From There to Here: Fifty-Plus Years of Philosophy with Susan Haack

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Live all you can; it's a mistake not to.[1]

Only Odysseus can string the bow of Odysseus; and who but Susan Haack could tell the philosophical story of Susan Haack? Only someone with her range, eye for detail, sense for connection, sharpness of focus, and preternatural determination to get to the bottom of things could do justice to her oeuvre; and no one but Haack has that range, that eye, that sense and sharpness, and that determination. Moreover, we now have an up-to-date resumé of Professor Haack's philosophy from her own hand;[2] so you might wonder what's left for anyone else to do. Well, in the piece just noted, Haack mostly sets aside the details of how she arrived at where she is now, and confines herself to articulating her key ideas, rather than delving into their genesis (WORLD AND HOW, 550). Hence the task at hand: tracing Haack's path from apprentice philosopher in the late 1960's to the (ahem) master practitioner she has long since become.[3]

I aim to highlight and elaborate Haack's philosophical achievements by looking at the route(s) by which she arrived at them. In keeping with Kierkegaard's observation that we live forward, but understand backward (Kierkegaard 1996 /c. 1843, 161), this would have been impossible before we had enough of Haack's work to go on. In terms of her fruitful analogy of human inquiry in general, and her own inquiries in particular, to a giant crossword, for most of her career the entries on which Haack worked were located outside the "meta." reflexive section of the puzzle. By now, though, this corner of the grid has grown substantially, as Haack's books, articles, lectures, and interviews have accumulated apace.[4] And what better occasion than this for approaching Haack's worldview, and the attitudes and arguments that animate it, from this philosophico-historical standpoint?

I begin with four maxims of philosophy as Haack practices and embodies it—two expressing qualities of mind, two pertaining to the methodology and subject matter of the discipline. These precepts are active in Haack's work from the beginning, and they reinforce each other in manifold ways. Introducing them summarily, via the conceit of an intellectual travelogue covering the first half of Haack's career, I then put them to use in interpretations of her major works and core themes.

<p style="text-align:center">***</p>

When Haack "went up" to Oxford, the philosophy into which she was introduced bore the marks of the much touted "linguistic turn" in the subject. Whether in Wittgensteinian, or Carnapian, or Quinean, or Austinian, or Dummetian, or Davidsonian garb, the "linguistic-conceptual-analytical style" (2005c, 235) of philosophy was in full triumph.[5] In

some measure, Haack's first serious philosophical work—on ambiguity—bears the marks of this consensus of opinion. Ambiguity is a feature of language, and while teachers of logic have long inveighed against fallacies of equivocation, the kind of sustained, systematic attention that, to take a leading example, Gilbert Ryle paid to the philosophical mischief wrought by "systematically misleading expressions"[6] is distinctive of the approach to philosophy that dominated the Anglophone world for most of the 20th century.[7] Even so, it's not as if Susan Haack wrote her B.Phil. thesis on a "hot topic." In fact, she recalls, a common reaction to her choice of subject was bemusement: is ambiguity really a philosophical *issue*, as opposed to a common philosophical hindrance?—which brings me to my first maxim of Haack's philosophical thinking: Go YOUR OWN WAY! As a student, she observed it by native instinct; over time she has become more self-conscious about its cardinal importance.[8]

From Oxford to Cambridge, ambiguity to alternative logics. In the jargon of the day, Haack moved from ordinary language to ideal language, from the turns and tropes of natural language(s) to the point(s) and purpose(s) of formal calculi—not that falling in with the jargon of the day was ever Haack's style. As her fledgling efforts were informed by a keen sense of the harms ambiguity can do to clear thinking and the special dangers it poses for philosophy, so her first book was informed by a felt need for clarity about the tole of formal methods and formal logic in science and philosophy; which leads to the second summary maxim of Haack's philosophy: WATCH OUT FOR FALSE DICHOTOMIES! *Either* classical logic is the be all and end all, *or* it's not much at all, owing its academic status to accidents of history and failure of intellectual nerve; *either* formal methods reign supreme *or* they are the proper prerogative of mathematicians, computer scientists, statisticians *et. al.*, and should be kept firmly in their very limited place in philosophy. Readers of *Deviant Logic* know better on both counts.

From Cambridge to Warwick … and from original scholarship to a textbook? No, not really. Helpful as it is in the classroom, what sets *Philosophy of Logics* apart is that it actually does what its author tentatively hoped it would, and what any number of well-meaning but less accomplished authors have too optimistically hoped their introductory surveys to this or that would do: "be of some use to the student and at the same time of some interest to the teacher."[9] In its capacity at once to *contribute* to its field and to *introduce* it, *Philosophy of Logics* puts paid to a pseudo-dilemma that extends beyond philosophy to the modern university as a whole: the invidious contrast between teaching and research.[10] Readers of *Philosophy of Logics* won't be surprised to learn that its author regularly wins teaching awards. As Haack's teaching extends beyond the classroom, into her publications, philosophical conversation etc., so her "own work" is conducted in the classroom as well as her study, the auditorium, over the telephone, etc.: a philosophical life of rare distinction.

From Warwick to Miami …. and from philosophy of logic to epistemology? Sort of, but not so fast; for Haack's work in the philosophy of logic was always aimed at understanding the place of logic within human inquiry more generally;[11] and this made epistemology crucial from the outset. "If sheer logic is not conclusive, what is?" (Quine 1971, 82)—as Haack expanded her epistemological reach she incidentally opened up a revealing perspective on this Quinean conversation-stopper. As a motto to *Deviant Logic*, it had, with a hint of irony, nicely introduced a judicious inquiry into what should count as "sheer logic"; in light of how much reconstruction turned out to be needed in epistemology, it becomes, not a rhetorical but a genuine question, which calls for the simple answer *Nothing*, no belief or theory or department of inquiry or form of reasoning is "conclusive" *in the sense of infallible*; epistemologically speaking there are no guarantees.

Since settling in Coral Gables, Haack's peregrinations have been plentiful, but occasional; residence-wise, she's stayed in one place. Intellectually, she has expanded her horizons and explored new territory, deepened and refined long-standing themes and ideas, amplified and tightened crucial arguments, filled in lacunae and fleshed out sketches and suggestions; but the fact that she hasn't changed address since publishing *Evidence and Inquiry* brings this travelogue to a convenient stopping point. I close it with my remaining two precepts of philosophy in the manner and conviction of Susan Haack: KEEP AT IT! And DON'T FORGET THE WORLD!

Keep at it means don't lose heart, don't forget what you can get from really putting your mind to work. On first becoming acquainted with philosophy, it's common to be alternately thrilled and troubled; exhilarated by philosophy's breadths and depths, suspicious of its ability to plumb the depths and comprehend the breadths. If doubt and suspicion win the day, you won't be able to keep at it. You may go through the motions of teaching classes, writing articles, attending conferences, editing journals etc.; but none of it will avail. Wittingly or not, you will have become cynical; carrying out activities that require wholeness of heart without commitment to their point and purpose.[12] As Northrop Frye puts it: "No one can begin to think straight unless he has a passionate desire to think and an intense joy in thinking"—a resonant truth worthy of inscription "upon every wall in the city of philosophy" (Frye 2004/1947, 28).[13]

The demands of philosophy can enervate in subtle and devious ways, for example by coopting the mainsprings of enthusiasm. Frustrated by failure and daunted by difficulties, an aspiring philosopher can hear the call of root and branch revolution and heed it, can begin to hope against hope that *this* new approach or avenue that's catching everyone's attention right now, will finally usher in solid progress and true success: out with the antique *bijoux* of our philosophical forefathers; in with methods and techniques more suited to modern taste.[14] Hence the need to hold fast to Maxim Two (Eschew false dichotomies), and "remember how common the folly is, of going from one faulty extreme to the opposite;"[15] and to remember also how hard it is to keep your head when all about you are losing theirs, which returns us to Maxim One (Go *your* way) and the cardinal importance of not being distracted by the crowd.

Analytic philosophers could welcome the idea that the problems of philosophy were problems of language because it was thought to help philosophy accommodate itself to the age of science. If language had the sort of distinctive and distinctively deep importance for philosophy that it was assumed to have by the champions of logico-linguistic-conceptual analysis, untenable conceptions of its scope and aims could be replaced by more tractable ones. Viewed through its own wide-angle lens, the linguistic turn appears as the culmination of a three-act history of Western philosophy. At first, this story goes, philosophy tried, naively, to tackle anything and everything; with Descartes and the rise of modern science, it continues, philosophers became especially concerned with our most fundamental means of access to what (if anything) is "out there," independent of the vagaries of our minds; in what Ian Hacking called the "heyday of ideas" (1975, Part A) they fastened on consciousness as the "interface" between mind and world that gave philosophy its true subject matter. Finally, thanks to Frege, Russell, Moore, *et. al.*, public language replaced private experience as the crucial medium of apprehension,[16] allowing the pre-history of philosophy to draw to a close and fruitful philosophy to begin.[17]

If, having once fallen for it, you become doubtful of analytic philosophy's capacity to live up to its hype, you may find it necessary to write articles with titles like "The World Well Lost."[18] Begin with a sharp divide between language and world, corresponding to a clean division of labour between the philosophical work of *analyzing* concepts in the pursuit of a *sui generis* "foundational" sort of understanding, and the scientific work of using and devising concepts in the pursuit of plain old positive knowledge—end up with Richard Rorty's vulgar pragmatist good-bye and good riddance to both world and philosophy.

And so we see that these maxims of Haack's philosophy are more than maxims of *Haack's* philosophy, they're needed for philosophy, period, or at least for philosophy understood as a branch of inquiry:[19] When you fall in with what's trendy, you make philosophy a thing of changing fashion;[20] as you become aware of this, your capacity to keep at it will be tested, as it will in the face of boredom and frustration with the *Scheinstreit* and pseudo-problems wrought by pernicious assumptions and false dichotomies. And if you forget the world you lose all you've got, realistically speaking.

Time now to go back to the 1970s, and Haack's work in the philosophy of logic.

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FORMAL RESULTS AND PHILOSOPHICAL INVESTIGATIONS

Setting out from the simple fact that "[t]here are many systems of logic … which differ in one way or another from classical logic" (DL 1), Haack's first book inquired into the possibility and the ramifications of well-motivated out-and-out rivalry with classical logic. For a system of logic's differing *formally* from classical logic—allowing as theorems strings of symbols that aren't theorems in classical systems or lacking strings that are—doesn't of itself mean that it offers a genuine alternative to classical logic. Some philosophers, indeed, have thought that classical logic must be immune to fundamental revision or correction, and an important portion of the first part of *Deviant Logic* is occupied with critical examination of arguments to this effect.

Haack treats arguments for a special, unrevisable status for logic as bound up with "absolutist" conceptions of the subject, according to which "logic is absolutely certain, and so completely unalterable" (DL 25). Kant held that since logic was impervious to refutation by contingent experience, it stands to reason that it should also be immune to revision. While conclusions in the empirical sciences may need to be tentative and defeasible, surprising turns of events (black swans, black holes) never being out of the question, logic, the argument goes, faces no such eventualities.[21] Kant thought that in his logical works Aristotle had "omitted no essential point," so that it was no accident that "in our own times there has been no famous logician and indeed we do not require any new discoveries in Logic" (Kant, 10-11). Frege, founder of the modern logic that superseded Aristotelian syllogistic, held that logic is unrevisable because its laws are self-evident. Both Kantian and Fregean absolutisms come to grief in light of the stubborn fact that people make mistakes in logic. Kant maintained that logic includes only those rules required for the exercise of any understanding at all, rules without which understanding anything would be impossible; and he admits that this makes *mistaken reasoning*, "error in the formal sense of the word" (Kant, 44), mysterious to the point of inexplicability. And Frege's *Begriffsschrift* was based on an inconsistent set of axioms, each put forward as self-evidently true.

If logic isn't absolutely certain, and perhaps in need of revision, it may be viewed as "a theory on a par, except for its extreme generality, with other 'scientific' theories" (DL 26). In reply to the objection that such a "pragmatist" conception of logic undermines itself because the very idea of revising theories and beliefs in light of contrary evidence presupposes the law of non-contradiction, Haack grants that "*some* logic is taken for granted in the presentation of the pragmatist picture" (DL 37 emphasis added), but denies the imputation: "to suppose that this shows that picture to be incoherent is to forget what is quite crucial, that we are, to use Neurath's figure, rebuilding our raft while afloat in it" (Ibid.). Indeed; to forget that we are in Neurath's boat is to forget the world, the place where fallible, flesh and blood human inquirers "do logic," craft systems, hazard interpretations, make discoveries and mistakes, and learn from them.

As is perforce standard practice in other theoretical domains, the relative merits of competing logics should, on this pragmatist picture, be adjudged "on the basis of an assessment of the economy, coherence, and simplicity of the overall belief set [to which they give rise]" (DL 26). Given the consonance of this idea with Quine's contention that "the considerations that guide [each man] in warping his scientific heritage to fit his ongoing sensory promptings are, where rational, pragmatic" (Quine 1953, 46), Haack enlists that influential philosopher as "a powerful ally" (DL 26) in her attempt to defend her pragmatist philosophy of logic against absolutist objections. As she realized, but Quine didn't, the prospect of applying such "pragmatic" rules of thumb for theory choice to the case of competing logics makes evident how difficult it is to spell them out in detail, how quickly thorny questions multiply when you try to ascertain the relative economy, simplicity, and coherence of theories, and justify the bearing of these dimensions of assessment on the likely truth of the theories. A satisfactory pragmatist account of logic requires better answers to these questions than Haack (or Quine, or anyone else) could provide in 1974. Philosophy of logic needs epistemology—so it's no surprise that the author of *Deviant Logic* would write *Evidence and Inquiry*.[22] Needing to keep at it, she kept at it.

In the Preface to the expanded edition of *Deviant Logic*, Haack tells readers that she has left its original text "severely alone," not because her thinking on the subjects it covers has remained just where it was when she wrote the book, but because "to re-write it now would be the work of a decade at least," (DL ix) and much of the reason for this has to do with the issue just noted, and Quine's evasions concerning it. For all that she now rues her tendency at the start of her career to approach the revisability of logic in a manner that "allowed Quine to set too much of the agenda," (Ibid.) her doing so enabled her to root out a serious tension in Quine's philosophy of logic which is but one manifestation of a tight knot of ambivalences and ambiguities running through his philosophy as a whole.[23]

Pragmatism about logic is designed to conflict with absolutism, but its relation to the contrast between a conservative privileging of classical logic and a more radical willingness to see it removed from its traditional pedestal is not straightforward. Perceptions of simplicity are easily affected by sheer familiarity; what we take for granted seems simple, what's new can seem unnecessarily complicated.[24] But if familiarity and entrenchment are allowed to weigh positively in the balance, either avowedly, or surreptitiously, by influencing what counts as simple, "the apparently radical recommendation to choose the simplest theory … lapses into the most stringent conservatism" (DL 40); as Quine's example makes evident: the same philosopher who used Neurath's image of sailors rebuilding their ship in open water as an epigraph for *Word and Object*, professes to believe that truly alternative logicians, like allegedly pre-logical peoples, are the mythical inventions of "bad translators" (Quine 1960, 387). Twenty years after the second edition of *Deviant Logic*, Haack described Quine's argument(s) that constraints on acceptable translations of logical vocabularies mandate conservativism about logic as "confused and confusing" (DL 20). This not being the place to chart these confusions in detail, I will let her drubbing of a particularly egregious case stand in for the full story:

> The principle of maximising agreement [between a radical translator's beliefs and those ascribed to speakers of a target language] entails that correct translation invariably preserves classical logic in a privileged position only if one assumes that classical logic is the right one. … [Quine's] maxim 'save the obvious' preserves classical logic only granted that classical logic *is* obvious (Ibid.).

In making her case for pragmatist about logic, Haack remarks on the difficulty of "find[ing] premises from which to begin, upon which one can hope for any degree of agreement" (DL 30)—a point that notoriously applies to philosophy generally, but from which, perhaps in virtue of the assumed self-evidence of its basic principles and axioms, logic has sometimes been thought to be exempt. In such a vein, Barkley Rosser and Atwell Turquette had urged a principled postponement of exactly the sort of inquiry Haack undertook as a doctoral student, arguing that investigation into the meaning and interpretation of many-valued systems of logic would be profitable only when "the precise formal development of such systems has been carried to a level of perfection considerably beyond that which is reached even in the present work" (Rosser and Turquette, 2). They dismissed the suggestions for interpreting many-valued systems already put forward as "premature," admonishing that none of them could be "taken too seriously" (Ibid.). In response, Haack observed that that it was still unclear, twenty years later, "what formal distinction there might be between non-standard systems which are rivals and those which are merely supplements of classical logic, or between systems embodying the assumption that there are truth-value gaps, and systems embodying the assumption that there are intermediate truth values" (DL xxvi).

On the face of it, the difference between adding on to something and revising or correcting it is clear: it's one thing to build a second story on your house, quite another to renovate it from the ground up, or to move across town. But when it comes to the distinction between expanding the range of formal logic, by enabling it to deal with, for example, modality, obligation, or the law, and replacing two-valued predicate calculus with a many-valued system, difficulties proliferate; as they do when you try to spell out the precise difference between a predicate's not being applicable in a certain domain (as truth and falsity aren't applicable to questions or commands), and a subject of predication admitting of a third predicate somehow in between two heretofore mutually exhaustive and exclusive predicates (as Łukasiewicz thought a middle truth value,

M, which is somehow on the same footing as T and F but different from both of them, was required to make proper sense of future contingent statements).

If purely formal criteria for genuine rivalry with classical logic were possible, one ought to be able to distinguish mere *notational* variance from something more substantial in exclusively syntactic terms. But this doesn't seem feasible: whether the definitions, axioms, and theorems of *Principia Mathematica* are expressed in Polish notation, or in Russell's and Whitehead's, or any other, the logic that results is the logic of *Principia*, not something else. But how do we know when the absence of a certain string of symbols—say 'p v ~p'—from the class of theorems of a logical system amounts to that system's not countenancing Excluded Middle as a law of logic, as opposed to its devisor having chosen to use "'v' as a (perverse) notation for the operation usually written '&'" (DL 7)? How can we distinguish genuine rivalry with classical logic from a misleading appearance of competition stemming from different meanings being attached to the same symbols or different symbols being used to designate the same meaning? Syntactically, we can't; which is why it would be unhelpful to hold philosophical reflection on the question of challenges to classical logic hostage to formal advances on non-classical systems.[25] In fact, the shoe is on the other foot: since purely formal features won't distinguish calculi aimed at expanding the ambit of classical logic from systems aimed at repairing perceived deficiencies, or between absence of a truth value altogether and presence of a truth value other than "true" or "false," "it is sometimes uncertain what formal investigations are likely to be fruitful" (DL 1). Far from premature, "serious examination of the philosophical, rather than the purely formal, consequences of adoption of non-standard systems is … overdue" (Ibid.).

To come to grips with questions of revising and/or correcting classical logic Haack needed to address the character and privilege (or lack thereof) of formal logic as such and, beyond this, the scope and limits of formal methods and approaches in general. In the years immediately following the appearance of *Deviant Logic* she turned to the then recently burgeoning variety of non-standard logic that results from "fuzzifying" many-valued logic. In its formative stages when Haack was writing and revising her thesis, fuzzy logic was soon rampant, touted for its potential to contribute substantially to such topics as reasoning involving inexact concepts, psychological classification, threshold phenomena, pattern recognition and computer learning.[26] In "Do We Need Fuzzy Logic?", and in *Philosophy of Logics* (Chapter 9, "Logic and Logics"), Haack set out to separate the wheat from the chaff—and found mostly chaff.

In reply to Rosser and Turquette, Haack had drawn attention to the philosophical impoverishment of a logical diet of formal questions alone; in her critique of Lofti Zadeh's attempt to accommodate reasoning with vague predicates formally by construing them as fuzzy sets, she reminds us of the philosophical importance of the formal dimension of logical inquiry; as usual, she eschews baleful all-or-nothingisms.

In his concern to give vagueness its due, rather than ignore it or rule it out of court, Zadeh has something important in common with such critics of formalisation as F. C. S. Schiller or Peter Strawson. But where they "urge the inadequacy of *any* formal system to the subtleties of ordinary language" (DL 237), he, perversely, proposes a *formalism* intended to make vagueness tractable. The result is a logical system after the fashion of Rube Goldberg, a formal logic that "lacks every feature that the pioneers of modern logic wanted logic *for*," which blithely "sacrifices what have traditionally been regarded as the crucial advantages of formalism—precise, formal rules of inference, the security offered by consistency and completeness results" (Ibid.). "Fuzzy logic" isn't a new system of logic at all; it's an "oxymoronic enterprise" (xi).

In the Preface to *Philosophy of Logics*, Haack explains that she had come to support "a qualified pluralism" rather than the monism that had tacitly underpinned *Deviant Logic*" (PhL xiv); and in her critique of fuzzy logic the importance of the "qualified" comes to the fore. Fuzzy logic construes inference as "approximate rather than exact, [and] semantic rather than syntactic" (DL 236). But while the idea of an inference from A to B's being "approximately valid" might be given semantic sense in terms of the ordinary, exact validity of a corresponding inference from "approximately A" to "approximately B," the idea of "*syntactic* consequence being approximate is quite baffling (either you write B on the next line after A, or you don't; you can't approximately write it …" (Ibid.). Upon close examination, the entire formal apparatus of fuzzy logic turns out to be "almost wholly redundant," since "the real work [of making logic fuzzy] is all done at

the level of informal linguistic analysis" (DL 238), where the vague natural language predicates are, by fiat, turned into fuzzy counterparts in the formalism. Logical pluralism, yes: perhaps there is no single "correct logic." But not all formal systems that purport to be logics deserve the accolade[27]—which is why, although "the very existence of arguments in favour of Deviant logics lends some prima facie plausibility to [the pragmatist view of logic]," it doesn't settle the matter, since "the proponents of such logics could be mistaken about the nature of their own enterprise" (DL 26). In philosophy especially, getting clear on the nature of your own enterprise can be half the battle. So going your own way sometimes requires, not only the courage to stick to the course you're on, but a willingness to abandon false trails; as you try to figure out the world, you learn more about yourself, and vice versa.[28]

But, Haack was told (2016, 89), fuzzy logic *must* be right, because it underpins fuzzy technologies that work. Physician heal thyself; don't forget the world! Well, she replied— after mugging up the necessary rudiments of electrical engineering during "a very long, and very hot, summer" (2016c, 89)—while it's true that "fuzzy controllers for air-conditioners, rice cookers, video cameras, washing machines, traffic lights, subway braking systems etc. do work," this "does nothing to establish the philosophical bona fides of [Zadeh's] fuzzy logic" (DL 230). Fuzzy controllers convert fuzzy inputs into fuzzy outputs; temperature identified as ranging from too cold to too hot with just right in the middle to speeds of a motor identified as ranging from slow to medium to full blast for example. The real work of a Zadeh-style formalism is done in converting the fuzzy input sets into fuzzy output sets: "In fuzzy set theory, since membership comes in degrees, a precise temperature, say 65 degrees Fahrenheit, might belong to 'just right' to degree 0.6, to 'cool' to degree '0.2' and so on. So at 65 degrees, 'if the temperature is just right, turn the motor speed to medium would be invoked 60 percent and 'if the temperature is cool turn the motor speed to slow would be invoked 20 percent" (Ibid.). Then, by means of weighted averaging, the fuzzy output is "defuzzified" to produce a specific motor speed. With this, as Haack says, "the fog begins to clear" (DL 231). Since none of the manipulations required for the smooth functioning of fuzzy controllers relies upon a nonclassical theory of truth-preserving inference, their merits, whatever they may be, do nothing to further the cause of fuzzy *logic*.

Returning to the subject in the preface to *Deviant Logic/Fuzzy Logic* (and adding it to the book's title), Haack describes fuzzy logic as a variety of "Logical Extremism"—roughly, the tendency to indulge in outré formal proposals for handling topics that pose problems for classical logic, such as vagueness or the semantic paradoxes. A tell-tale sign of Logical Extremism is a loosened grip on elementary facts about truth—exemplified egregiously by Zadeh when, apparently in all seriousness, he suggests that the logical meaning of "very true" might be "true squared"! In the third chapter of *Deviant Logic* ("Deviance and the Theory of Truth"), the seventh chapter of *Philosophy of Logics* ("Theories of Truth"), and "Is It True What they Say About Tarski?" Haack pursued fundamental questions about the nature and meaning of truth, paying special attention to Alfred Tarski's influential semantic account. First presented in 1931, this novel approach had by the time Haack was writing become "probably the most influential and most widely accepted theory of truth" (PhL 99).

Tarski's theory of truth has manifest virtues: it issues in a definition of true-in-L that is provably correct in its own terms, and those terms have an initial plausibility. But "the very features of Tarski's theory which contribute most to its appeal also … create problems for it" (PhL 99), and the chief such feature is signalled in the title of the article in which Tarski first presented his results: "The Concept of Truth in Formalised Languages [Formalised]." It is precisely and only because Tarski defines a notion restricted to formalized languages that his definition of truth can be *provably* "correct"; and it's for this reason that (as Haack observes) his account has been accused of being both anodyne and tendentious—downplayed by some as philosophically irrelevant because of its pristine neutrality on the issues that divide traditionally competing accounts of truth, questioned, or championed, by others as dubious or desirable in virtue of *not* being neutral with respect to familiar disputes between correspondence, coherence, and pragmatist etc. theories, but having instead a debatable, or welcome, *parti pris* for one of the contending views.

Demonstrating very effectively how easy it is to be unclear and uncertain about the nature of one's own philosophical enterprise, Tarski waffled on the question whether he aspired to rehabilitate a correspon-

dence approach to truth or instead supersede everything that had come before him.[29] But when he expressly doubts "the very possibility of a consistent use of the expression 'true sentence' which is in harmony with the laws of logic and the spirit of everyday language" (Formalised 165, n.17) he should be taken at his word. Not that he is thereby advocating the bizarre policy of banning the phrase "true sentence" from our vocabularies; his skepticism about a coherent notion of truth in an everyday sense is prologue to a pronounced optimism about the prospects for defining a workable conception within a formal idiom purpose-built for the job. Nevertheless, notable philosophers have sought to exploit Tarski's theory in ways that presuppose the possibility of respecting the laws of logic, the spirit of everyday language, and the character of Tarski's formal achievement. Haack alerts us to the unlikelihood of jointly satisfying these three desiderata.

When Aristotle said that "To say of what is that it is or of what is not that it is not is to speak truly" (*Met.* IV) he said something clearly true. When Thomas Aquinas defined truth as "the adequacy of the mind and the thing"[30] he said something suggestive that needs interpretation. Aristotle's dictum is a datum; Aquinas's an invitation to further theory. According to Karl Popper, Tarski finally provided us with a welcome vindication of "the idea of objective or absolute truth …. truth as correspondence to the facts" (Popper 1963, 225-6). What does it mean for mind and thing to be "adequate" to each other, or for a belief, sentence, or theory to "correspond" to the facts? Until Tarski, Popper argues, we didn't know; but now we do. As Haack shows, he's wrong.

If truth is to be explained by the notion of correspondence, it must be possible to account for what truth is supposed to correspond to—reality, the world, the facts—in terms that don't presuppose truth; and in its way Tarski's theory does this. Tarski defines truth in terms of satisfaction, a relation between open sentences and arbitrarily chosen sequences of objects; and defines satisfaction recursively, logically complex sentences accounted for by the standard semantics for sentence forming operators and quantifiers, and logically atomic sentences defined "*enumeratively*, a clause for each primitive predicate of the object language" (PhL 111). Quite apart from worries about the very idea of defining something by sheer enumeration, "Tarski's definition of satisfaction … bears [at most] *some* analogy to correspondence theories [of truth]" (PhL 114);[31] and it differs crucially from "traditional" correspondence accounts in being applicable only to formal languages with precise formation rules for well-formed formulae. So, when the all-important details are taken into account, it becomes clear that, while Tarski's work does conduce to understanding and clarity about the general question of what theories of truth are in the business of doing, and the specific question of the challenges faced by correspondence-style theories, its value "does not lie in its supposed rehabilitation [of objective, absolute, correspondence truth]" (1976, 336).

Popper thought that only an objective, absolute, correspondence notion of truth could function as a regulative ideal of science; and his falsificationist philosophy of science needs such an ideal. In his view, scientific theories are falsified by reference to truth in the objective, correspondence sense; and, although conclusive verification is impossible, progress is (supposed to be) made as successively better theories are falsified by successively deeper, more surprising results. As Haack points out, the demonstrable failure of attempts to craft a workable theory of "verisimilitude" that could explain how inquirers can approach the truth without ever infallibly or comprehensively arriving at it supports Tarski's own "rather modest … assessment of the epistemological significance of the semantic theory of truth" (PhL 117).[32]

 Perhaps, however, the place to turn Tarski's work to further philosophical ends isn't the theory of knowledge, but the theory of meaning, as Donald Davidson influentially urged for many years. Davidson hoped that "the semantical [*sic*] conception of truth"—and in particular its material adequacy condition enshrined in the celebrated Convention T, that 'S is true iff *p*' where "'*p*' can be replaced by any sentence of the language for which truth is being defined and 'S' is to be replaced by a name of the sentence which replaces '*p*'" (PhL 100)—could provide a "sophisticated and powerful foundation for a competent theory of meaning" (Davidson 1967, 310). While this project didn't lend itself to the outright refutation suffered by Popperian verisimilitude, it proved no more feasible, and was in due course abandoned.

As Haack points out, the idea that the meaning of a sentence can be given by specifying the conditions under which it is true isn't new; what caught people's attention was the idea that "imposing 'Tarskian' con-

straints upon the account of truth-conditions" (PhL 118) might turn this germ of an idea into a serious theory of the principles underlying the meaning of sentences in natural languages. Aware that Tarski was expressly skeptical about just such an enterprise—"Whoever wishes … to pursue the semantics of colloquial language with the help of exact methods will be driven first to undertake the thankless task of a reform of this language … [and] after being rationalised in this way [it may be doubted whether colloquial language] would still preserve its naturalness" (Formalised 267]—Davidson argued in reply that "though some 'tidying up' will be needed … this need not be such as to transform [natural language] out of all recognition" (PhL 121).[33]

In her first published article (Equivocality), Haack exposed the futility of attempting, as Fred Sommers had done, to formulate a rigorous, philosophically useful criterion of equivocality for expressions of natural languages. Ten years later, she was on the verge of doing the same for Davidson's hopes for a quasi-Tarskian "clear and testable criterion of an adequate semantics of a natural language" (Davidson 1967, 320). In the earlier piece, Haack had pointed out that due attention to the character of figurative language was sufficient to scupper the enterprise; in *Philosophy of Logics*, she observed that the Davidson program "raises methodological questions which are … tricky enough that one cannot say with any confidence that Davidson has shown that Tarski's theory applies to English" (PhL 127, emphasis deleted). Chief among these questions is "what exactly the constraints should be on Davidson's enterprise: what apparatus should he be permitted to use, and where?" (*Ibid*.); and herein hangs a tale that can bring this path through the first decade of Haack's philosophical work to a terminus.

Davidson thought that explaining meaning in terms of Tarskian truth would place a problematic intensional notion on a secure extensional footing. When the meaning of a compound sentence is a function of the truth-values of its component sentences—as the meaning of 'Snow is white and grass is green" is determined by the meanings of "Snow is white" and "Grass is green" and the character of the logical operation of conjunction—this trick is easily turned. But with, for example, *oratio obliqua*—sentences of the form "S said that *p*"—matters are quite otherwise. Davidson offers a paratactic account of such sentences, construing the "that" demonstratively, rather than relatively, so that in "logical form" "S said that *p*" is to be read as: "*p*: S said *that*." If S's language is different from that of the target sentence, *p* can't be replaced by exactly what came out of S's mouth. Instead, it will have to be a *translation* of S's verbiage into the relevant metalanguage. But the concept of translation is exactly as intensional as the notion of meaning itself. Although Davidson is at least half aware that this hard fact poses a serious threat to his enterprise, he continued for a time to put a brave face on things. By the time he wrote the Introduction to a 1984 collection of papers (which included those in which he outlined his influential project), however, his confidence had waned (1984, xiv-xvi); and a few years after that he had effectively put the whole thing behind him—for reasons that Haack had pointed to much earlier.

In the Intellectual Autobiography he wrote for the volume devoted to his work in The *Library of Living Philosophers*, Davidson recalled a "backhanded tribute" from "Freddie Ayer." In "a review of a book that had nothing to do with me," he tells us, Ayer lamented "the younger philosophers [at Oxford], seduced by Donald Davidson [into] devot[ing] their energy … to the Sisyphean task task of teasing a theory of meaning out of Tarski's theory of truth" (1999, 49-50). In terms of the maxims of Haack's philosophy outlined above, this dispiriting piece of perverse self-congratulation highlights the importance of exercising good judgement in applying them; specifically the importance of resisting foolish stubbornness in the name of Maxim Three (Keep at it). Once you've identified a project or ambition as futile, or a question as badly framed, you don't keep at *it*; you keep at philosophy by searching for something more fruitful.[34]

EXPERIENCE AND REASONS

If Haack's philosophy of logic had set out from the simple fact that non-classical systems must be reckoned with, her epistemology is rooted in not so simple facts about knowledge, the first of which is that we have it; but the second of which is that we might be wrong in thinking this. If we do know things, we don't know

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with certainty *that* we do. More precisely, we can never be sure which bits of what we *think* we (now) know, we actually do know.

In a resonant phrase which Haack would come to cherish, Peirce describes his philosophy as animated by "a contrite fallibilism" combined with a "high degree of faith in the reality of knowledge" (CP 1.13). In *Deviant Logic*, Haack made only cursory mention of Peirce, and minimized the importance of her using "pragmatism" to designate the holistic, anti-absolutism about logic that animated the arguments and conclusions of that book.[35] By the time of the expanded second edition of *Evidence and Inquiry* (E&I), however, she highlighted the book's pragmatist character in its new subtitle,[36] and in its Foreword cheerfully endorsed a description of her as "the intellectual granddaughter of Peirce" (24).[37] As she developed her foundherentist theory of epistemic justification, Haack drew upon and advanced the classical pragmatist tradition in philosophy in strikingly fruitful, constructive ways.

Foundherentism wears its transcendence of an entrenched dichotomy—foundationalism and coherentism—on its sleeve; but, central as it is, it is only one of a host of productive reconceptions and reorientations undertaken in E&I. Where *Deviant Logic* and *Philosophy of Logics* had been the fruit of about half a decade's intensive labour each, the interval between Haack's first publication in epistemology and her book length treatment of the subject was almost twenty years. As she kept at it, a project originally conceived along what had become familiar lines—to "contribute to questions about empirical knowledge somewhat as [DL] had contributed to questions about non-standard logics and their motivation, and [PhL] to questions about validity, proof, truth, necessity etc."— became "something much more ambitious [;] … the 'reconstruction of epistemology' of [E&I's] subtitle" (11).

The difficulty in philosophy of finding "data points" agreed to by all and sundry comes to a head in epistemology. If only we knew where to start, we could start there; if only we understood the foundations of knowledge, we could get on with acquiring more of it. As Neurath's figure of a boat under repair while underway reminds us, scientists have long got on with acquiring knowledge, unfazed by worries about its correct definition or ultimate grounding. In the above mentioned first article in epistemology "Haack argued that the results of psychological research (and/or everyday psychological truths) may contribute positively to an epistemological theory *provided it isn't foundationalist in character and ambition;* and clearly implied, without saying it in so many words, that this was a good reason to reject foundationalism.

On the standard picture, Carnap's *Aufbau* is a paradigm example of an ambitious, foundationalist venture;[38] and in her earliest epistemological work, Haack used the vicissitudes of this project as an instructive foil for her ideas. Two years after "The Relevance of Psychology" she remarked on a surprising number of Kantian themes in Carnap's book.[39] In both the *Aufbau* and the *Critique of Pure Reason*, for example, "[l]ogic and psychology, supposed ostensibly to be quite separate, are in practice almost inextricably intertwined" (1977, 171). In the one case, transcendental logic is supposed to validate empirical knowledge by establishing the conditions of its possibility; in the other an epistemologically oriented rational reconstruction of empirical knowledge is supposed to do much the same thing by showing how physical objects can be defined in terms of "elementary experiences."

Elementary experiences—elexes—are the primitive constituents of the *Aufbau*'s attempt to construct human knowledge out of nothing but "autopsychological" elexes and a primitive relation Rs, recollection of similarity, "which holds between two elexes a and b just in case a is earlier than, and resembles, b" (1977, 172): certainly a heroic endeavor, like building an Empire State Building out of toothpicks.[40] But when, in explanation and defence of his decision to take elexes to be concrete individuals—"momentary cross-sections of experience," rather than repeatable universals, i.e. phenomenal properties—Carnap "appealed to the work of the Gestalt psychologists" (which, he believed, had shown that "we recognize colors, smells etc. only via recognition of whole structured perceptions" [1975, 162]) he violated his foundationalist strictures conspicuously. In theory Carnap's ambitions are heroic; in practice they are self-undermining.[41]

By 1982 the rudiments of Haack's foundherentist union of what's compelling about foundationalism and coherentism without admixture of what's untenable in each were in place. In "Theories of Knowledge: An Analytic Framework," she identified the position, and indicated its advantages over the traditional ri-

vals; and she began E&I with expanded, refined versions of the arguments of that paper (E&I, 11). Notable improvements are deepened and more revealing distinctions, interconnections, and overlappings regarding the contrasts between: (a) fallibilism and skepticism, (b) foundationalism and coherentism and (c) naturalism and apriorism. In consequence of these advances—in particular, the separation of foundationalism as such from its venerable infallibilist forms—Carnap's *Aufbau* was no longer suited to the role of model instance of apriorist foundationalism.[42]

Distinguishing the idea that knowledge requires foundations from the idea that it requires certainty enables Haack to bring the theory of epistemic justification into focus. As far as that enterprise is concerned, the core traditional contrast is between a one-directional foundationalist model (exemplified emblematically by Descartes) that takes justification to require basic beliefs "justified independently of the support of any other belief" (51) upon the support of which all other justified beliefs depend, and a coherentist model (found in grand style in Hegel) on which justification consists in mutual support among the members of a suitably comprehensive coherent set of internally coherent beliefs. The distinct question whether basic beliefs are required to be unshakeable bedrock, or can instead be "justified prima facie but defeasibly/to some degree but not completely" (54) is correctly seen as a distinct question. The venerable idea that indubitable foundations of knowledge are necessary to escape skepticism remains as a crucial premiss in the "No Tolerable Alternatives" argument for foundationalism, skepticism being the intolerable alternative allegedly left if justifications don't terminate in foundational beliefs. According to this argument unless chains of justification—belief *a* justified by belief *b*, which is justified by belief *c* etc.—come to an end in beliefs that are justified but not by the support of other beliefs, we have an infinite regress, and skepticism looms; we're never justified in believing anything. The argument fails because congeries of justifying beliefs don't need to form a chain; and outside of made-up philosophical examples they rarely do.[43] Foundationalism isn't required to ground knowledge, and coherentism isn't required to vindicate fallibilism.

In its reliance on the misplaced analogy between epistemic justification and chains of reasoning, the No Tolerable Alternatives argument sins against Haack Maxim Two (Say No to False Dichotomies). But as the "Drunken Sailors" argument— that "the coherentist's claim that empirical beliefs can be justified by *nothing but* relations of mutual support is as absurd as suggesting that two drunken sailors could support each other by leaning back to back—when neither was standing on anything!" (65-6)—reveals, coherentism falls foul of Maxim Four, Don't Forget the World. For the fundamental problem with the coherentist idea that mutual support on its own could account for the justification of beliefs about the empirical world is that without experiential *in*put "it could not be supposed that a belief's being justified could be an indication of its truth, of its correctly representing how the world is" (66).

The first chapter of E&I recapitulates the rudiments of ""Theories of Knowledge" with more punch: a *prima facie* case for foundherentism—the conjunction of the theses: (i) that "a subject's experience is relevant to the justification of his empirical beliefs"[(57) (without requiring a "privileged class of empirical beliefs justified exclusively by the support of experience, independently of the support of other beliefs" [Ibid.]), and (ii) that "justification is not exclusively one-directional, but involves pervasive relations of mutual support" (58).— is made, yielding the outline of a theory ready to be fleshed out and put to work. A revealing upshot of the case studies in foundationalist and coherentist epistemology that follow is that, as their respective proponents struggle to cope with damaging objections, they are inevitably tugged towards the intermediate position Haack defends.

The memorable image that gives the Drunken Sailors argument its name is owed to C. I. Lewis, whose struggles to defend an infallibilist foundationalism effectively reveals the shortcomings of both infallibilism and foundationalism. When Lewis avers that "most parts [of our empirical knowledge] are stabilized in measure by their mutual support" (AKV 171), he grants an important coherentist point; mutual epistemological support is different from vicious circularity. But when he adds that all [empirical knowledge] rest[s], *at bottom*, on direct findings of sense" (Ibid, emphasis added), he lapses back into foundationalism. When he allows that "*proximate* grounds of the probable or credible need not be certain" he motions towards a thoroughgoing fallibilism; when he insists that empirical knowledge would nevertheless be unintelligible

unless there were "ultimate data … which are … certain" (333, emphasis in original), he backs away from it. When he glimpses the force of what Haack calls the "Swings and Roundabouts" argument against infallibilist foundationalism—to the effect that because the epistemic security of a belief (its immunity to error) is (more or less) inversely proportional to the richness of its content, there can be no beliefs which are both absolutely secure and capable of supporting "a substantial body of other beliefs" (E&I 69)—he exchanges his strong, infallibilist foundationalism for a weaker version, according to which, even if some beliefs—about one's immediate experience perhaps—are infallible, they are not on their own able to ground the rest of our knowledge.

Lewis recognizes that if we are to escape a solipsism of the present moment, we must rely on our memory. When he admits that "the present fact of memory, which suggests … to me [a judgement that I experienced something in the past] is … not sufficient to assure the truth of it," since "a generalization is required to the effect that when such data of memory are given, the seemingly remembered experiences may, with some degree of accuracy, be accepted as actual" (AKV 336), he has what he needs to recognize the force of the "Up And Back All The Way Down" arguments for the superiority of foundherentism over any kind of foundationalism, however weak or impure. For he is acknowledging that generalizations not given in immediate sensory experience are able to help justify judgements made on their basis, just as judgements about what is present before us now help justify beliefs about how the world around us generally is. Having all but recognized that foundationalism can't be correct since justification goes back and forth and up and down, Lewis is nevertheless unable to follow through; having thus approached the brink of foundherentism, he reverts a few pages later to speaking of empirical knowledge as resting on the "foundation stones" of "items of truth which are disclosed in given experience" (AKV 353).

Turning now to coherentism, we can begin with the fact that what we see and hear etc. influences what we believe. Everybody agrees that this is so, even Parmenides, else why would he need to denounce in such vigorous terms our ingrained tendency to acquiesce in beliefs supported chiefly by sensory evidence? In this brazen refusal to accept the testimony of the senses, Parmenideans depart from good sense, and exit the arena of the epistemology of empirical knowledge; and odd as the juxtaposition may seem, the fatal flaw in a truly coherentist approach to epistemology is that it does no better than Parmenides on the question of how experience bears on knowledge and belief.

Laurence BonJour's master argument for his coherentist account of empirical knowledge relies on two dichotomies, between foundationalism and coherentism and between internalism and externalism. Assuming that if foundationalism can't be made tenable, coherentism must be, and *mutatis mutandis* for the choice between externalism and internalism, he takes what he believes to be the insuperable difficulties confronting foundationalism and externalism to mandate the conclusion that a satisfactory epistemology must be internalist and coherentist: Haack's critique is rooted in the falsity of both dichotomies. Once it is realized that the first contrast isn't exhaustive, and the second "not robust enough to carry any serious weight" (E&I 95), BonJour's strategy is robbed of its *raison d'etre*.

Relying on a Kantian distinction between origination and justification, BonJour grants that many of our beliefs are not arrived at by inference from other beliefs, but are, in his phrasing, "cognitively spontaneous." Relying on the tendentious version of that distinction that underpins the "Irrelevance of Causation" argument—deeply flawed and hydra-headed, we'll meet this argument again, more than once; it runs like this: since experiences aren't *propositional,* they can't *entail or preclude, or confirm or disconfirm,* anything; consequently, they must be *irrelevant* to the *logical* question of the *justification* of belief—he holds that the origination of belief cannot of itself contribute to its justification. Nevertheless, he hopes to validate our strong impression that we learn things about the world through our senses by means of an argument "which appeals to [the] non-inferential origin [of cognitively spontaneous beliefs]" (E&I 96, emphasis deleted).

BonJour thinks he can vindicate our conviction that beliefs prompted by what we see and hear etc. can be thereby justified without compromising his coherentism by: (1) resting the justification of observation on the justification of introspection, beliefs about the world outside us deriving their credentials from be-

liefs about those of our beliefs that spring up unbidden; and (2) imposing a "regulative meta-principle" on belief sets capable of conferring empirical justification, demanding that any such set "contain laws attributing a high degree of reliability on a reasonable variety of cognitively spontaneous beliefs" (BonJour 1985, 141). Strained on the face of it, this "Observation Requirement" is vitiated by an unresolvable ambiguity. On one interpretation, it is consistent with BonJour's coherentism, but doesn't ensure observational input into eligible sets of beliefs; on another, it does require such input, but is no longer coherentist.

Had Lewis frankly acknowledged the *pervasiveness* of mutual support in the structure of empirical knowledge, he might have been prompted to abandon his anemic, fallibilist foundationalism for a proto-foundherentism; had BonJour been willing frankly to compromise his coherentism by including an Observation Requirement couched in worldly rather than doxastic terms, he would have been nudged towards foundherentism from the other direction. And had Donald Davidson thought through the unhappy implications of the argument from the irrelevance of causation to justification, he might have glimpsed the merits of foundherentism from yet a third vantage point.

Davidson argues for coherentism incidentally, as a consequence of what he takes to be inescapable constraints on any plausible criteria for the attribution of beliefs. Because the attribution of beliefs to subjects must (he is convinced) be both holistic and responsible to empirical considerations, it follows, amazingly enough, that "belief is of its nature veridical" (1983, 146); and this makes the justification of belief as such a kind of *fait accompli* on quasi-a priori grounds: "the question how do I know that my beliefs are *generally* true answers itself, simply because beliefs are by nature generally true" (Ibid., 153, emphasis added). On its own, this argument doesn't' establish coherentism, though if it worked (which it doesn't),[44] it would allow one to reply to the drunken sailors argument with the riposte that *collectively* the sailors/beliefs are *by nature* upright/connected to the world. Coherentism is supposed to follow from principles of radical interpretation by appeal to the thesis that causation can't confer justification. Since we know in advance that beliefs are generally justified (the radical interpretation argument), and that they can't be justified by experience (the irrelevance of causation argument), they must be justified on (weakly) coherentist principles.[45] As noted above, the irrelevance of causation relies on the unstated premise that, since epistemic justification must be propositional and logical, causal relations between beliefs and the experiences that prompt them can play no justificatory role. As Haack makes plain, this premise can, and should, be questioned.

To cut a longer story short, Davidson fails to see that the criteria of justification we habitually employ in everyday life—and the most advanced science, investigative journalism, detective work, and indeed any endeavor in which getting the truth really matters—has two aspects: a causal aspect pertaining to what a subject's evidence for a belief is, and a quasi-logical, evaluative aspect pertaining to how good that evidence is. To the uninitiated, indeed, the Irrelevance of Causation argument would surely seem perverse. Isn't it obvious that experiences can not only cause belief, but justify it? Why can't I know he was there because I saw him; or know it was she because I heard her voice? With the common wisdom of mankind, Haack of course thinks we can know such things on such grounds; but she neither denies nor shirks the hard philosophical problem of figuring out *how* to integrate experiences themselves into a subject's evidence for or against a given belief.

According to foundherentism, then, how justified S is in believing that *p* can depend on how well p is supported by experiences of S. But experiences aren't the sort of thing to have a truth value, so it's not obvious how to bring them to bear on the likely truth of beliefs formed (at least in part) on their basis. Haack's solution is to begin with a subject's "S-evidence" for a given belief, evidence in the form of "states of [the subject] which are operative …. in the vector of forces resulting in [his] believing that *p*" (E&I 120). Not all states in this vector of forces qualify as evidential, however, only those plausibly thought to emerge from the believing subject's interactions with the world (or himself) in appropriate ways: "Belief states, perceptual states, introspective states, memory traces … count as evidential; other states, such as the subject's desires and fears, his being under the influence of alcohol or panic etc. [do] not" (121).

Having identified a subject's evidence (S-evidence that is) for a belief, we ask how good it is; but in order to do that S-evidence must be transformed into C-evidence, evidence as content of a proposition rather

than state of a subject. Psychological and physical states of believing subjects can compete or cooperate with each other; but they can't "support or undermine each other, probabilify or disconfirm each other, be consistent or inconsistent with each other, cohere or fail to cohere as an explanatory story" (124). So, since justification is concerned with truth, and is conferred by evidence, evidence must be put in a form suitable for evaluation with respect to truth. A subject A's S-evidence for a belief p is, accordingly, converted into his C-evidence by: first, taking his *C-reasons* to be the propositional content of those beliefs "[his] believing which constitute his S-reasons for believing that p"; and second, taking A's experiential C-evidence to be "sentences or propositions to the effect that A is in a certain state or states—the state(s) which constitute(s) A's experiential S-evidence for believing that p" (Ibid.).

How good is a subject's body of evidence for a given belief of his? Haack's model for answering this question is "is not, as a foundationalist's might be, how one determines the soundness or otherwise of a mathematical proof; it is rather how one determines the reasonableness or otherwise of entries in a crossword puzzle" (126). In such unprepossessing tones is born one of Haack's topmost contributions to epistemology and philosophy generally.

The model of a mathematical proof for the assessment of empirical evidence is both surreptitiously foundationalist, and incipiently formalist, encouraging the unfortunate idea that advances in the understanding of "probable knowledge" are to be sought chiefly in the fields of inductive logic and confirmation theory. But, Haack observes, "that there is such a thing as favourable-but-not-conclusive evidence" has a much better claim to being a pre-theoretical datum than does the assumption that "there is such a thing as 'inductive implication' or 'inductive logic'", especially if the latter "is taken to indicate relations susceptible of a purely syntactic characterization" (129). Establishing how good a subject's evidence for an empirical belief of his is isn't a matter of *proving* anything; as the crossword analogy makes apparent, assessing evidence is a matter of weighing different factors in the balance, with little prospect of a linear ordering or an algorithm for trading off success on one dimension against failure on another. How reasonable one's confidence in a candidate answer to a crossword clue is depends on:

> how much *support* is given to this entry by the clue and any intersecting entries that have already been filled in; how reasonable, *independently* of the entry in question, one's confidence is that those other already-filled in entries are correct; and *how many* of the intersecting entries have been filled in (126-27, emphases added).

In line with this three part dependence, and on the working assumption that how justified someone is in believing something depends how good his evidence is, Haack begins to spell out her foundherentist criteria of epistemic justification by taking it to be a function of (a) how favourable the evidence for a proposition is; (b) how independently secure that part of the believing subject's evidence that consists in further beliefs is; and (c) how much of the evidence relevant to the truth of the belief has been taken account of.

If your stock of beliefs entails *p*, you have, insofar, evidence for its truth that could hardly be better; but if these beliefs are ill-founded, an argument from their propositional contents to *p* may be valid but unsound, and this may make your overall evidence for *p* quite poor—and similarly if there is evidence relevant to whether *p* not within your ken. At the core of Haack's account of what makes a body of evidence supportive (or not) of a target belief is the idea that it depends on how well the evidence and the belief fit together. According to what, in an allusion to the eponymous protagonist of a mid-1970s legal drama, Haack calls the "Petrocelli Principle," evidence E "is the more supportive [of a belief that *p*] the less room it leaves for alternatives to *p*" (127). Less metaphorically, a body of evidence supports a proposition to the degree that adding the proposition to the evidence "improves its *explanatory integration*" (*Ibid.*, emphasis added) more than does adding competitor propositions to it.

Unlike the more familiar notion of explanatory coherence, explanatory integration has a role for experience as well as belief; unlike the all too familiar notion of inference to "the best" explanation, it is neither one-directional, nor optimific. In like fashion, the comprehensiveness dimension of foundherentism's cri-

teria differs from the "*total* evidence" requirement on inductive inference in being open ended and gradational. Haack's epistemology, and her philosophy generally, is thoroughly synechistic and meliorist: things hang together in multifarious ways; and while perfection isn't to be hoped for, improvement can nevertheless be striven for. That's the way the world is, and we mustn't forget it in our philosophy.

Having articulated foundherentism in enough detail to make it a worked out theory rather than an ambitious promissory note, Haack returns to issues from "The Relevance of Psychology" and to a philosopher whose dogmatic absolutism about logic had been patiently criticized in *Deviant Logic*: Karl Popper. As Popper's falsificationist philosophy of science was marked by a sharp divide between deductive logic (essential to science) and inductive logic (irrelevant to science, and non-existent), so his later "epistemology without the knowing subject" is marked by a sharp divide between the justification of theories and other cognitive artifacts (the job of epistemology) and the causation of belief (the job of psychology). Haack had first articulated her diagnosis of the flaws in this outlook in two papers published in 1979.[46] In E&I she uses Popper's views, and their elaboration and defence by John Watkins, as a foil for further articulation of her account of the evidence of the senses.

Foundherentism's integration of a subjects perceptual experiences into his evidence for a particular belief takes it for granted that what we perceive by means of our sense organs are "things and events around us" (E&I 158), not sense-data or "seemings" "immediately" before us epistemologically speaking. Given this, Haack allows, the question whether, this pre-analytic presumption can be supported by plausible scientific theories of perception naturally arises. In answer, she points to the remarkable congruence between the rough and ready theory of perception built into foundherentism and the "theory of 'direct perception' central to the 'ecological psychology' of J. J. Gibson and his followers" (162).

As Haack was working out, her foundherentist dismantling of the deadlock between foundationalists and coherentists, Alvin Goldman was blazing a different trail to an ostensibly nearby destination. At first he presented his reliabilist theory of justification in a foundationalist guise, basic beliefs being justified just in case they were formed by unconditionally reliable processes, and derived beliefs if formed by conditionally reliable processes. Since tying justification to reliability does not, however, require this foundationalist structure; and, since, like foundherentism, reliabilism allows that the concept of justification is partly causal, it might seem to be a serious competitor to foundherentism in the effort to improve upon both foundationalism and coherentism by calling dubious assumptions of each into question. Upon examination, however, it becomes evident that instead of furthering this admirable end by contributing to the solution of hard problems, the much touted "reliabilist revolution"[47] in epistemology mainly multiplies factitious ones.

By contrast to foundherentism, with its working hypothesis that to be epistemically justified in a belief is virtually the same concept as that of having good evidence for it,[48] reliabilism proposes to account for justification without recourse to the concept of evidence at all. Instead of the foundherentist idea that evidence is good to the degree to which it is experientially anchored and explanatorily integrated, we have the "externalist" idea that a justified belief is a function of the truth conduciveness of the process by which it was formed. As soon as Goldman put this view forward[49] a welter of objections sprang up; and the root cause isn't hard to find: that a subject's evidence for or against a given belief, the process by which he formed it may be something of which he is entirely unaware; but the suggestion that whether or not (or the degree to which) we are justified in our beliefs might depend on matters *entirely* beyond our ken is highly implausible

In his initial statement of the reliabilist theory, Goldman worried about the prospect of "a benevolent demon who so arranges things that beliefs formed by wishful thinking are usually true" (Goldman 1979, 16). In a world under the control of a benevolent demon wishful thinking is a reliable method of forming beliefs, but surely "we don't want to regard beliefs that result from wishful thinking as justified?" (Ibid.). Indeed we don't; so Goldman makes three qualifications to his theory: first, that in order to confer justification, a belief forming process must be reliable *in the actual world*, or in a "non-manipulated environment" (17); second, that what matters is not which processes happen to be reliable, but which ones we believe to be reliable; and third that justified beliefs must meet a "no undermining" clause to the effect that subjects who are justified in reliably formed beliefs can't have had available to them other reliable processes which would

have prompted a different belief, but which they did not employ (20). The cumulative effect of these measures is to deny Goldman so much as a Pyrrhic victory; for they conspire to deprive reliabilism of any serious reliance on reliability. Without facing up to the consequences of the admission, Goldman is conceding that in order to solve problem of which he seems lucidly aware, he just in effect acknowledge that subjects who lack evidence that given beliefs of theirs were reliably formed (or who have evidence available to them that beliefs of theirs were not so formed) cannot be justified in these belief *even if they were, in fact, formed by reliable processes.*

Six years later, in a large book,[50] Goldman proposed a new defence of reliabilism, couched in terms of criteria of correctness for "systems of J-rules," where J-rules are "permissive rules for justified belief formation."[51] In order to handle by then familiar counter-examples—for example, the so-called "clairvoyance problem"[52]—he must once again formulate protective clauses to the effect that reliable processes yield justification only if they aren't compromised, for example by "cognitive states" which the subject in question could (and ought to) have brought to bear on the situation, but didn't; i.e., once again, justification can be defeated by contrary evidence. Moreover, in order to respond to the objection that the reliabilist has, implausibly, to maintain that if we were in the thrall of a malevolent demon we would be deprived, not only of truth, but of justification, he proposes that the scope of reliabilist justification be restricted to processes that would be reliable if they were operating in "normal worlds," i.e. worlds "consistent with our general beliefs about the actual world" (E&C 107). For reasons not worth entering into in detail, this maneuver fares no better than the earlier, actual world strategy. Because the beliefs in terms of which we are to understand what counts as a normal world are not to include beliefs about our cognitive powers, saying that justified beliefs tare those that "would result *in normal worlds* in a [sufficiently high ration of truth to false beliefs]" (Ibid., emphasis in original) implies nothing at all about which processes are reliable: the normal worlds restriction "makes no discrimination at all among beliefs" (E&I 203).

In due course, Goldman abandoned this second attempt to salvage reliabilism, and proposed instead that our pre-analytic concept of epistemic justification is systematically ambiguous between a weak and a strong sense of the notion.[53] The idea now is that in a weak, responsibility-focussed sense of justification, the intuition that we would be justified in the false beliefs to which we would be condemned if we were victims of a Cartesian Demon can be sustained; but in the strong (reliabilist) truth-focussed sense it is properly overridden. You are weakly justified in a belief as long as you can't be faulted for holding it, but strong justification depends on the truth-conduciveness of the process by which you formed the belief.

Goldman thinks that a suitably divided concept of epistemic justification allows us to say what we should say, both about what our epistemic situation would be in a malevolent demon world, and about what the epistemic situation of "benighted cognizers"—members of cultures or communities in which gross superstitions, in the form of trusting in oracles, omens and the like, are rampant—can be in the actual world. If you are led into falsehood through no fault of your own, don't deserve blame for acquiescing in the relevant false beliefs; that's because not deserving blame is more or less the same thing as not being at fault. Nevertheless, the false beliefs of benighted cognizers may well not be justified in the more exigent truth-focussed sense at issue in traditional epistemology. As Haack points out, however, even if this proposal were to work for the case of benighted cognizers here on earth, the reasons why point an opposed moral in a malevolent Demon world.

Granting that we don't think that people in the actual world brought up to trust in untrustworthy sources deserve blame for holding false beliefs derived thereby, but do think that in some sense they lack epistemic justification for them, our rationale for these contrasting judgements is that the evidence available to benighted cognizers is itself benighted. We take ourselves to have acquired more and better evidence for our beliefs, and to have developed superior means of "judging of it,"[54] than we are supposing was at their disposal. But in a Demon world, false belief is ineradicable; in those circumstances, we err no matter how much we "learn" or how well we judge of the always systematically misleading evidence foisted on us. So our reasons for denying "strong" justification to terrestrial believing subjects in impoverished epistemic circumstances don't apply in this situation—and Goldman's attempt to save reliabilism betrays a subtle fail-

ure to keep the world in mind. When real life people in dogmatic, superstition-ridden environments fall in line with the inadequate epistemic practices available to them, we may well feel pulled "between the verdict that [they are] and the verdict that [they are not] justified in [their] beliefs" E&I, 205). But we need not feel any corresponding ambivalence about how to assess our situation (perhaps that should be "our" situation) if *all* efforts to keep track of the world were foiled from the outset.

<center>***</center>

At this point, a less ambitious E&I might have brought its account of the standards of justification implicit in our ongoing practices of assessing belief from an epistemic point of view to a close: foundherentism has been established, and a popular rival, reliabilism, given a drubbing. But a host of meta-epistemological questions have cropped up, and there remains another possible competitor position to contend with: Quine's "epistemology naturalized." Haack's examination in E&I of Quine's shifting positions on central epistemological issues reminds one of her combing through his correspondingly unstable views on the viability of deviant logics almost twenty years previously. If anything, the painstaking labour required to sort things out yields even richer fruit in epistemology than it did in the philosophy of logic.

In *Deviant Logic*, Haack had shown that there's a lot more to the seemingly straightforward distinction between expanding the ambit of classical logic and mounting a fundamental challenge to its pretentions than first meets the eye. In E&I she makes a parallel point with respect to the distinction between expanding the horizons of traditional epistemology and transcending the established enterprise altogether. Or rather, she makes a host of points; for the "seductively ambiguous rubric 'naturalistic epistemology'" might be used to cover "significantly different (and in some instances incompatible) conceptions [of what such a thing could be]"(E&I 167). At one end of the spectrum is the suggestion that the term "epistemology" be allowed to refer "not only to the philosophical theory of knowledge, but also to natural scientific studies of cognition" (Ibid.); at the other, more radical end are "strong trends markedly hostile to the traditional projects of epistemology" (E&I 37), the most virulent of which is probably Richard Rorty's conception of epistemology as a misbegotten enterprise born of a misplaced desire to restore philosophy to the preeminence it had allegedly enjoyed before the rise of modern science.

Rorty takes Quine's animadversions against the "[dream] of a first philosophy firmer than science and serving to justify our knowledge of the external world" (Quine 1970b, 2) to be grist for his anti-epistemological mill. But Quine can also be found advocating what sounds like something quite different; not a repudiation of epistemology, but a transformed conception of it. Instead of "a separate a priori discipline," epistemology naturalized would become "an integral, interlocking part of our whole web of beliefs about the world" (E&I 170-1). Sometimes Quine anticipates radical forms of scientism (and serves Rorty's turn); sometimes (like Lewis, BonJour, and Davidson) he anticipates foundherentism.

Oddly enough, the philosopher who once opined that "philosophy of science is philosophy enough" (1953b, 446) can't make up his mind about science. When Quine speaks of epistemology as part of science, does mean by "science" the ensemble of those disciplines "ordinarily called 'sciences'"? (E&I 172). Or rather "our empirical beliefs generally," including in addition to canonical scientific fields, the whole realm of untutored "commonsense," historical inquiry, and mathematics, logic, and philosophy itself? (Ibid.). English usage can support either choice, and there is nothing wrong with mixing and matching according to context. But there is everything wrong with exploiting this rhetorical license to keep hard problems at bay.[55] Does Quine wish naturalized epistemology to be a science of knowledge that replaces the traditional philosophy of knowledge? Or does he think that the traditional philosophy of knowledge would benefit by being undertaken in a scientific spirit? In Haack's taxonomy, this is the question whether Quine's naturalism is scientistic, or rather "a posteriorist." Empirical science is of course a posteriori, but there is more to this broad category than empirical science. Scientistic naturalism, then, advocates either the outright dismissal of such epistemological concerns as the justification of belief and the character and quality of evidence (in its revolutionary version), or their being handed over to the special sciences (the reformist version); and in either version epistemology as a distinct branch of philosophical inquiry comes to an end. A posteriorist

naturalism, by contrast, urges the merits of tackling the traditional questions, philosophically, but within in the realm of empirical knowledge (science broadly conceived), rather than independently of it. Quine serves up a mish-mash, "a sort of composite of three, mutually incompatible, styles of naturalism [in epistemology]" (E&I 180).

The dream of a first philosophy firmer than science may be over, but the question of the epistemological status of science remains. In *Deviant Logic* Haack had pointed out that neither classical logicians nor their deviant competitors[56] can without further ado sit in judgement on their own case. In E&I she makes a connected point regarding the epistemology of scientific knowledge: just because the sciences have generated a rich abundance of well-confirmed, interlocking theories of the world doesn't mean that *explaining* how they did it, and how it could possibly have been done,[57] should (or can) be left to them alone. Anticipating a theme that will loom increasingly large in its own right, Haack notes that

> although *science* [narrowly construed] has acquired a certain epistemic authority in the eyes of the lay public, there is no reason to think that it is in possession of a special method of inquiry unavailable to historians or detectives or the rest of us, nor that it is immune from the susceptibility to fad and fashion, politics and propaganda, partiality and power-seeking to which all human cognitive activity is prone (E&I 187).

In Haack's view the sciences, colloquially and sociologically so-called, enjoy "a distinguished epistemic standing, but not a privileged one" (188).[58] To see the difference, and to highlight the unpalatable consequences of awarding science an unwarranted privilege *vis à vis* the rest of life, I turn to Haack's subversion of the revolutionary scientistic eschewal of traditional epistemology found in writings of Paul and Patricia Churchland and Stephen Stich.

I have already quoted from Haack's discussion of Stich and the Churchlands, in illustration of her fine ear for the "note of ambitious wistfulness for greener pastures than the old, overgrazed epistemological fields" (E&I 238)[59] that permeates their jaded disdain for the supposedly worn-out problems and debates from which would like to wean us. The Comtean hankering after a science more advanced and glorious than philosophy—a recurrent malaise, as witnessed by Haack's recently having had to expose the flaws in particularly noxious forms of it currently enjoying their brief moments in the sun[60]—contrasts sharply with Haack's Peircean vision of a philosophy truly animated by the spirit of science.[61] In the present instance Haack's target is a blunt argument that, if sound, would indeed discredit epistemology altogether: epistemology is concerned with criteria for evaluating beliefs with respect to likelihood of truth, i.e. justification in the specifically epistemic sense; but advances in cognitive and neuro-science reveal that belief is an outmoded category—so epistemology is an outmoded discipline.

Setting aside hype about alleged paradigm-shifting breakthroughs made by cognitive science and neuroscience, the burden of the argument (insofar as there is an argument) for this scientistic elimination of epistemology relies on an aggressive reductionism in the philosophy of mind. If intentional states generally aren't reducible to physical states, and if the physical realm is all that there is, intentional states must be explained away as congenital illusions. If there are no intentional states, there are no beliefs; and if there are no beliefs there's nothing for epistemology to be about. Since reductive physicalism is a piece of metaphysics, not a scientific discovery, this route to the elimination of epistemology depends, not on a due respect for science, but on "preconceptions in the philosophy of mind" (E&I 226), the embarrassing character of which is made evident by the incredibility of the conclusions they mandate. Where Stich and the Churchlands jettison beliefs and intentional states generally on the grounds that they are incompatible with physicalism, Haack gets to work on the hard problem of establishing how to understand physicalism in a way that doesn't lead to patently incredible conclusions.

That "atheism" about beliefs is patently incredible can be shown by noting the impossibility *arguing* for it. As John Heil wryly observes, if the no-belief thesis were true, it could "neither be taken seriously, nor accepted," and "must be simultaneously unbelievable and indubitable" (1988, 346). Where Heil is charitably

willing to envisage the possibility that Stich and the Churchlands may defend their promulgation of the offending thesis *Tractatus*-style, as a deep truth that can be shown but not stated, Haack prefers bluntly to retort that those who put it forward seem to her "to be kicking away the ladder while they are climbing up it" (E&I 238). Not content to leave it at that, she sketches the beginnings of a positive response to the scientistic challenge, a "sign mediation" account of belief that will be amplified and augmented in later work.

To Stich and the Churchlands, the demise of epistemology is a welcome piece of collateral damage, but to Richard Rorty, at least in *Philosophy and the Mirror of Nature*, it is the arch enemy; which makes him Haack's *bête noir*. For Rorty attacks epistemology in the name of pragmatism, and this rather stinks in Haack's nostrils. Doggedly keeping at it, she has, accordingly, been especially scrupulous and copious in her replies to Rorty's influential brand of anti-epistemological, indeed anti-philosophical, pragmatism.[62]

I remarked above on Rorty's penchant for conflating "philosophy in the linguistic-conceptual analysis mould" with philosophy period, such that disenchantment with the once triumphant paradigm led ineluctably to disenchantment with the entire enterprise. In his critique of epistemology, this assimilation is presented as a natural consequence of the fact that early-to-mid-twentieth century analytic philosophy was the last gasp of "foundationalist" philosophy as it has been conceived since the rise of modern science. Rorty argues that the waning and final eclipse of the Middle Ages left a cultural void which philosophers aspired to fill. If philosophy could combine the intellectual rigour of the physical sciences with the sensitivity to the full gamut of human needs and aspirations of religion, the modern age could have it all: that, Rorty argues, was the pipe dream that gave birth to epistemology as it had come to be known by the time he and Haack began studying philosophy. Having seen through the linguistic turn, Rorty decided that the real philosophical revolutionaries were those who had undone some of its defining tenets from within; most notably, Wilfrid Sellars—in his critique of the Myth of the Given—and Quine, in his critique of the analytic-synthetic distinction. Merge these two critiques into one, Rorty argued, and you pull the rug out from under the whole idea of epistemology. Epistemology seeks to ground knowledge, so it has to be foundationalist; and epistemology is foundational to philosophy conceived as foundational to culture: take away the foundations and everything comes crashing down together.

Rorty's this-or-nothingism is audacious: philosophy is either the Queen of the Sciences or an arrant pretender; truth is either Correspondence-to-Things-in-Themselves or "an empty complement" (Mirror 371) paid to beliefs that no one cares or dares to question; and epistemic justification either derives from Nature Itself, or is an entirely conventional affair, subject only to norms of conversation and social interaction. Haack's first order of business is to distinguish three senses in which an epistemology, or the discipline itself, might be foundational, or foundationalist. The first is the sense pertaining to the structure of justification at issue in debates between foundationalists and coherentists. A second is the conception of epistemology as first philosophy firmer than science, with the "explication of criteria of justification [regarded] as an analytic enterprise, [and] their ratification as requiring a priori proof of their truth-indicativeness" (E&I 244). And a third is "[the] thesis that criteria of justification are not purely conventional but stand in need of objective grounding" (Ibid.).

As we have seen, Haack rejects foundationalism in the first two of these three senses, and grants that arguments owing to Sellars and Quine help establish their insufficiency; so the viability of Rorty's dramatic conclusions depends upon the plausibility of his attack on foundationalism in the third, "objectivist" sense. His argument against objective standards of epistemic justification turns on distinguishing two senses of such crucial notions as "true" and "real"—a "homely, shopworn" sense, in which, "true" for example means "what you can defend against all comers," and a "specifically philosophical sense which, like the Ideas of Pure Reason is designed precisely to stand for the Unconditioned"—and then arguing that "most of the perplexities of epistemology come from vacillation between these two senses" (Mirror 308). The distinction, and the argument based on it, are "stunningly untenable"; for it "cannot be said too plainly that there is *no* sense of 'true … in which it means 'what you can defend against all comers" (E&I 247)— no more, harking back to an earlier stage of her career, Haack might have added, than there is a sense of "very true" in which it means "true squared." When we note that there are several conceptions and understandings of truth that

lie in between Rorty's hopeless irrealism and the hapless Grand Transcendentalism to which he opposes it, the perplexities of epistemology are left standing, as challenging and thought-provoking as ever.

Not that the problems and ambitions of epistemology are etched in stone. On the contrary, one of E&I's most fruitful achievements lies in its (re)shaping and (re)conceiving what exactly epistemologists interested in understanding and justifying empirical knowledge should take themselves to be doing. Instead of wrangling over the conditions necessary and sufficient for it to be the case the S knows that P,[63] for example, Haack tries to "spell out with some precision and theoretical depth what is implicit in judgements that this person has excellent reasons for this belief, that that person has unjustifiably jumped to a conclusion, that another person has been the victim of wishful thinking … and so forth" (E&I 49). Instead of trying to slay the skeptical dragon, she inquires into the *bona fides* of the patterns of epistemic evaluation ingrained in our everyday activities and intellectual undertakings, asking what reason we have to believe that we can take the standards we use to be *good*, whether or not we're entitled to suppose that (in foundherentist terms) beliefs supported by more and better evidence, more deeply anchored experientially and explanatorily integrated, have a better chance of being true than beliefs worse off in these respects.

In a cavalier reply to Haack's criticisms of his views, Rorty lets slip that he is sympathetic to the basic idea behind a reliabilist approach to the discipline he would like to put out of business (1995, 149); and his reasoning makes a perverse kind of sense. For one of the most telling demerits of reliabilism is its trivialization of the hard problem of ratification; and instead of following Goldman in brazenly trying to make a virtue of this necessity, Rorty takes it to be a *reductio* of the undertaking. Calling unavoidably to mind Russell's apothegm about the advantages of theft over honest toil, Goldman builds a "solution" to the problem of ratification into his response to the problem of explication (E&I 194). In a curious case of the extremes that proverbially meet—and an ironic case of abetting Rorty's agenda—this conflation of distinct problems is of a piece with the notorious Cartesian circle in Descartes' *Meditations*. With God in hand, Descartes can prove that what he perceives clearly and distinctly must be true; and with this principle in hand, he can prove that God exists, "prove" in both cases being taken aspirationally. Given a reliabilist explication of justification, the task of ratification is completed before it's begun: unless we form our beliefs so as to ensure truth, we don't have justification; and if we do form beliefs by means that tend to produce true ones the resulting convictions are justified automatically.

In the face of such attacks, reliabilists might seek refuge in the suggestion that we simply replace the standards of evidence appraisal we currently use with the reliabilist ones they propose. So conceived, reliabilism's brisk way with the problem of ratification might be passed off as a boon, rather than a bane. But this only moves them from the rock to the hard place; for "unlike the evidentialist criteria of justification we actually have, the reliabilist criterion is just not the kind of thing we could use to appraise a person's justification; all we can do is work on the basis of what we take to be truth-indicative, i.e., use the criteria of evidence that the revisionist reliabilist wants to replace" (E&I 271).

We think that we know, but we can't prove it—and neither should we try. In Haack's unflinchingly "un-Cartesian" epistemology, it's not just Descartes' "proof" that what we clearly and distinctly perceive to be true must be true that is rejected, the whole idea of *demonstrating* that "our presumed knowledge is indeed knowledge" (E&I 270) is given up as a bad job. In contrast to the unrealistic hopes of traditional a priorist attempts at ratification, Haack's more modest goal is "to offer what reassurance [she] can that … foundherentist criteria are truth-indicative" (263). Her ratification of foundherentism takes the shape of pincer movement in which an approach "from above" works together with an approach "from below." Moving in the one direction, she seeks to "relate COMPLETE justification [i.e. belief sustained by evidence incapable of expansion, the explanatory integration and experiential anchoring of which can't be improved] to decisive indication of [truth]"; moving in the other "to relate lesser degrees of justification to grades of truth-indicativeness" (274). From above she provides a "rather oblique" response to hyperbolic Cartesian skepticism, from below a similarly qualified response to less radical pre-Cartesian skepticisms. In both cases, the argument rests on the point made earlier, that when we try to figure things out, "all we have to go on … is our experience and the explanatory stories we devise to account for it" (278).

Working from above, it's tempting to take Peirce's account of truth, as "the opinion which is fated to be agreed to by all who investigate" (5.407), to be tantamount to an equation of truth with COMPLETE justification. If we do this, we can say that the best we can possibly do by way of striving indefatigably and intelligently *for* the truth just *is*, "by definition" what is true, thus establishing that the COMPLETE justification of a belief is indeed a decisive indication of its truth, because it is in fact *constitutive* of it. Lest such a strategy be thought to leave too many hostages to fortune, Haack complements it by a more guarded line of reasoning with a conditional conclusion: however we understand truth: "*Unless* COMPLETE justification is truth-indicative … inquiry would be futile" (E&I 276, emphasis added). If you don't think there's a truth to be found, looking for it is as senseless as hunting for Easter eggs in November. If inquiring into something is to be a coherent undertaking, COMPLETE justification must be at least indicative of truth, even if not necessarily constitutive of it.

In the real world "we are seldom, if ever, COMPLETELY justified in any of our beliefs," so an argument from below, "focusing on lesser degrees of justification also needs to be explored" (E&I 277). If the argument from above brings questions of truth and meaning to the fore, the argument from below latches on to the details of the foundherentist account of what makes evidence supportive. Since the supportiveness of evidence E with respect to a belief that p "depends on how little room E leaves for competitors to p" (278), the more supportive a body of evidence for p is the less room there is for alternatives to p. In the limit case of COMPLETE justification, there is no room for anything but p, and in general "degree of justification by the foundherentist criteria [turns out] to be as good an indication of truth as one could have" (Ibid.).

Cutting against the fashionable grain as usual, Haack's quasi-deductive ratification from below marks significant progress on a problem many have thought to be frustratingly insoluble; the notorious conundrum of justifying inductive inference. In focussing on evidence instead of modes of reasoning, Haack avoids running into an all too familiar impasse. How might we try to justify induction? Not deductively, for a deductive argument with the conclusion that inductive inferences *must* result in true conclusions has a patently false conclusion; many inductions don't pan out. But not inductively either, for an inductive argument to the effect that we should continue to rely on induction in the future because it has served us so well in the past is patently circular. So we're stuck. By contrast, the question what contributes to the supportiveness of a body of evidence for a belief founded thereon is given a promising answer in E&I; and later work, in which the basic elements of this answer are retained, while the theory of which it is an integral part is refined and improved, has borne out the initial promise.[64]

Some years before she had begun working out her foundherentist theory of the justification of empirical knowledge, Haack had pointed out that the traditional problem of justifying induction is only the half of it; for a parallel dilemma arises for any attempt to justify deductive reasoning: "an inductive justification of deduction would be too weak, a deductive justification circular" (DL 181).[65] The real problem here concerns reasoning as such; the problem—still on Haack's agenda, as noted above—of identifying the grounds of validity of the laws of logic.[66] And the general lesson is that "[e]pistemology … and its meta-theory are integral parts of a whole web of theories about the world and ourselves, not underpinning but intermeshing with other parts" (E&I 283).

BRANCHING OUT IN ALL DIRECTIONS

Lesser spirits might have taken a breather, content to rest a while, drawing on the wealth of insights, distinctions, conceptual innovations etc. developed in E&I. Haack had other ideas, to put it mildly and with deliberate ambiguity. Keeping at it with redoubled energy, in the thirty years since moving to Miami, she has made substantial contributions to:

- Metaphysics: relativisms and realisms; the nature of belief; Innocent Realism.
- Philosophy of Science: scientific evidence and inquiry; value of science, and its relations to literature and religion; perils of scientism and pitfalls of "anti-science-ism"; Critical Common-Sensism.

- Ethics and Social Philosophy: integrity, affirmative action, feminism and multiculturalism, the state of the academy and professional philosophy, epistemological character.
- Law: scientific testimony and the expert witness; logic and experience in the law; law as a social institution; legal concepts as evolving.
- Metaphor, the growth of meaning, philosophy of literature, the epistemological novel
- Peirce, pragmatism, and the future of philosophy.

It would be impossible to cover even a modest part of all this in the pages I have left; and before I embark on somewhat more substantial discussions of the value of truth and inquiry, Innocent Realism and Critical Common-Sensism, and the further evolution of Haack's "multi-faceted philosophy" in the course of developing a novel, classically pragmatist understanding of the law, I can't forebear mentioning some topics and themes that will have to be left for another day: creative, imaginative work on metaphor extending back thirty years,[67] on the epistemological novel and literature and science, on the role of humour in serious philosophy, The Real, the Fictional, and the Fake, and the memorable "Coherence Consistency, Cogency, Congruity, Cohesiveness &c."; courageous work on feminism and the distinction between inquiry and advocacy; meticulous, scholarly work on Peirce and the origins of pragmatism; and, personal favourites, pithy, resonant pieces on the many meanings of life and "Why I am Not an Oxymoron."

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By the time Haack left England, it had become clear to her that hostility to epistemology—whether of a revolutionary scientist or a vulgar pragmatist stripe—was symptomatic of a wider cultural malaise; and this brought into fuller view an important distinction between the two strategies for rejecting epistemology rebutted in E&I. Formally, the reasons offered for the inutility of epistemology are parallel; the one camp dismisses the enterprise on the grounds that it relies on the mistaken assumption that there are beliefs, the other disparages it on the grounds that it relies on the mistaken assumption that criteria of justification are anything more than optional social conventions. These arguments fail in consequence of an impoverished understanding of their respective targets, belief and epistemic justification. But there is a difference between them. Beliefs have been around for as long as there have been people; so there's no hope of actually doing away with them, whatever you may think—which is to say *believe*!—in theory. The hard part is *explaining* what it is to believe something, rather than explaining it away.[68] But epistemology—and more specifically the project of crafting a satisfactory theory of epistemic justification—is an historically contingent undertaking that would come to an end if it simply lost adherents.[69] If you think you can get by without belief you're fooling yourself; but if you think that you can get by without epistemology you may instead be *worsening* yourself.

In criticism of his gestures in the direction of a world in which sometime epistemologists would seek, not to discover anything, but to "carry on the conversation of Western culture" (Mirror 377-8), Haack had retorted bluntly that "[t]*here could be no honest intellectual work in Rorty's post-epistemological utopia*" (E&I 252), a way of putting it that invites reflection on the doleful prospect of a dystopian world of intellectual maundering, but no *real work*. And indeed, as Haack and Rorty were squaring off, a sophisticated and alarming scorn for truth was burgeoning, as "radical feminists, multiculturalist, sociologists of knowledge, literary theorists," converged on the view that—recondite epistemology aside—honest inquiry of any kind is "neither possible, nor desirable" (*Manifesto,* ix and 1).

In their workaday activities, nobody "seriously doubts the possibility or the usefulness of finding things out, that is something we all take for granted when we inquire about plane schedules, or the state of our bank accounts, or the best treatment for our child's illness" (*Manifesto,* 1). This is why Haack regards those who nevertheless indulge in self-flattering aspersion of "The Disinterested Search for Truth"[70] as having succumbed to "a deliberate and factitious despair."[71] It can be added that this discrepancy between high-flown theory and daily practice is a sign of having forgotten the world in an all too familiar way: in your study, you may write impassioned screeds excoriating culturally-invariant truth and the disinterested

effort to uncover it as dubious social constructs, deviously complicit in regimes of domination and exploitation; but when you're waiting in line at the bank, or wondering whether to participate in an experimental medical trial, or skate on the recently frozen pond, … or etc. you perforce think otherwise, about the length of the line, chances of success of the trial, thickness of the ice.

A common source of hostility to "valorizing" the disinterested pursuit of the truth is a vivid awareness that much of "what has passed for [success in this endeavour] … has … turned out to be no such thing" (*Manifesto*, 93).[72] False and noxious theories have passed for true, and supposedly unbiased investigators have been in the firm grip of harmful prejudices, perhaps culpably, perhaps in virtue of their times: too true, but fully in keeping with—indeed *requiring*—the possibility and value of truth and unbiased inquiry. Without a robust notion of truth, what would we be doing when we *acknowledge* the truths in question? (If you want to speak truth to power, you're ill advised to give up on truth!). To infer from our having often been wrong in the past to our never being able to be right is certainly to bear witness to a "factitious despair"; but "so ubiquitous" has this seductive *non sequitur* become that "it deserves a name"; Haack calls it "the 'passes for' fallacy" (Ibid.).

Sometimes the factitous despair involved in the passes for fallacy predominates over the pragmatic self-contradiction to which it may lead. When the precious harvest of truth is overrun by the canker worms and locusts of bullshit, duplicity, self-aggrandizement, and "preposterism"[73] it's tempting to give up and say "what profits it to sow?"[74]—which brings us to Haack's Innocent Realism and Critical Common-Sensism, the first naming her distinctive approach to metaphysics, the latter her distinctive contribution to the epistemology of scientific evidence and scientific inquiry. Both outlooks had been implicit in her philosophy for some time; and her ongoing efforts to deepen and sharpen them testify especially well to the interplay between the first and third of my overarching maxims of her thought, to the deeply original way she keeps at it with patience, rigour, flair, and aplomb.

As foundherentism steers between foundationalism and coherentism, Innocent Realism navigates between the whirlpool of overambitious metaphysical realisms and the many-headed monster of self-undermining relativisms. In her first published formulation of the view— in an article that opened with a table of different forms of relativism that had been "sketched on the blackboard in response to a plaintive question from a student: 'Dr. Haack, what is relativism?—I know that Dr. X … is against it, but I don't know what it is'" (*Manifesto*, 211)—Haack contrasts Innocent Realism with the "complex congeries of intermeshing theses" grouped together by Hilary Putnam, with pejorative intent, under the heading "Metaphysical Realism"; the theses, namely, that

> there is one real world, consisting of a fixed totality of mind-independent objects; that there is one true description of this one real world, a description couched in a privileged 'absolute' scientific vocabulary; and that it's truth consists in its copying, or corresponding to, the world and the fixed totality of mind-independent objects therein (*Manifesto*, 153 [RR]).

Innocent Realism grants that there is one real world, but jettisons the excess baggage. Yes, there is one *real* world; the one with real things and stuff, as opposed to figments. But No, the one real world doesn't consist of a totality of mind-independent objects, that admits of a description that "correspond" to these objects and is couched in a unique privileged vocabulary. In the first instance, then, the real world as Innocent Realism conceives it contrasts with the innumerable fictional worlds created by writers and storytellers, not to mention liars and frauds. The contents of works of fiction aren't in the real world, but the works themselves are: the world, though *one*, is "a pluralistic universe, extraordinarily varied and multi-faceted and yet, at the same time unified" (World and How 552). There being only one real world, Haack notes, is compatible with there being many "universes" in the quasi-technical sense of the term invoked in multiverse theories in cosmology. What evidence there is for the existence of many universes distinct from our own is, perforce, found in the one real world; a world in which

[b]esides the enormous variety of natural stuff, things, kinds, events, laws, etc., there is also the almost unimaginable range of human beliefs, hopes, fears, etc., and a dense mesh of human creations, physical and mental, intellectual and imaginative: physical artifacts; social institutions; intellectual constructions such as languages, notation systems, concepts and theories; and imaginative creations such as myths, legends, and folk tales, works of art, plays, poems, works of fiction and the imagined places, people, and scenarios they introduce (*Ibid*.).

As Haack makes clear,[75] the innocence of innocent realism is a philosophical achievement, not a human given. It is both a return—to believing in our philosophy what we all along believed in our hearts—and an advance, for it's anything but easy to flesh out the plausible starting points of Innocent Realism in a philosophically satisfactory way. As we've seen, Haack often makes progress by refusing specious questions, and skirting the futile debates they spawn. Is there, or isn't there "a fixed totality of mind-independent objects"? The question "traps you in a metaphysical corner[:] [a]nswer 'yes' and you seem to be committed to something like a Logical Atomist picture, with … mysterious logically ultimate objects; answer 'no' and you seem to be committed to the idea that our conceptual goings-on bring new objects into existence" (*Manifesto*, 159 [RR]). But we have better reason to reject each of these alternatives than to regard ourselves as obliged to choose between them. So there's nothing for it but to seek out a better place from which to begin—which, by the turn of the present century Haack was doing in the process of developing a characteristically original pragmatist-foundherentist philosophy of science.

A crucial aim of *Defending Science* (DS) is signalled in its subtitle: to work out an account of science "Between Scientism and Cynicism," one that is neither unduly credulous and deferential to science, nor unduly suspicious and dismissive of it, able genuinely to illuminate what it is and what it does. "Scientism," then, is not restricted to the rampant versions found in Stich and the Churchlands, nor is cynicism the dubious prerogative of Rorty and his fellow initiates into the "the Higher Dismissiveness."[76] On the one side, mainstream twentieth century philosophers of science, "the Old Deferentialists," as Haack dubs them, give aid to scientism when they pay it the poor compliment of ascribing its successes to the rigorous application of "*the*" scientific method to its various subjects and problems. On the other, the New Cynics—including "radical sociologists … literary theorists, rhetoricians, and semiologists, and philosophers outside strictly philosophy-of-science circles" (DS 21)—do science a disservice when they reject its epistemological pretensions outright.

Whatever else it is, science is a social institution; and whatever else it has achieved, it has enhanced and enlarged our understanding of the world prodigiously. No philosophy of science that gainsays either point can be right, and yet neither the Old Deferentialism nor the New Cynicism can do justice to both. Each side is impervious to the truth in the outlook of the other; more precisely, with respect to their opponents, neither side is disposed to register the crucial distinction between an undeniable truth, and a pernicious nearby falsehood. Science is social, yes, but that's not the end of it; for science isn't "*just another*" social institution, suitable for study only as such. Science has provided us with an extraordinary wealth of knowledge, yes, but this is something utterly different from revealing "the gospel truth" in a very nearly non-metaphorical way. The way to cleave to truth and eschew error is given in the title of the first chapter of *Defending Science*: regard science as "Neither Sacred nor a Confidence Trick."

Amplifying a theme already prominent in E&I, Haack emphasises the manifold continuities of scientific research with "the most ordinary of empirical inquiry" (DS 9). In lieu of a theory of scientific method, we get a richly worked out "More So" story about how "the modes of inference and procedures of inquiry used by all inquirers" are hugely extended and enhanced by various "mathematical, statistical, or inferential techniques, and special instruments, models etc.," all of which are "local to this or that area of science" (94-5). If "the" scientific method means a single, specifiable mode of investigation peculiar to all and only the sciences, there is no such thing (cynics are overly impressed by this point); *but* (as the cynics seem not to understand) there are many impressive, effective scientific methods that have contributed signally to wealth of knowledge owing to scientific inquiry.[77] Moreover, some of the most important "helps" to scientific in-

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quiry concern modes of social organization; for example, the ubiquitous division of epistemic labour and pooling of resources, the encouragement of fruitful cooperation and competition, and "a delicate balance of institutionalized mutual criticism and checking and the institutional authority of well-warranted results" (108).

In the terms of the established guild, the philosophy of science developed in *Defending Science* is realist, as opposed to instrumentalist, or constructive empiricist, or social constructivist or whatever. But when Haack brings her Innocent Realist-Critical Commonsensist toolkit to bear on such staple philosophy of science problems as the paradox of the ravens, the new riddle of induction, and the underdetermination of theory by data the results are predictably refreshing and salutary. In hindsight, these puzzles were ripe fruit for a philosopher who had done extensive work on the scope and limits of formal methods and models in philosophy, and explained how and why "supportiveness of evidence is not a purely formal matter, but depends on the substantial content of predicates, their place in a mesh of background beliefs, and [of course!] their relation to the world" (DS 83).

First, then, to Carl Hempel's red herring about black ravens and white shoes—that the logical equivalence of "All ravens are black" to "All things that aren't black aren't ravens" seems by impeccable reasoning to drive us to the absurd conclusion that observing a white shoe confirms the hypothesis that all ravens are black. This is troubling only to the extent that we fail to take seriously the fact "'raven' is no simple observational term, but a kind predicate" (DS 84). Since ravens are birds, the formation and testing of hypotheses about them will be sensitive to what is known about birds, and in particular to what is known about the diversity and causation of variations in colour pattern in different species and so forth.

Second, to the Nelson Goodman instigated wild goose chase for a principled reason why e.g. "green" should be projectible while "grue" isn't. Like Hempel's paradox, on which it was supposed to be an improvement, this gains traction only because of an entrenched preoccupation with the formal, syntactical dimensions of language and science, and the blinkered view of the relationship between evidence and hypothesis that follows in its train. Indeed, the fact that "'all emeralds are green' and 'all emeralds are grue' have the same form, but different content" (2005c, 244) should make the substantial rather than formal character of evidential support evident at a stroke. But wait, isn't the whole idea supposed to be that while we stubbornly believe that emeralds are green, and are loath to think of them as grue, they are nevertheless grue "by definition." Can it be denied that any evidence put forward in support of the one hypothesis also supports the other to an identical degree. Yes it can, for the challenge relies on an artificial restriction of the scope and kind of evidence that is allowed to bear on the question. Suppose a community that spoke a "grulor" language "with "grue" and "bleen" primitive and "green" and "blue" defined by reference to a time *t* before now" (85). After *t* they would find that all of a sudden "new blades of grass are coming up bleen, not grue, and … the sapphires coming out of the mine are grue, not bleen" (DS 86). Would resident scientists not begin "to suspect that something was badly wrong with their physics of color (or grulor) and their optics of color- (or grulor-) perception" (Ibid.). Formal possibilities are one thing; serious epistemological consequences another.

Haack's point here allows me to make glancing mention of two important themes in her later work: the importance of growth in meaning and enhancement of cognitive flexibility for the advance of science. Due attention to the history of inquiry from the right philosophical perspective reveals that, far from threatening the *bona fides* of scientific investigation, as so many Old Deferentialists feared (and New Cynics delighted in), changes in the meaning of theoretical terms, along with the development and application of fruitful metaphors and other helps to the imagination, can contribute materially to its success (World and How 556). Scientific theories need to fit the world, and this requires both apt and accurate description within vocabularies and frameworks and creative, judicious adjustments of them.

Finally, to Quine's worries about underdetermination, and a third go round with this imposing figure of 20th century analytic philosophy. Unsurprisingly, Quine bundles many different theses under the underdetermination umbrella, one of which is the contention that "for any scientific theory, there is another which is empirically equivalent to, but incompatible with the first," where theories are empirically equiva-

lent "just in case they entail the same set of 'observation conditionals'", and incompatible "just in case for some statement which follows from the one, either its negation or some statement which translates into its negation follows from the other" (DS 87). Given these definitions, it's impossible even to state the empirical equivalence thesis unless we "have a way of distinguishing incompatible theories with the same empirical consequences from notational variants of one and the same theory, and of identifying the class of observation statements constituting the empirical consequences of a theory" (Ibid.). As we've already seen, in his better moments, Quine rejects both presuppositions of his own celebrated thesis! In the present context, however, the point to be stressed is that even if, however long we inquired, we were stuck with alternative incompatible answers to a genuine question susceptible to scientific inquiry the conclusion to draw would be that "this is only to recognize the imperfection of our epistemic condition" (88).[78]

Science then, is glorious, but not immaculate; worthy of admiration and respect, but not worship. It is "messy, fallible, and fumbling"; like literature and sculpture, debentures and legislatures, and religion, science is something human all-too-human. Neither village pump atheists, nor true believers like the tone of this; each thinks that it cheapens science and/or religion to be thrown in with such motley company. Haack sees no cheapening of either science or religion, though she regards it as a "Point of Honour" to declare forthrightly that while the achievements of science testify to the intellectual maturity of the human species, those of religion bespeak our susceptibility to the charms of a childlike trust in the order of things.

To another imperfect, admirable, and (in our world) necessary human institution: the law. Since readers of this volume have four essays by scholars in the field at their disposal, I will restrict myself to brief "big picture" remarks about Haack's development of a distinctive, pragmatist, "mosaic" conception of a "Pluralistic Universe of Law," and focussed comments on an aspect of her work on problems of testimony by expert witnesses.

Like Oliver Wendell Holmes, Haack approaches the law, not as "some brooding omnipresence in the sky" (Holmes 1917, 222) , but as the common factor in a congeries of legal systems conceived as "local, social institutions needing constantly to adapt to new circumstances" (EM xviii). Eschewing the "sometimes dizzyingly high level of abstraction and generality" characteristic of work done in philosophy of law *qua* sub-specialty of philosophy in the analytic mould, she agrees with one of that tradition's leading figures, H. L. A. Hart, that "nothing precise enough to be recognized as a definition could provide a satisfactory answer" to the question, "What is law?" (Hart 1961, 16). In Haack's view, the idea of law is "a kind of cluster concept" identifying an evolving nexus of institutions, "the whole ensemble [of which] … represents a long and still on-going struggle to supplant arbitrary, brute force by intelligent, peaceable ways of resolving the disputes that inevitably arise in any human community" (2008, 455).

With regard to the law of evidence, foundherentism is of immediate help in directing us "[w]hen we look at the evidentiary rules and procedures of the law, [to] begin by distinguishing the epistemological values at stake if we want to arrive at factually true verdicts from legal desiderata such as promptness and finality of decisions, which may compete with them" (World and How 559). Tensions between practical imperatives and epistemological principles come to a head in the difficulties courts have had "domesticating" the rules for the admissibility of the testimony of scientific expert witnesses.

Lay witnesses can't give their own opinion or conclusions as testimony; expert witnesses can, that's the whole point of having them. But who counts as an expert? And when each party to an action produces its own experts, pre-vetted to deliver predetermined conclusions, mustn't we, with Learned Hand bemoan the fact that juries must decide "between two statements, each founded upon an experience foreign to its own," when "it is just because they are incompetent for such a task that the expert is necessary at all" (Hand 1901, 54). It's a practical-epistemological bramble bush; and much of Haack's work on the subject sounds a familiar cautionary theme concerning the scope and limitations of formal approaches to substantial questions. Just as there is no sure fire scientific method for enhancing scientific knowledge, and no sure-fire formal criterion for distinguishing an amplification to classical logic from a rival to it, so there is no "perfect legal formula" (EM 255) for admitting into the record all and only unimpeachable pertinent scientific testimony.

In his opinion for the majority in the US Supreme Court's landmark ruling in Daubert, that the old Frye rule governing the admissibility of novel scientific testimony had been superseded by the Federal Rules of Evidence, Justice Harry Blackmun ventured into the philosophy of science, for reasons that seem at first glance to be persuasive. If judges need to differentiate between admissible scientific evidence and un-helpful quackery, why not appeal to the leading philosophers of science who have worked long and hard on the "demarcation problem," the task of distinguishing genuine science from pseudo-science, metaphysics etc.? Because, answers Haack, that way madness lies, or at least a big waste of time. While there are no easy answers to the basic problem of how to make principled decisions about the standards governing admissible scientific testimony,

> there are … better questions and worse. Rather than worry fruitlessly about the problem of de-marcation or the distinction of methodology versus conclusions and all that, we would do better to turn our attention to questions of other kinds—keeping in mind that, though perfection is im-possible, better is better than worse, and the cumulative effect of small improvements can be quite large … (EM 256).

Better questions for the sake of better answers: well worth keeping in mind, but how is this precept sup-posed to help judges or juries confronted with allegedly cutting edge arcane research, the validity of which makes all the difference to the merits of case on which they must sit in judgement? Even here, Haack's ap-proach can help. The insistence on core continuity between scientific inquiry and everyday inquiry means that the lay public shouldn't give up too soon when evidence gets complicated and confusing; When the problem is that the evidence is confusing, those who are confused need to do their best to articulate the source(s) of their confusion and ask appropriate questions of anyone who might be able to help. So, to give but one of many suggestions for improvement Haack offers, perhaps, "consistent with filtering out legally unacceptable questions," ways might be found to grant jurors permission to "ask for clarification when they can't follow an expert witness" (EM 257). To give another: it's plausible to think that judges and attorneys would find it helpful to have at hand "a book, or series of books, regularly updated, suggesting what ques-tions might be advisable to ask and what answers are favorable, and what unfavorable, to the reliability of expert testimony, should this or that kind of issue arise," the hope being that

> some courts and some lawyers will ask those questions and draw reasonable conclusions from those answers; and that other attorneys and other courts will gradually, over time, learn from their experience, …, and so on. … This won't be a panacea; there can be no simple, one-shot solution to such a complex and multi-faceted problem. But it could be one useful step in the direction of im-proving both the quality of expert testimony, and courts' appraisals of its worth (2020b, 28).

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Better questions for the sake of better answers: especially worth keeping in mind in philosophy, virtually all of the landmark advancers of which have carved out distinctive questions in distinctive ways so (they hoped) as to improve their (and our) understanding of the world in its most general characteristics. This feature of philosophical inquiry is particularly prominent in the work of the classical pragmatist thinkers who have been of such vital help to Haack in her unflagging attempts to carve out fruitful questions and propose promising answers in her inimitable way. Instead of the quest for certainty, the pursuit of knowl-edge in a spirit of uncompromising fallibilism and judicious synechism. As Haack put it at the end of E&I: "When Descartes' epistemological story ended 'happily ever after', we know it was too good to be true. Per-haps it is appropriate to end my story—combining, as it does, a pervasive fallibilism with a modest opti-mism about our epistemic condition—'hopefully ever after'" (E&I 284).

And on that note, I will end my story—for now.

NOTES

1. Lambert Strether in *The Ambassadors,* 215.
2. In World and How, 2018.
3. In her contribution to the present volume, Haack takes up what she had passed over in World and How. Looking back over her career, she reflects on the development of her ideas, and they ways in which they've been nourished and sustained by characteristic habits of thought and qualities of character. The reader must judge how effectively the present piece complements "Not One of the Boys (Not One)"; it is meant to explore the same territory from a different angle.
4. As of July 1, 2020, the tally was a dozen books, more than 230 articles (and an even larger number in reprints and translations), and more than 700 lectures. Haack's work has been translated into 16 languages and appeared in 32 countries.
5. In the English speaking world, so-called continental philosophy was present on the margins, but at best tolerated by the analytic establishment.
6. See Ryle's article of the same name (1931-2). The perception of a sea change in the understanding of the nature and importance of language to inquiries in the humanities was widespread outside philosophy also, as the subtitle to George Steiner's, *Extraterritorial,* published when Haack was finishing her PhD thesis, illustrates: *Papers on Literature and the Language Revolution.*
7. As Haack has observed in recent essays (Not One, Real Question, Fragmentation) the churning mainstream of mid 20th century analytic philosophy has for some time devolved into a desultory tangle of narrow tributaries and out of the way rivulets—a disturbing case of swinging from "one faulty extreme to the opposite."
8. Cf. Not One "… I have learned over the years that I am temperamentally resistant to bandwagons … (93);" and World and How "From the beginning, … I was …. temperamentally disinclined to jump on fashionable philosophical bandwagons" (550).
9. *Philosophy of Logics* (PhL), xiv
10. The values associated with the terms of this contrast can be invidious in either direction, as big name research universities reward copious publication ahead of dedicated teaching, and well-meaning but over-zealous critics respond with ideas that would effectively turn the core of the university into a post-secondary secondary school.
11. *Deviant Logic* (DL), xxvi.
12. Haack has drawn explicit attention to the evils of cynicism in the life of the mind, for example in the title of "Not Cynicism, but Synechism" and the subtitle to *Defending Science*—Between Scientism and Cynicism.
13. Alongside the famous corollary of Peirce's First Rule of Reason: Do not block the way of inquiry. The first rule of reason itself is closely akin to Frye's apothegm: In order to learn you must desire to learn and in so desiring not be satisfied with what you already incline to think. (RLT 178). On the first rule of reason, see Haack 1997, and Migotti 1995; on the corollary, Haack 2014a.
14. A case in point being the "note of ambitious wistfulness for greener pastures than the old, overgrazed epistemological fields" found in the prose of Stephen Stich and Paul and Patricia Churchland when, betraying an "enthusiasm for revolution for its own sake" (E&I 238), they argue for the self-defeating thesis that the traditional epistemological concern for the justification of belief is misplaced because beliefs are a chimerical creation of "folk psychology."
15. Thomas Reid, Intellectual Power VI 4, the epigraph to *E&I*. I observe that the false dichotomies that Maxim Two deplores include faulty extremes, false presuppositions, and the like.
16. In the Continental tradition, consciousness isn't replaced by language, but its study is (re)conceived in phenomenological, as contrasted with metaphysico-epistemological, terms.
17. The first sentence of Ryle's article on systematically leading expressions reads: "Philosophical arguments have always largely, if not entirely, consisted in attempts to thrash out 'what it means to say so and so'" (139), the tacit suggestion being that only now can this salient fact be brought into full relief. In the early 1980's, Haack once remarked that the sort of philosophy encouraged by what was perhaps the last gasp of this genre of philosophical

thinking, the notorious "Davidsonic boom" (of which Haack articulated trenchant criticisms early on, see pp. 11-12 below) opened up the prospect of PhD theses in philosophy devoted entirely to English adverbs ending in "ingly."

18. Richard Rorty, in 1982, 3-18. Cf. his retrospective comment on an earlier effort "Metaphilosophical Difficulties of Linguistic Philosophy": "What I find most striking about my 1965 essay is how seriously I took the phenomenon of the 'linguistic turn', how portentous it then seemed to me. I am startled, embarrassed, and amused to reread [passages that now strike me] as merely the attempt of a thirty-three year old philosopher to convince himself that had had the luck to be born at the right time" (1992 [1967], 371). The piece on which he is commenting was the introductory essay to the original edition of this volume. Not worrying about the unhelpful question of whether or not, philosophically speaking, she had been born at the right time, the twenty-nine year old Haack simply got down to business.

19. As opposed to Wittgensteinian therapy, or an exercise in conceptual housekeeping, or a genre of literature, a "kind of writing," as Rorty, with alarming consistency, maintains, for example in "Philosophy as a Kind of Writing" in 1982, 90-109).

20. Cf. Peirce "[The *a priori* method of fixing belief] makes of inquiry something similar to the development of taste; but taste, unfortunately, is always more or less a matter of fashion" (5.383); also Burns "The man of independent mind/He looks and laughs at a' that."

21. "In logic there can *never* be surprises" (Wittgenstein, *Tractatus,* 6.1251, emphasis in original).

22. And no wonder that, when challenged to explain a perceived tension in her first book between her firm commitment to revising classical logic if needed, and her "reluctance … to endorse any of the specific deviant systems … discussed [in DL, Part Two]," Haack replied with the telling observation that "advances in logic are as difficult as any intellectual advances, so that it would hardly be surprising if, since the emergence of the system we now call classical, there have been more false starts than true breakthroughs" (DL xvi). No surprise also that the philosopher who in her first book defended her pragmatist view of logic on the modest grounds that it seemed "the most acceptable of the alternatives available" (DL 40) would later entitle a collection of essays *Manifesto of a Passionate Moderate.*

23. "By the end of the 1980's, … I came to the conclusion that, despite his reputation for clarity, [Quine] is, in fact, a master of ambiguity" (2013b, 574). We will follow Haack's path to this conclusion in her working through the many possible (sometimes incompatible) meanings of Quine's naturalized epistemology (pp. 20-21) and the many different theses grouped under the headings "indeterminacy" or "inscrutability"—of translation, reference, empirical content (pp. 28-29).

24. Cf. Nietzsche, "All things that live long are gradually saturated with reason" (Daybreak, §1).

25. And also why Quine can think that no so-called alternative logic could be anything but an unorthodox formulation of classical logic.

26. Morgan and Pelletier (1977, 79), where references to works making each of the quoted claims will be found.

27. As the saying goes, "All that glitters is not gold," which, in abbreviated form, Haack used as the title of her penetrating review of Stephen Shapin's much touted *The Scientific Life.*

28. This is why those concerned to go their own way are in need of a healthy intellectual community. Looking at you from the outside in, fellow inquirers can point you in the right direction when, by your own better lights, you've erred (in both senses of the word). Beginning with "Preposterism and Its Consequences," first presented in 1998, and continuing through to Not One, Haack has emphasized the importance to philosophy of an intellectual environment conducive to serious, fruitful inquiry, and the burgeoning threats to it from within the profession and without, in searching and eloquent terms.

29. In 1944 Tarski maintains that Aristotle's formula 'to say of what is that it is …' (see below) is "perhaps" tantamount to "The truth of a sentence consists in its agreement with (or correspondence to) reality" (54), only to say that "the Aristotelian formulation" is clearer than the correspondence version. He claims further both that he would be willing to give up the word "true" as a designation of the concept he has rigorously defined and replace it with a neologism, and that he "cannot imagine that anybody could present cogent arguments that the semantic conception [of true] is 'wrong' and should be entirely abandoned" (66). As Haack dryly remarks, "So [Tarski]

isn't claiming that the semantic conception is 'right', but can't imagine how anyone could argue that it's 'wrong': hmmm." (2005a, 61).

30. *Adequatio intellectus et rei,* in *The Disputed Questions About Truth,* Article 1.

31. First inserted text and emphasis mine.

32. It was a devoted Popperian, David Miller (1974), who spotted the problem, that, contrary to its raison d'être, "Popper's definition of verisimilitude does not apply to comparisons between theories both of which are false" (PhL, 117, emphasis deleted).

33. Haack is summarizing Davidson's more convoluted remarks in 1967, 314-5.

34. The same, of course, goes for the rest of life. Effectively reminding us of the importance of such truistically good things as good judgement is a stock in trade with Haack. On the subject of the raft of perverse incentives in today's academy, for example, she points out, irrefutably but needfully, that when "industry and patience are focussed on the wrong ends" matters are made, not better, but worse. (2013c, 266).

35. "I do not intend to place much weight on this label," she writes in a footnote, explaining that she chose it because of similarities between her view and "those of Dewey, White, and Quine" (DL 26). As she soon came to realize, the pragmatist with whose views Haack has most in common is Peirce.

36. "A Pragmatist Reconstruction of Epistemology" (replacing the first edition's "Towards Reconstruction in Epistemology").

37. The description is from de Waal 2005, 163.

38. Recently this picture of the *Aufbau* has been challenged (for example by Richard Creath, see his entry on "Logical Empiricism" in the *Stanford Encyclopedia of Philosophy,* especially section 4.3 on "Unity of Science and Reduction"). At the time Haack was writing her early articles in epistemology, however, it was all but universally assumed that the intentions of the *Aufbau* were foundationalist. That the reasons for calling this reading into question overlap substantially with points made by Haack several years before the proponents of non-foundationalist readings of Carnap's book began to publish their views makes the scanting of her contribution (elaborated in footnote NN below) the more egregious still—and makes Judson Webb's honourable exception to this lamentable practice the more commendable (see his "Reconstruction From Recollection And The Refutation of Idealism: A Kantian Theme in the *Aufbau*" in the issue of *Synthese* cited below, 93-105).

39. Ten years after the appearance of "Carnap's *Aufbau*" Michael Friedman published "Carnap's *Aufbau* Reconsidered" (Nous, vol. 21 no. 4, 1987), in which he highlighted the "affinity [of the *Aufbau's* account of the objectivity of scientific knowledge] with Kantian and neo-Kantian conceptions of knowledge" (529) but didn't mention Haack's article; and he declined again to cite it in a follow-up piece from 1992 ("Epistemology in the *Aufbau,*" *Synthese,* vol. 93, nos. 1-2, 1992, 15-57). In between, in "The Re-Evaluation of Logical Positivism" (*Journal of Philosophy,* vol. LXXXVIII, no. 10, 1991, 505-519) he had included Haack in a laundry list of philosophers (thirty-one of them, names only, no publications cited) whose work testified to a recent "flowering of historically oriented reconsiderations of logical positivism" (505). Academics can, indeed, be very nasty (Not One, 104).

40. The image is from C. I. Lewis (Analysis 264). I owe the reference to Haack 1985, 238.

41. Carnap, aiming to give science a philosophical foundation, helps himself to scientific results. Kant, aiming to set philosophy on the secure path of a science, insists on a rigorous separation of the a priori-transcendental questions that belong to philosophical science from the empirical questions that belong to the rest of it. In due course, and in a Peircean spirit, Haack will advance the cause of a scientific philosophy that is neither scientistic nor a priorist; see, especially "The Legitimacy of Metaphysics," and *Scientism and Its Discontents,* Lecture Two.

42. In E&I there is but one reference to Carnap in the index, and it isn't made *in propria persona,* but embedded in a citation from Quine.

43. Failure to appreciate this point is at the root of Peter Tramel's "pitifully weak" (Not One, 104) attempt to shoehorn foundherentism into a foundationalist mould. How Tramel could have read E&I Chapter One and come away with the ludicrously false impression that "Haack's characterization of foundationalism is idiosyncratic in its inattention to the regress problem (of justification)" (Tramel, 220) defies polite explanation. A more interesting and deeper issue here concerns the point and purpose of epistemology: to help us understand our knowledge of

the world, not to solve glorified brain teasers about what or whether we would know in such and such outlandish circumstances. Tramel's egregious errors are symptomatic of the fact that (to adapt Wittgenstein) foundationalist epistemologists are unable to free themselves from "the picture that holds them captive" (PI §115)

44. See E&I 103-111.

45. "Weakly" coherentist, because, a mere four years after publishing "A Coherence Theory," Davidson granted that what he had proposed wasn't a coherence theory in any substantial sense after all (1987, 155). The thesis that matters to him, he explains, is that only beliefs can justify beliefs. Davidson's preferred contrast is not that between coherentism and foundationalism, but "between theories which are purely doxastic and theories which are not" (E&I 111).

46. 1979a and 1979b

47. Williams 2016, quoted in *The Stanford Encyclopedia of Philosophy,* entry on "Reliabilist Epistemology."

48. "I am inclined to … think of 'justification' as in effect the epistemologists' portmanteau word for what in ordinary parlance would most often be expressed in the less technical vocabulary of strong or flimsy reasons, a weak or overwhelming case,, good or tenuous evidence etc." (E&I 118).

49. In 1979, in "What Is Justified Belief?".

50. *Epistemology and Cognition* (E&C).

51. See E&C, Chapter One.

52. This example, owing to BonJour 1980, and much discussed by Goldman and Bob Beddor in their survey article on reliabiliism in the *Stanford Encyclopedia,* goes like this: suppose that as a matter of fact someone has, unbeknownst to him, recently acquired reliable clairvoyant powers, but has no reason to believe that this has happened; beliefs to which he is provoked by these powers will, implausibly, count as justified by reliabilist standards.

53. In "Strong and Weak Justification."

54. This phrase is from Mill's *Logic.*

55. As Quine already does in the seductive sentence from the end of "Two Dogmas," quoted above, about each of us "warping his scientific heritage to fit his ongoing sensory promptings": if we interpret the "scientific" in "scientific heritage" narrowly, this points in the direction of an epistemology of *scientific* knowledge specifically; if we interpret it broadly it points to the subject matter of E&I, the epistemology of empirical knowledge generally.

56. Strictly I should say "would-be" competitors, since the very possibility of truly deviant logics is under dispute.

57. Cf. Quine on "the epistemologist [as] confronting a challenge to natural science[!] that arises from within natural science. … [I]f our science were true, how could we know it?" (1973, 3).

58. For a thorough reckoning with the perils and pitfalls of scientism, see *Science and its Discontents.*

59. Cited in endnote 14 above.

60. Especially in *Scientism and Its Discontents.*

61. I.e. animated by the true spirit of science, or the spirit of true science, as opposed to the false idol of (as Haack will come to call them) the "Old Deferentialists" or the lurid caricature of the New Cynics.

62. See, for example, 2016a, discussed by Jaime Nubiola below; and, for a truly inspired piece of philosophical criticism by means of *ipsissima verba,* see "'We Pragmatists …': Peirce and Rorty in Conversation."

63. And thereby incurring the risk of the singularly sterile wrangling over how to cope with Edmund Gettier's counter examples to the definition of knowledge as justified true belief. On this subject see "Know is Just a Four Letter Word," published in E&I's second edition (301-330), but written in 1983.

64. See especially *Defending Science,* Chapter Three "Clues to the Puzzle of Scientific Evidence."

65. Summarizing the argument of "The Justification of Deduction."

66. *A Lady of Distinctions,* 56.

67. Or perhaps more than fifty years, since, as noted above, it was Haack's attentiveness to figurative language that allowed her to spot the fatal flaws in Fred Sommers' quest for a formal criterion of ambiguity. Readers may be interested to know that "Surprising Noises:" began as a bravura set of Chairman's remarks at an Aristotelian Society-Mind Association Joint session. Such remarks have been deemed worthy of publication only a handful of times over the more than a hundred years of these meetings.

68. Haack had begun working on this task in E&I, and made further progress in 2010 and in *Scientism and Its Discontents,* Lecture Two.

69. Probably it would be a good thing if some of the more unfortunate sub-niches of AEU (Analytic Epistemology Union, Haack's term) epistemology ground to a halt; "Gettieriology" to take a flagrant example. Sadly, as Haack has had occasion to lament of late (for example in 2016b), business in this sector seems to be growing apace, new sub-niches arising as older ones fall out of fashion.

70. Jane Heal's 1987-88.

71. Francis Bacon, *The New Organon,* Aphorism LXXXVIII.

72. "Puzzling Out Science."

73. A term coined by Jacques Barzun (in 1968!) to describe the state of affairs in which "valuing knowledge, we pre-posterize the idea [put the last first and the first last] and say … everybody shall produce written research in order to live, and it shall be deemed a knowledge explosion" (221).

74. This image (and the quoted words), taken from George Eliot's motto to chapter 11 of *Felix Holt* (it is quoted in full at the end of "Preposterism"), could serve as a cautionary slogan for Rorty's world-weary frustrations with the problems of philosophy.

75. For example, in the subtitle of "Realisms and Their Rivals"; Recovering Our Innocence.

76. The excellent phrase is owed to Anthony Gottlieb.

77. For a time, Haack "toyed with the idea" of beginning *Defending Science* with the words: "There's no such thing as scientific method, and this is a book about it" (10).

78. Haack concludes her discussion of Goodman's New Riddle with the same sentiment, expressed in these same words.

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