the epistemic context formed by them, the ideological conventions instituted based on it, the way social meaning and social knowledge itself are built. The new elements emerging as a result of social changes infiltrate the ideological system of beliefs; they configure new social practices and reproduce themselves, in their turn, through discourse. What remains constant is, if you wish, the ideological architecture of this process. However, beyond this, we are dealing with an evolving model whose applicability in the form of the ideological analysis of society as a whole, of social knowledge in particular, is possible if we opt for an interdisciplinary approach able to make an equation, as van Dijk also suggests, of at least three elements, namely cognition, society and discourse.[27] Such a model – whose development could also be supported by the epistemological instruments of some fields such as empirical political theory (by its application in the analysis of particular ideologies), social anthropology (by illustrating ritualised ideological conventions) or communication sciences (by configuring an analysis framework of the manner in which ideological conventions are instituted with the help of communication channels) – may become a starting point for the development of an *integrated theory of ideology*.[28]

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[27] van Dijk, *Ideology*, 5.

[28] Contrary to van Dijk, who expressed the possibility of constructing a "general theory of ideology," I prefer to talk about an *integrated theory* because the term "general" seems to announce a promise that is difficult to keep, hiding a principle similar to "all or nothing." Or, it is difficult to argue that an admirable approach such as that of the Dutch theorist, based on the threefold formula of cognition, society and discourse, may nevertheless have a "general" extension able to deplete all the perspectives from which ideology has been studied. On the contrary, I believe that an *integrated theory of ideology* gains its conditions of possibility not

The ideas presented up to now have referred to the relationships between ideology and social reality and also between ideology and social meaning as a necessary stage for the access of individuals to social knowledge. I attempt to sketch an ideological analysis of this process in the following section.

3. Ideological analysis of social knowledge

The contemporary approaches of the theme that has already become classic in social and political theory studies, that of the relationship between ideology and knowledge, suggest that "if the concept of an ideology is reserved for *determining* factors of knowledge in the sense of Weber's "presuppositions," rather than for the situationally *determined* contents of thought, it may serve an important function."[29] However, the social determination of knowledge itself is, even today, an unavoidable aspect for a perspective that implies the presence of ideology as an epistemological instrument, just as this perspective intends to be. In the previous sections, I have argued in favour of the idea that ideology actively participates in the configuration of social reality, instituting, as a 'strong figure' of the social imaginary, certain conventions that allow the construction of the social meaning that makes possible the access to social knowledge. In the lines that follow, my intention is to support the other role allotted to ideology at the beginning of this paper, namely that of epistemological instrument. In this respect, I am interested in identifying a methodology suited for the ideological analysis of social knowledge in order to highlight the influence that the system of beliefs involved in ideology has on it and implicitly on the process of social change. Therefore, I reiterate the idea that, even if social knowledge is not entirely ideological, ideological elements are unavoidable in the process of configuring this knowledge, contributing in a decisive manner to the changes emerging at the societal level and being, in their turn, influenced by them. Coming back to Weber's term of "presuppositions," it must be said that, in the process of knowledge, they represent factors that influence both the knowing subject and the object of knowledge. Knowledge itself, as a process, cannot escape this situational determination, even if it is not exclusively ideological. What I want to underline is that, as long as it contributes to the institution of society and the

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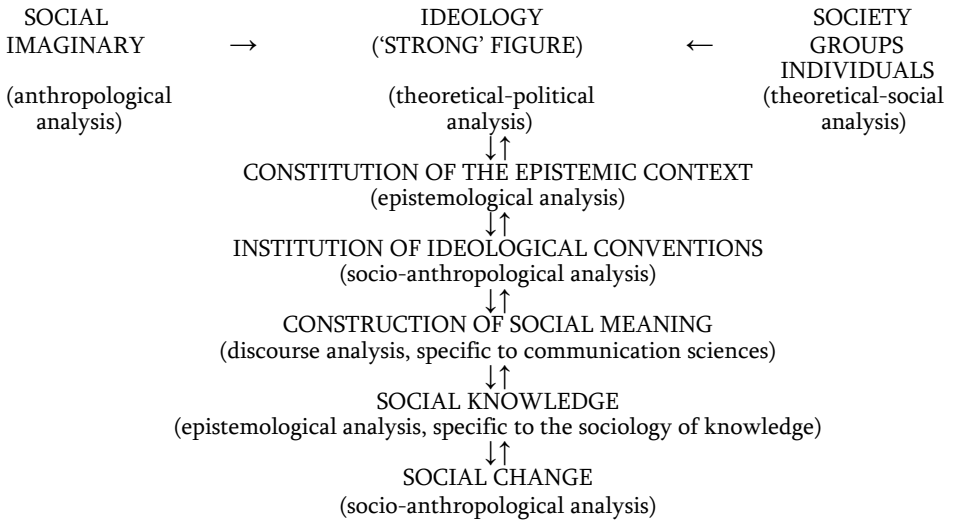
only by an extensive degree of generalisation – that it rejects, by the way – but also through the "integration" of the most important perspectives of ideology analysis.

[29] Wolfgang von Leyden, "The situational 'determination' of ideological and utopian concepts. The 'Frankfurt' School: Mannheim, Horkheimer, Marcuse," in *Ideology and Politics. Idéologie et politique*, eds. Maurice Cranston and Peter Mair (Firenze: European University Institute, 1980), 102.

social reality it expresses, ideology may become an instrument serving in construing this reality. Going further, ideology thus contributes to the emergence of social changes. Methodologically, the model of ideological analysis that I advance is an integrated one – therefore, it supposes interdisciplinary views – and can be visualised in the figure presented below:

Figure 1: The integrated model of ideological analysis of social knowledge



Since this model represents, in this stage, only an operational hypothesis, it is understandable that I do not aim to apply it in this context. Therefore, I shall pursue the ideological analysis of social knowledge working with the tools provided by the theories configured by the epistemological debates from the field of the sociology of knowledge. I hope that the later development of the ideas displayed in this paper would allow me to apply the abovementioned model within the larger framework of an integrated theory of ideology.

What does social knowledge mean in our age? Even if it seems to be a question that would usually have a truism as an answer, this interrogative turn of phrase is fully justified if we have in mind, on the one hand, the news announcing "the end of knowledge," emerged in the end of the last century – one that, in fact, claimed the rejection of the old way of understanding the process of knowledge (even on its declared "scientific" side) as one that would be strictly separated from the social environment[30] – and, on the other hand, the fast pace of the development

[30] Steve Fuller and James H. Collier, *Philosophy, Rethoric, and the End of Knowledge: A New Begining for Science and Technology Studies* (London: Lawrence Elbaum Associates Publishers, 2004).

of knowledge, a pace that results directly in various changes at the societal level. Hence, it is not by chance that we talk about the identification of social knowledge in a society that has been defined in various ways during the last 50 years. For example, as shown by the social theorist David Goldblatt, the society of the last years of the past century and the first years of the new millennium has been characterised in at least three ways, each of them implying various definitions.[31] First, there was the *knowledge society*, whether it was defined as a "post-industrial society" or a society characterised by "knowledge economy and the communications revolution." Another manner of characterising the contemporary social space labelled it as "the fragmented society," insisting upon underlying expressions such as "post-Fordism" or "post-modernism." Finally, as some social theorists became aware that humanity could face the possibility of a global catastrophe led to the society specific to our age being called "the risk society." Therefore, what type of social knowledge corresponds to the contemporary society, aside from the labels assigned by the various theories mentioned above? This is an issue that social theorists must address, so, according to Goldblatt, "(…) the first precondition of an effective engagement by the social sciences with the world of knowledge is a recognition of the plurality and diversity of knowledges."[32] Beyond this plurality of forms of knowledge, the contemporary society is one wherein the process of gathering knowledge is not static, but is incessantly transforming, given the social pressure exerted to provide solutions in ever-changing circumstances. As a result, the issue is an acute one for scientific knowledge, whose 'sanctuary' has been 'de-constructed' since the second part of the last century. The unprecedented communicational democratization of the contemporary society, the winding social trajectories imposed by the globalisation process, the post-functionalist relativisation of truth and showing the profound relationships between the process of producing scientific knowledge and technology development, on the one hand, and the phenomenon of political power, on the other, are as many reasons that 'ideologise' even scientific knowledge, up to the point where in the 'latest' approaches of social epistemology theorists talk about "the governance of science," arguing that

> (…) the mystery surrounding science as a political concept lies less in its day-to-day business (i.e. 'research'), than in its capacity to speak on behalf of the whole humanity in a way that transcends national differences as well as other

[31] David Goldblatt, "Living in the after-life: knowledge and social change," in *Knowledge and Social Sciences: Theory, Method and Practice*, ed. David Goldblatt (London and New York: Routledge, in association with The Open University, 2000), 121-42.

[32] Goldblatt, "Knowledge and social change," 2.

> cultural and economic barriers. In that sense, science is a vehicle of global governance.[33]

In what regards social knowledge, the role of ideology is still predominant, despite the cyclic reiteration of the "positivist" expectation that there is a way to separate the knowing subject from the socio-political environment of the existence of human beings and, implicitly, to place it in a privileged position, completely "de-ideologised." It is not by chance that the research in social epistemology launched when "the Strong Programme in the sociology of knowledge" (SSK) was established in Great Britain, argued that "cognitive and social order cannot be understood in isolation from each other, even when one analyses the contents of the most esoteric forms of scientific and technical knowledge"[34], that "(…) scientific knowledge should be studied just like any other kind of belief system"[35] and that "(…) knowledge, like any other social institution, is the product of goal-oriented collective action."[36] However, these assertions are not the only one able to explain the ideological orientation of knowledge in our society. Returning to the way I have defined ideology in the beginning of this study, as a system of beliefs shared at the level of society and that configure some action-oriented strategies able to ensure community integration and identity, it is clear that the analysis I advance assigns such a meaning to social knowledge itself. Without being ideological in its profound nature, the latter is nevertheless dependent on the social environment that is ideologically constructed. Therefore, analysed with the help of the epistemological valences of the concept of ideology, social knowledge proves to be, in our age, a true "action generator:" "Knowledge, as a generalized capacity to act, acquires an "active" role in the course of social action only under circumstances where such action does not follow purely stereotypical patterns (Max Weber), or is not strictly regulated in some other fashion. Knowledge assumes significance under conditions where social action is, for whatever reason, based on a certain degree of freedom in the courses of action that can be chosen. The circumstance of action we have in mind may also be described as the capacity of actors to alter or stabilize a specific

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[33] Steve Fuller, *The Governance of Science: Ideology and the Future of the Open Society* (Buckingham, Philadelphia: Open University Press, 2000), 8.

[34] Massimo Mazzotti, introduction to *Knowledge as Social Order. Rethinking the Sociology of Barry Barnes*, ed. Massimo Mazzotti (Aldershot, Hampshire: Ashgate Publishing Limited, 2008), 3.

[35] Mazzotti, introduction.

[36] Mazzotti, introduction, 8.

reality (*Gestaltungsspielraum*)."[37] Here, it should be specified that the significations assumed by knowledge when it puts to use its capacity to act is a fact that happens in relation to the epistemic context existing at the social level, as it is connected to the use of some categories and concepts that are previous to the new discoveries. If, as result of the new addition, knowledge produces social change and thus determines the introduction of new significations, the latter manifest their influence not only on social reality but also on ideology, which is a constituting factor of that reality. Due to the changes occurring both at its constituting level and at the level of the knowledge through which its members connect to the reality produced by the intersubjectivity specific to the human factor, contemporary society is no longer a society wherein knowledge belongs exclusively to the elites or to professionals. Being formed by an audience that is better informed and educated, more attentive to the contradictions projected by scientific debates and to the relationship between gathering knowledge and gathering power, society exerts more pressure on the process of knowledge in general and on that of social knowledge in particular. Today, it is obvious that

> language, institutions, power, and social change and social problems all drive, shape and influence the content of any one knowledge system, its blind spots and strengths, its trajectory of internal development, its relative standing and legitimacy.[38]

In this framework, the task of a theory of ideology could be that of identifying – including by applying the integrated model of ideological analysis – how the process of knowledge in the contemporary society could be oriented so as to be in line with the requirement of preserving identity under the circumstances of this genuine postmodern 'fragmentarium.'

Conclusions and open questions

In this study, my objective has been to support with arguments the idea according to which the positive definition of the concept of ideology – with reference to its essentially social function, that of integration-identity – allows to identify how ideology projects that type of reality wherein it can manifest itself and thus it transforms into an instrument through which this reality can be understood. Our endeavour, based on a methodological approach that used compared conceptual

[37] Gotthard Bechmann et al., *The Social Integration of Science. Institutional and Epistemological Aspects of the Transformation of Knowledge in Modern Society* (Berlin: Edition Sigma, 2009), 22.

[38] Goldblatt, "Knowledge and social change," 155.

analysis, definitional analysis and textual interpretation (with the purpose of 'extracting' the issue of the relationship between ideology and knowledge – be it social or scientific – from the strictly delineated framework of the history of political ideas, sociology of knowledge and epistemology) has led me to the conclusions summarised below:

1. Being the sum of the discursive-symbolic elements belonging to a community, *the social imaginary* articulates ideologically a type of reality that bestows on the members of a society the possibility of integration, thus providing them with a sense of identity and therefore of 'ontological security'. Among these discursive-symbolic elements, developing as a system of beliefs that are expressed with reference to the social, economic or political present, *ideology* holds a privileged place;
2. The ideological projection of social reality is possible due to the existence of an *epistemic contextualism* shared by any human community. In other words, by their essentially social existence – and therefore by the inter-individual and inter-group relations that they develop – human beings configure a common ground based on which they explain reality – thus participating, as subjects, in its construction – and that provides them, at the same time, with the instruments needed for social knowledge;
3. The relationship between ideology and society is bi-univocal: as a central figure of the social imaginary, ideology institutes a certain society and, corresponding to it, a certain type of reality, while being, at the same time, an instrument of understanding this reality, but ideology is, in its turn, influenced by the social evolution that it motivates. This bi-univocal relationship is visible over the entire road from ideas to social practices and back.
4. Social reality is an ideological construction, its fundaments being beliefs, which, while being positioned in the imaginary and socially shared, create an *epistemic context* owing to which the members of society can contribute to both the institution of the practices needed for structuring and the development of social knowledge;
5. The existence of the epistemic context makes possible a crossroads between the individual, subjective beliefs of the members of society and the intersubjective ones, shared at the social level, and thus instituting *ideological conventions*. They represent the *social-institutionalised expression of the beliefs shared by the members of a society, beliefs that serve as "landmarks" of social knowledge and that may modify their meanings in the context of the societal changes produced by this knowledge*;

6. Since, being based on new additions, knowledge produces *social change,* it may determine the introduction of new meanings which could infiltrate the epistemic context, influencing ideological conventions and thus not only social reality but also ideology, as a constituting factor of that reality.

Based on this understanding of the relationship between ideology, reality, knowledge and social change, I have advanced an *integrated model of ideological analysis,* stating that its applicability is possible if we opt for an interdisciplinary approach. Such a model, whose development could also be supported by the epistemological instruments of such fields as empirical political theory (by its application in the analysis of particular ideologies), social anthropology (by illustrating ritualised ideological conventions) or communication sciences (by configuring an framework of analysis regarding the manner in which ideological conventions are instituted with the help of communication channels) – may become a starting point for the development of an *integrated theory of ideology*.

I would like to conclude by stressing that I am aware of the difficulties implied by such an intellectual challenge, and thus I consider this paper only a propaedeutic stage. I am also aware that, in this stage, we still need to find argumentative and methodological solutions to problems such as the shift from the normative analysis of ideology to the empirical treatment of particular ideologies, the agreement or disagreement of particular ideologies under the circumstances of the procedural competition implied by the democratic society of our age, the reconfiguration of ideology and knowledge in postmodernism, the construction of an interdisciplinary direction in the analysis of this reconfiguration. All these are issues that subsequent research may just as well confirm or refute. Nevertheless I believe that a proper knowledge of the social cannot ignore the questions related to such issues and that the idea of a *knowledge-based society* itself compels us to answer such challenges.

REVIEWS

Tor Nørretranders, *Iluzia utilizatorului*, Editura Publica, 2009

Romanian translation of Tor Nørretranders, *The User Illusion. Cutting Consciousness Down to Size*, Penguin Press Science, 1999, translated by Laurențiu Staicu

Reviewed by Horia-Costin Chiriac[1]

Tor Nørretranders, a Danish science writer, proposes in his book, *Iluzia utilizatorului* (Publica, 2009), a very interesting perspective on one of the most important problem in the history of philosophy, but also in the history of science: the problem of consciousness, more precisely, the problem of understanding the nature, the limits and the dynamics of consciousness. It is generally known that the understanding of consciousness is a key part of every scientific or philosophical endeavor of understanding the human being. Therefore, a step forward in this direction would have important consequences for various fields as epistemology, anthropology, psychology and many others. Tor Nørretranders succeeded both in underlying the main problem – the specific features of consciousness as one can understand them today using recent scientific results – and developing in the same time a coherent analysis of the multiple consequences of such discoveries on various themes and fields of investigation. He also emphasized with remarkable accuracy the importance of numerous links among the development of different scientific theories in natural sciences and collateral developments in psychology and information theory.

The book begins with an overview of some episodes in the history of modern physics, having in the center the character of James Clerk Maxwell. There are two aims for such an approach in the first chapter of the book. On one hand, the introduction of the so-called "Maxwell's daemon", an imaginary creature capable to identify and to separate the fast molecules of a gas from the slow ones, represented

[1] ACKNOWLEDGEMENT: This paper was made within The Knowledge Based Society Project supported by the Sectoral Operational Programme Human Resources Development (SOP HRD), financed from the European Social Fund and by the Romanian Government under the contract number POSDRU ID 56815.

a key point in the conceptual development of thermodynamics, having also important consequences as regards the information theory and the central concept of "information bit". Moreover, the information theory constituted an important departure point in the development of recent psychological approaches of human mind and consciousness. On the other hand, Maxwell himself was one of the most important scientists who became aware of the fact that unconsciousness played an important part in the process of obtaining the final form of the famous "Maxwell equations" that describe extremely well the properties of electromagnetic field. Together with Henri Poincaré, for example, he is one of those who understood the importance of unconscious processes even though in his period psychology did not develop proper concepts for understanding unconscious phenomena.

Consciousness represents the distinctive feature of human being that defines humanity and makes possible the development of knowledge. In the same time, its reflexive capabilities represented for a long time a fundamental condition for every attempt of understanding human condition and for every attempt of analyzing the human perspective about the universe. In this respect, at first glance, the book seems to be a reflective effort of understanding consciousness. However, the thesis of the book is a daring one and the arguments are tremendously various, the work of Tor Nørretranders having sometimes the characteristics of a wide synthesis. Introspection is not considered anymore the best method for defining consciousness, and the author uses many results of cognitive sciences and of neurophysiology for shaping an objective perspective on consciousness as a natural phenomenon.

An entire philosophical tradition that started with Descartes and continued with many great thinkers considered human being perfect capable to describe and to analyze himself using consciousness, therefore, such a tradition laid on introspection as privileged method for defining the human being by emphasizing his nature. For such philosophical tradition, the "transparent" human being was a viable concept. Tor Nørretranders is questioning such a tradition using some recent experimental results of Benjamin Libet and proposing even new concepts, like "exformation", for better emphasizing the specificity of consciousness. "Exformation" would be, in this context, the information eliminated by consciousness in its effort of selecting only the indispensable information that could be used in shaping an image about the external world. The amount of information eliminated in the process of structuring a message represents also an indicator of semantic complexity of that message, in deep connection with the environment in which that message could be understood.

The basic idea of the book is that consciousness represents only a small part of the information stream we live in. First, we are able to analyze only a small part of what we really are. Second, consciousness gives us the illusion of living in a

continuous world. The arguments given by the author of the book are diverse and very well linked, emphasizing the physiological particularities of consciousness. The consequences of such a discovery are important not only for psychology, but also for epistemology. Human beings are not transparent for their own attempt of understanding "from within" the nature of their mind. Their reflective capacity is a fragmentary one. Thus, they are unable to describe themselves in their entire complexity of states and dispositions.

Basically, the main point of Tor Nørretranders is that our consciousness is extremely limited in comparison with the huge quantity of information – over 11 millions of bits – received every second by our brains from the sense organs. Usually, our consciousness processes 1-16 bits per second, and its limit is of approximately 40 bits per second. As a consequence, the author observes that millions of bits are condensed to a conscious experience that contains very few pieces of information. In order to arrive at the special state named "consciousness", each of us discards millions of bits. Therefore, the amount of information is not essential for conscious experience, but the order of information is. In direct relation with this aspect, Nørretranders introduces the term of "exformation". "Exformation" represents, as we already mentioned, the information that we have gotten rid of, and computation is the means by which we discard information. This way the author is able to connect physiological particularities of consciousness as a process with computer science theories, underlying the fact that artificial intelligence technology inspired the new paradigm in psychology and other sciences dedicated to the study of consciousness. Thus, most of what we experience is not conscious. Far more happens around us and to us than we can possibly be conscious of. We sense far more than we are conscious of and we do not know – we cannot consciously know – very much of what goes on inside us.

What is also extremely intriguing is that we cannot consciously see the raw world outside us. Starting from the experiments conducted by Benjamin Libet, Nørretranders observes, "We do not actually see what we sense. We see what we think we sense". Rather, what we think of our senses represents an interpretation done by our unconscious minds, which are extremely active in discarding, filtering, and finally reconstructing the information coming in. What we experience directly is an illusion, a simulation that resulted from processing the incoming information. Our unconscious is permanently constructing for us the experience of a simulation. Moreover, it turns out that thinking implies a process of unconscious discarding of information and sorting through information, for discovering what is really important and what is dispensable. Therefore, thinking can be seen as highly unconscious, together with most of the experiences and operations that characterize a person.

All this unconscious activity takes about half a second, which makes us unable to experience the real time in real time. We experience it with half a second delay. Real time for us is about half second in the past. However, our minds make us believe there is no delay at all. Because of this readjustment made by our consciousness, "awareness of an outer stimulus is experienced as if it occurred immediately after the stimulus, even though in fact a half second passes before we become conscious of it."

In this point, we can compare the situation described by Nørretranders with a point and shoot digital camera that has also video recording features. What we see on the LCD screen of such a camera is actually a delayed image of the processes that take place in front of the lenses of the camera. In the moment of turning on such a device, the electronic circuits are active but no image is present on the screen. This situation lasts for a few seconds, depending of the performance of the electronic system. Such a delay and such a "temporal illusion", but much more complex and much more consistent as regards the ratio between the quantity of incoming information detected by our sensorial organs and the quantity of information we become conscious of, is present in human minds. Tor Nørretranders did not hesitate to identify, to exploit and to analyze the philosophical, moral, psychological and even religious implications of such a discovery that he considers to be "the user illusion".

As every sportsman could easily figure out, our reactions are much quicker than half a second and we often react to a lot that we never ever become conscious of. Therefore, it is possible to react without being conscious of, even without being conscious why. Many of our reactions and responses could occur without our consciousness being informed about what happened. This way, some of our actions that are sparked off are reprogrammed without our knowing why. In the same time, it is possible that some of our reactions occur unconsciously. Nørretranders observes that the learning of certain skills is a conscious process, but the application of them is not.

There are important consequences of such a situation that have influence on fields like morals, law and epistemology. The ways we conceive our knowledge of the world should change. Tor Nørretranders does not hesitate to examine them. To give an example, we can mention the problem of Jewish moral versus Christian moral. The first insists on the control of the facts, of the actions that a person could take because of different wishes. The second insists not only on actions, but considers even the existence of certain feelings and wishes as being inappropriate and sinful. Because consciousness controls only a tiny part of the information processed by our brains, some decisions, some wishes and some reactions appear, come into being at the unconscious level of our mind. In this respect, the Christian

moral principles are almost impossible to be respected and the Jewish ones, although compatible up to a certain point with human capacities of self-control, have important consequences on our behavior, on our nonverbal language, on our reactions and they contribute in this way to undermine the human capacity of respecting entirely the principles of the Jewish moral.

The user illusion we live with has also important implications as regards the status and the dynamics of what we consider our knowledge about the world. Consciousness remains the privileged capacity of the human brain that helps us describe scientifically the properties of the physical systems, but the importance of unconscious processing of information regarding the world has also a great importance in our decisions and it cannot be neglected anymore, also because it could influence the process of elaborating new scientific concepts. The physiological limits of human consciousness and its structure, which is characterized by complexity – a concept placed by Tor Nørretranders between chaos and order – , represent for the author the departure point for an elegant argumentation that connects quite many and diverse fields of investigation and makes the book extremely interesting for very different categories of readers.

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