Was James Psychologistic?
Alexander Klein

As Thomas Uebel has recently argued, some early logical positivists saw American pragmatism as a kindred form of scientific philosophy. They associated pragmatism with William James, whom they rightly saw as allied with Ernst Mach. But what apparently blocked sympathetic positivists from pursuing commonalities with American pragmatism was the concern that James advocated some form of psychologism, a view they thought could not do justice to the *a priori*. This paper argues that positivists were wrong to read James as offering a psychologistic account of the *a priori*. They had encountered James by reading *Pragmatism* as translated by the unabashedly psychologistic Wilhelm Jerusalem. But in more technical works, James had actually developed a form of conventionalism that anticipated the so-called "relativized" a priori positivists themselves would independently develop. While positivists arrived at conventionalism largely through reflection on the exact sciences, though, James's account of the *a priori* grew from his reflections on the biological evolution of cognition, particularly in the context of his Darwin-inspired critique of Herbert Spencer.

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1. Introduction

As historians of analytic philosophy have sloughed off the dead skin of old creation myths, new and vital issues concerning that movement's early intellectual context are emerging. The relationship between early logical positivism and contemporaneous branches of neo-Kantian philosophy now forms the subject-matter of a well established sub-genre (e.g., Friedman 1999, 2000; Richardson 1998). Hot on its heels, the relationship between early analytic philosophy and *pragmatism* is quietly emerging as a subject of serious historical interest as well (e.g., Misak 2013; Richardson 2002, 2003, 2008; Reisch 2005; Isaac 2005; Klein forthcoming).

One reason is the growing realization that logical positivism emerged from a context in which many *different* groups claimed to be advancing some form of "scientific philosophy" in the early 20th century. The Marburg school of neo-Kantianism is perhaps the best-known part of this conversation, but American pragmatism also made important contributions to this broader milieu as well. One upshot of Thomas Uebel's careful paper (2015) is that the early 20th-century garden of scientific philosophies was not just widely variegated, but also widely cross-pollinated as well. I want to press on one prominent assumption in Uebel's piece without intending to call into question this larger, and in my view profoundly under-appreciated, message.

What I want to investigate more closely is Uebel's contention that William James advocated a form of pragmatism that was (or should have been) attractive to the so-called "left wing" of the Vienna Circle, *but for* James's psychologism. While it is routine to suggest that James advocated a psychologistic form of pragmatism (e.g., Dilworth 2011; Kuklick 1977, 266–67; Bordogna 2008, chap. 5), I will argue that this widely-held assumption papers over important anti-psychologistic elements of his thinking. To be sure, there are some psychologistic moments in his oeuvre; but these moments have masked James's views about the ineliminable role of genuinely *a priori* elements in scientific theorizing and in cognition more generally.[1] I will argue that these anti-psychologistic aspects of James's thought add up to a form of conventionalism that anticipates some early logical positivist views about the *a priori*. However, unlike those positivist forms of conventionalism, which were largely inspired by engagement with the exact sciences, James's conventionalism emerged largely from his reflections on Darwin's theory of natural selection.

I begin with an account of why James's alleged psychologism is important to Uebel's history. Then I will suggest that particularly in his scientific work, James was actually at pains to *reject* the form of psychologism I take to be at issue for early logical positivists like Frank, Neurath, and Hahn. Despite frequently describing anti-pragmatists as "intellectualists" (e.g., throughout MT 1909),[2] James had long sought a far more robust account of the *a priori* than one finds in traditional empiricism; so I will then investigate his efforts at developing his own positive view, which takes off from his criticism of naïvely evolutionary approaches to psychology, particularly as represented by Herbert Spencer. I will conclude by suggesting that the Jamesean *a priori* was closer in spirit to the kind of conventionalism Carnap and

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[1]Since I have elsewhere discussed the role James sees for *a priori* presuppositions in science (Klein 2008), in the present paper I will focus on his account of the *a priori* in cognition more generally.

[2]Reference policy: EP YYYY = James 1978, where YYYY is the original publication year of the cited essay; MT 1909 = James 1909/1978; PP 1890 = James 1890/1981.

Lewis would come to adopt than to the avowed psychologism of James's own translator, Wilhelm Jerusalem.

2. Psychologism and Early Logical Positivism

Let me begin by praising what I take to be Uebel's basic thesis: that pragmatism is not merely a trait grafted onto logical empiricism as proponents integrated into American philosophy departments—pragmatism also represented "the outcome of a distinctive tendency within the Vienna Circle itself" (Uebel 2015, 2). For Uebel, that tendency stems in part from the seriousness with which logical positivists took Mach's maxim that "[w]here neither confirmation nor refutation is possible, science is not concerned" (quoted at Uebel 2015, 8). Frank in particular associated this sort of verificationism not just with Mach but also with William James's pragmatism, and Uebel convincingly argues that this is the pragmatist strand Frank thought he detected in Carnap's *Aufbau* and *Scheinprobleme*.[3]

Carnap published both those works in 1928, and Uebel raises the excellent question of why it took so long for logical positivists to recognize commonalities with American pragmatism, a movement that traces its public existence back at least to James's 1898 "Philosophical Conceptions and Practical Results," if not all the way to Peirce's 1877 "Fixation of Belief." Uebel's answer is that the early positivists associated American pragmatism with an untenable form of psychologism. And this association with psychologism was primarily due, on Uebel's telling, to the fact that pragmatism came to German-speaking readers first through (a translation of) James rather than Peirce, and due as well to the fact that James's German translator and

key champion was Wilhelm Jerusalem, himself a key advocate of psychologism.[4]

What helped some left-wingers see that pragmatism *need* not be wedded to psychologism was Wittgenstein, "who had introduced the idea that the laws and propositions of logic are purely tautological" (Uebel 2015, 13). This view avoided twin pitfalls. On one hand, psychologistic figures like Jerusalem and (supposedly) James often downplayed what early logical positivists took to be the ineliminable role of *a priori* reasoning in science; and on the other, logical positivists objected to the metaphysical baggage of more robust but also more Platonist conceptions of the *a priori*. Wittgenstein's conception of logic as purely tautological allowed them to wed a respect for the *a priori* with Mach-style verificationism, and "affirmation of their pragmatist sympathies [thereby] became possible" (Uebel 2015, 13).

An interesting twist to Uebel's story has to do with a schism in how Carnap's project in the *Aufbau* (and in the period of its publication generally) has been understood. English-speaking readers long took Carnap to be advocating an epistemological reduction of all legitimate science to highly secure claims about what is given in sensation, with the goal of putting our best scientific theories on a solid epistemic footing. Carnap himself portrayed his own *Aufbau* project this way, at least retrospectively. For instance, of his thinking while he was working on the *Aufbau*, Carnap recalled that he "believed that the task of philosophy consists in reducing all knowledge to a basis of certainty," and that the point of using an autopsychological rather than a physical or some other basis for his construction system was that he took "the most certain knowledge" to be "that of the immediately given" (in Schilpp 1963, 50). In an important footnote (Uebel 2015, 21n29), Uebel points to other similar passages in

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[3]Uebel writes that according to Frank, "Carnap's criterion of empirical significance" in those works "allowed one to discern in logically concrete terms the cash-value, as it were, of Mach's and James's earlier merely programmatic pronouncements on meaning and truth" (Uebel 2015, 9).

[4]On Jerusalem's role in the *Psychologismus-Streit*, see Kusch (1995, esp. chap. 4). For James's own relationship to Jerusalem, see Bordogna (2008, 159, 171–72).

Carnap, plausibly suggesting that it is *this* verificationist-style reading of the *Aufbau* that Frank had in view when he wrote to Carnap that "what you advocate is pragmatism" (quoted at Uebel 2015, 7).

But there has been considerable controversy about this verificationist reading of the *Aufbau*, despite being endorsed by that work's author some decades after the fact (note that the remark in the Schilpp volume dates to 1963). Scholars like Alan Richardson and Michael Friedman have recently helped uncover the neo-Kantian context of Carnap's work in the 1920s (Richardson 1998; Friedman 1987, 1999). On this alternative reading, Carnap's actual motivation for reducing scientific claims to claims about sensory experience was *not* an empiricist demand to insulate our best science from skepticism, his own later characterization notwithstanding. Instead, this alternative reading portrays the Carnap of the 1920s to have taken the epistemic security of our best science more or less for granted, very much in the spirit of so-called "fact of science" readings of Kant then prominent among Marburg neo-Kantians. Rather than seeking to secure scientific claims that would somehow be dubious if it were not for the work of philosophers, this reading portrays the *Aufbau* as reconstructing scientific knowledge with the goal of extracting a lesson about how science achieves its vaunted objectivity.[5]

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[5]Elsewhere, Uebel has argued for a kind of compatibilist reading according to which Carnap himself actually "avowed both aims"—verificationism *and* the explication of scientific objectivity (Uebel 1992, 43). Of course, this does not mean Carnap actually succeeded in both tasks, and Uebel devotes considerable care to trying to understand how the two tasks fit together. For our purposes it is important to note that according to Uebel's characterization the *brand* of verificationism that Carnap sought was non-traditional in that the latter did not see perceptual experience (the auto-psychological) as providing an incorrigible epistemic foundation (Uebel 1992, 214–16), and perhaps that point might help skeptical readers see how Frank could have connected Carnap's verificationism with pragmatism.

We can now state more precisely how Wittgenstein's conception of logic as tautological is supposed to have helped liberate Frank and his allies to recognize their own pragmatist sympathies. Uebel's thought is that Frank, Hahn, and Neurath were themselves attracted to the sort of verificationist project outlined in the first of the two readings of the *Aufbau*, above. Such a project requires the use of universally valid logical principles to effect a reduction of scientific claims to claims about the immediately given. The question had been what supports the universal validity of the logical principles themselves. If Mach's "[w]here neither confirmation nor refutation is possible, science is not concerned" is interpreted to mean *empirical* confirmation, then it might seem that only a view that treats logical (and perhaps mathematical) principles as generalizations about how humans actually think—in other words, only a form of psychologism—can countenance such propositions at all. But of course psychologism has a notoriously difficult time explaining how such laws could be universally valid. Enter Wittgenstein, who grounds the universality of logical laws on the fact that those laws are tautologies, and sympathetic Machians like Frank and his allies now have a way to maintain the universal validity of logic (and perhaps mathematics) without appealing to rational intuition. Thus the reason Frank, Neurath, and Hahn were slow to appreciate a philosophical harmony with James is that the latter supposedly dealt with logic, mathematics, and the *a priori* more generally, in an overly psychologistic fashion.

Now what does "psychologistic" mean in this context? Uebel says Jeruselem was regarded as too "psychologistic" in that he held that "the validity of logic was ultimately of empirical origin, the laws of logic representing merely evolutionarily beneficient dispositions of human thought" (Uebel 2015, 12), and the implication is that James shared this outlook (or at least that Frank, Neurath, and Hahn thought so). Next I will take issue with this psychologistic reading of James.

3. James's Anti-Psychologism

In fact, from the time of his very first substantive essay (James 1878), James had actually *criticized* accounts of cognition that identified right thinking with good evolutionary outcomes. His earliest and most enduring target on this issue was Herbert Spencer, so I will try to unravel their disagreement in what follows.

Like Jeruselem, Spencer would have agreed that the laws of cognition could be understood in terms of "evolutionarily beneficient dispositions of human thought." "If the doctrine of Evolution is true," Spencer had argued, "the inevitable implication is that Mind can only be understood by observing how Mind evolved" (Spencer 1873, I.291). And Mind evolved, according to Spencer, in precisely the same way *living organisms* evolved— through what he called "[t]he continuous adjustment of internal relations to external relations" (Spencer 1873, I.293).

This formula is vague, as James never tired of pointing out. But at any rate Spencer appealed to successively complex organisms living in correspondingly complex environments to illustrate his view. He gave as a simple example the yeast plant, which must take up nutrients from a uniform solution in which it floats if it is to survive. The nutrients become available through fermentation, which Spencer portrayed as a change in "outer relations." When the surface of the yeast plant encounters these chemical changes, it absorbs nutrients and shows its own internal, "vital changes"—namely, "cell growth and multiplication" (Spencer 1873, I.295).

Spencer's next example was one click more complex—he pointed to protozoa that swim through an environment with an *uneven* distribution of nutrients. The protozoa's ability to swim is a more complex trait—a new "internal relation"—that the less complex yeast plant lacks, and this trait is "in correspondence" with the increased complexity of the protozoa's environment

(Spencer 1873, I.298). And moving to more complex systems still, Spencer cited terrestrial plants that develop a kind of circulatory system because they live in an environment where nutrient is only in the soil, not the air. Here, too, Spencer saw increasing inner complexity enabling an organism to adjust to an increasingly complex environment (Spencer 1873, I.301).

These cases were supposed to illustrate not just physical evolution, but the evolution of *cognition* as well. For Spencer held that "in tracing up the increase" in complexity, in examples like these, we find ourselves "passing without break from the phenomena of bodily life to the phenomena of mental life" (Spencer 1873, I.294). His thought was that some animals live in an environment so complex that they need a "correspondence between internal relations and *distant* external relations" (Spencer 1873, I.303, original italics), and that this is the key evolutionary purpose of cognition. Hence for Spencer, cognizing minds are just one more adaptation for dealing with increased complexity in the environment.[6]

Now James staunchly rejected two related aspects of Spencer's account. First, many forms of cognition—even scientific cognition—do not have any discernible survival value:

> If ministry to survival be the sole criterion of mental excellence, then luxury and amusement, Shakespeare, Beethoven, Plato, and Marcus Aurelius, stellar spectroscopy, diatom markings, and nebular hypotheses are by-products on too wasteful a scale. The slag-heap is too big—it abstracts more energy than it contributes to the ends of the machine; and every serious evolutionist ought resolutely to bend his attention henceforward to the reduction in number and amount of these outlying interests, and the diversion of the energy they absorb into purely prudential channels. (EP 1878, 15)

Notice that it was not just the production of poetry, music and philosophy that James took to have little survival value—he

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[6]For a more general account of Spencer's scientifically-minded philosophy, see Offer (2014).

held that many scientific practices, like the formation of arcane hypotheses, had little such value either. Thus the first of James's concerns was roughly with what we would today call adaptationism (the classic contemporary articulation is Gould and Lewontin 1979)—with the view that any arbitrary trait can be assumed to have evolved as a result of direct selection pressure. James was deeply skeptical of Spencer's assumption that *mental* traits like the ability to generate innovative scientific hypotheses or music or poetry have directly contributed to survival.[7]

Why did Spencer fail to appreciate these counter-examples? James had a diagnosis: Spencer had confused a *descriptive* for a *regulative* account of cognition.

> [T]he whole difficulty in making Mr. Spencer's law work lies in the fact that it is not really a constitutive [James means *descriptive*— A. K.], but a regulative, law of thought which he is erecting, and that he does not frankly say so[.] … If it be a law in the sense of an analysis of what we *do* think, then it will include error, non-sense, the worthless as well as the worthy, metaphysics, and mythologies as well as scientific truths which mirror the actual environment. (EP 1878, 15)

The reason Spencer seems to ignore recalcitrant cases like musical, poetic, philosophical, or even some forms of scientific cognition is that he actually intended to give a normative account— an account of *right* or *proper* cognition—and not a mere description, according to James.

But as a normative account of cognition, Spencer's evidence for his own view is inadequate, James held, because appeal-

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[7]James would later suggest that many such mental traits have evolved as *byproducts* of other, mainly neuro-physiological traits that themselves evolved because of selection pressure. He called these mental traits "incidental" effects (PP 1890, 1225), and "morphological accident[s]" (PP 1890, 1228). Today, a common response to James's charge might be to evoke different levels or units of selection, such that musical capacity, e.g., might have evolved because population *groups* whose members made music might have been more reproductively successful. I cannot discuss the issue further, but for a contemporary treatment *see* Lloyd (2001).

ing merely to descriptive facts cannot vindicate normative judgments. Why not? James's concern was that biological description is based on perceptual "experience" (more on this vexed word in a moment); but a normative theory is an expression of *value*, and since values are not things we perceive (EP 1878, 11n), a normative theory cannot be drawn purely from biological description. Thus, in the context of trying to make precise Spencer's definition of mind, James wrote:

> [T]he Spencerian formula, to mean anything definite at all, must, at least, be re-written as follows: "Right or intelligent mental action consists in the establishment, corresponding to outward relations, of such inward relations and reactions as will favor the survival of the thinker, or, at least, his physical well-being."

> Such a definition as this is precise, but at the same time it is frankly teleological. It explicitly postulates a distinction between mental action pure and simple, and *right* mental action; and, furthermore, it proposes, as criteria of this latter, certain ideal ends—those of physical prosperity or survival, which are pure *subjective interests* on the animal's part, brought with it upon the scene and corresponding to no relation already there [footnote omitted]. No mental action is right or intelligent which fails to fit this standard. No correspondence can pass muster till it shows its subservience to these ends. Corresponding itself ["itself" refers to the definition of mind—A. K.] to no actual outward thing; referring merely to a future which *may* be, but which these interests now say *shall* be; purely ideal, in a word, they judge, dominate, determine all correspondences between the inner and the outer. (EP 1878, 11)

If it is a fact that we *ought* to think in a way that "corresponds" with objects outside of us, this normative fact itself is not the sort of thing that has anything outside of us to correspond *with*, James held. A value judgment of this sort requires some "contemplating mind" to enter the scene and evaluate whether the proposed standard actually accords with her interests (EP 1878, 19). James held that value judgments are *ultimately* vindicated only if dialectical consideration leads to "coerciveness, in the

long run, over thought" (EP 1878, 21), coerciveness that arises because people come to see the interests in question as minimizing any "pinch" with competing demands.[8] Again, for our purposes what is significant about this view is that defending a normative account of cognition requires something far different from mere appeal to biological or psychological description, for James.

So what has this to do with psychologism? James later became embroiled in an American version of the German *Psychologismus-Streit*, and his pragmatism would become a favorite target (which helps explain why Frank, Neurath, and Hahn might have taken James to be psychologistic).[9] As Bordogna notes, one of the classic, anti-psychologistic criticisms to which James was subject was that he failed to distinguish between "a *psychological compulsion* that drives you to think in a certain way, and a *logical recognition* that you ought to think in that way, and that others ought to, whether psychologically they are compelled to or not" (from the anti-pragmatist W. B. Joseph, quoted at Bordogna 2008, 166). But this is an incredible charge to level at James who, as I have just argued, had long drawn precisely this distinction in his criticism of Spencer.[10]

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[8]I take this to be the upshot of "The Moral Philosopher and the Moral Life," which advocates a form of desire-satisfactionism; see James (1891, 347) for the "pinch" remark, and Klein (2013) for a brief discussion of James's value theory.

[9]The best available account of this controversy is Bordogna (2008, chap. 5), which provides fascinating historical details.

[10]Another central criticism was that James did not keep the disciplines of logic and psychology clearly enough separated, and if I read her correctly Bordogna thinks there is something right about this. She portrays James's pragmatism as ultimately "cross-disciplinary" (Bordogna 2008, 184) in that it is a project that necessarily "transgress[es]" disciplinary boundaries (Bordogna 2008, 6), especially between philosophy and psychology. I have taken issue with this reading in Klein (2012), but let me add one more point here. Bordogna (like Kuklick 1977, 266–67) emphasizes a passage from *The Meaning*

I have not yet discussed James's account of the *a priori* yet, but in this section I take myself to have shown that James was suspicious of evolutionary accounts of cognition that seek to derive ideals about *right* thinking from mere descriptions of *actual* thinking. "Psychologistic" logicians so-accused are charged with making precisely this sort of mistake, and James expressly rejected it.

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of Truth where James responded to anti-psychologistic criticism directly. He wrote:

> But since a meaning is a logical relation, static, independent of time, how can it possibly be identified, they say, with any concrete man's experience, perishing as this does at the instant of its production? This, indeed, sounds profound, but I challenge the profundity. I defy anyone to show any difference between logic and psychology here. ... Both relations need a psychological vehicle; and the 'logical' one is simply the 'psychological' one disemboweled of its fulness [*sic*], and reduced to a bare abstractional scheme. (MT 1909, 86)

The suggestion (at Bordogna 2008, 173–74) is that James did see logic as part of psychology in some way. But I note that James adds the qualifier "here" to the claim that there is no difference between logic and psychology—in other words, he thinks that *when we are considering meaning,* there is no difference between logic and psychology. His claim is that whatever discipline we are working in, meanings must be the sorts of things that can plausibly be carried by actual psychological states. But that is a far more circumscribed view than one that says that all logical concepts must be drawn from psychological description. In fact, in the same essay James explicitly *denied* that we ought to keep the psychological basis of our ability to reason in view while we are trying to do logic—such an approach "only retards our discourse." He continued, "[s]uch abstract talk about cognition's results is surely convenient; and it is surely as legitimate as it is convenient, so long as we do not forget or positively deny, what it ignores" (MT 1909, 83). James had long argued that to get at facts in a precise way we *have* to ignore huge swaths of intellectual terrain, otherwise we would never get our own investigations off the ground. He thus advocated an intellectual "division of labor" to be reflected in properly-maintained disciplinary boundaries—*pace* Bordogna and Kuklick, especially between philosophy and psychology. This is an important theme in James's thought, as I have argued in Klein (2008).

4. C. I. Lewis and Psychologism

So it is curious that Frank and his peers would have associated James with a strong form of psychologism that holds that we can legitimize some form of cognition merely by giving a descriptive generalization of how people actually reason. Perhaps James's translator Jerusalem was unapologetically psychologistic in this way; certainly James's British ally F. C. S. Schiller had praised this feature of Jerusalem's work, as Uebel notes. But even if early logical positivists did not read James himself very carefully, James died in 1910; by the 1920s a new generation of pragmatists had emerged, most notably the young Harvard philosopher C. I. Lewis, who himself had been trained by James and Royce. And if anything, Lewis had *magnified* James's anti-psychologism.

Lewis developed an account of the so-called "pragmatic *a priori*" in two seminal articles of the 1920s (Lewis 1923, 1926), and the account is remarkably consonant with some logical empiricist views. Lewis's position was especially consonant with what Carnap would adopt in *The Logical Syntax of Language* (Carnap 1934/1937) and "Empiricism, Semantics, and Ontology" (Carnap 1950)—so consonant, in fact, that Quine framed "Two Dogmas" as a one-fell-swoop attack on *both* Carnap and Lewis's conventionalism about logic.[11]

Carnap held that some logical and (more generally) linguistic rules must be established by convention, and adopted for reasons of convenience. And Lewis had defended a similar view:

> What is *a priori* is necessary truth not because it compels the mind's acceptance, but precisely because it does not. It is given experience, brute fact, the *a posteriori* element in knowledge which the mind must accept willy-nilly. The *a priori* represents an attitude in some sense freely taken, a stipulation of the mind itself,

and a stipulation which might be made in some other way if it suited our bent or need. Such truth is necessary as opposed to contingent, not as opposed to voluntary. (Lewis 1923, 169)[12]

For Lewis, *a priori* principles are not made true by any contingent feature of the world. They are clearly not true in virtue of being generalizations of the "dispositions of human thought," as Jerusalem would have it. Such principles cannot possibly be false, for Lewis, but only because they are stipulations, and they are stipulations we freely adopt, for pragmatic reasons.[13]

"Psychologism" is a notoriously slippery epithet, but if the core variety that Hahn, Neurath, and Frank wanted to repudiate made the laws of logic empirical generalizations about actual human cognition, then surely Lewis was not guilty, and for similar reasons that 1930s Carnap was not guilty.[14] Lewis's conception of the *a priori* was perhaps more carefully developed than his old teacher William James's. But I now want to show

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[11]On the consonance of Lewis and Carnap's respective accounts of the *a priori*, see for example Richardson (2008), Godfrey-Smith (2014), and Beaney (2007, 189ff).

[12]Indeed, in the early 1920s Reichenbach had made a similar distinction between two senses of "a priori"—see Friedman (1999, 61).

[13]For an illuminating account of Lewis on the *a priori*, see Stump (2015, 94–101).

[14]Uebel has shown that Popper accused even Carnap of psychologism, on grounds that the latter (particularly in his earlier work) sought to ground our knowledge on what is given in sense experience, a concern reflected in the so-called protocol sentence debate in the Vienna Circle (Uebel 1992, 175). Popper's strikes me as an unusually broad conception of psychologism, one that would apply to many traditional forms of empiricism. I cannot do this idiosyncratic charge of psychologism justice here, but let me at least say this. Carnap eventually steered clear of this criticism by contending that in the context of rational reconstruction, the distinction between protocol sentences and the other statements they justify can itself be conventionalized (Uebel 1992, 176, 215). James might have been sympathetic to this move in that he himself denied that there is a basic distinction between what is given in sensation and what the mind adds through perceptual processing (see Klein forthcoming). He likened this supposed distinction to a circular panorama where foreground and background are combined "so cunningly that the spectator can detect no joint" (MT 1909, 54). As with the case of the given and the conceptual, we do not doubt that there *is* a distinction between foreground and background, we simply draw it in a provisional and functional way.

that the seeds of Lewis's approach to the *a priori* are indeed found in James.

Early in his career, James did offer associationistic accounts of reasoning, and the context was clearly his larger work in psychology—*see* e.g., "Brute and Human Intellect" (EP 1878, 1–37), *The Principles of Psychology* (PP 1890, esp. chaps. 13, 14, 22), and "The Sentiment of Rationality."[15] These works often identify basic principles of reasoning, and James's method was typically to draw these principles from descriptions of actual examples of human cogitation. So James clearly held that we stand to learn *something* about logic by studying how people (and non-human animals) actually reason. To the extent that this minimal view commits one to psychologism, then James may justly be charged with the infraction.

But again, I take it the brand of psychologism early logical positivists worried about was richer than this minimal view. Their concerns stemmed in part from Frege's critique of attempts to fashion mathematics and logic as a part of descriptive psychology, especially in the manner of J. S. Mill.[16] It is one thing to sketch a psychological account of our mathematical or logical practices, which James did (and which Poincaré also did, it should be noted; see Poincaré 1908/1914, book I, chap. 3). But it is another thing to claim that mathematical and logical judgments gain their *validity* from natural facts either about the external world, or about how the mind works, and again, James rejected both views.

In fact, he directly criticized Mill's "empiricist" account of the foundations of mathematics. James took Mill to hold that "the truths of number" are "results of coexistences among outward things," such that the number "'one' ... means one sort of pas-

sive sensation which we receive, 'two' another, 'three' a third." But James thought this view plainly inadequate—"its failure is written upon its front. Woe to arithmetic, were such the only grounds for its validity!" (PP 1248–1249). Here was his central concern:

> How could our notion that one and one are eternally and necessarily two ever maintain itself in a world where every time we add one drop of water to another we get not two but one again? in a world where every time we add a drop to a crumb of quicklime we get a dozen or more?—had it no better warrant than such experiences? At most we could then say that one and one are *usually* two. Our arithmetical propositions would never have the confident tone which they now possess. That confident tone is due to the fact that they deal with abstract and ideal numbers exclusively. *What we mean* by one plus one *is* two; we *make* two out of it; and it would mean two still even in a world where *physically* (according to a conceit of Mill's) a third thing was engendered every time one thing came together with another. We are masters of our meanings, and discriminate between the things we mean and our ways of taking them .... (PP 1890, 1249)

Mill had suggested that in a world where a third thing magically appeared whenever two others were joined together, we would take one plus one to equal three. James's examples of water and quicklime were meant to show that *our* world is not so different from Mill's thought experiment—for it is often *not* the case that when a thing is joined with another, the result is a collection of two. And yet we do (and should) still maintain that one and one make two, because we *stipulate* what "ideal objects" our arithmetic words stand for.

I do not claim that James had a conclusive argument against Mill's philosophy of mathematics. My point is simply that James saw himself as articulating an alternative to Mill's account of the *a priori*, and I take the latter to be a paradigm case of psychologism as that term is typically used.

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[15]The version reprinted at James (1897/1979, 57–89) is an amalgamation of two earlier essays originally published in 1879 and 1882.

[16]For an account of Frege's attack on Mill, see Kusch (1995, 30–41). For the significance of Frege's (and Popper's) anti-psychologism to the Vienna Circle, see Uebel (1992, 7, 21, 44, 175–76, 265–66).

5. What Are *A Priori* Conceptions and Judgments?

James's general[17] account of the *a priori* takes off from an investigation of the genesis of such judgments. According to this causal account, the mind has an evolved, native capacity spontaneously to generate definition-networks. The causal account then dovetails with a conventionalist *justification* of such judgments, which James presented in several scattered passages. *A priori* judgments are justified independently of experience because they are comparisons between "man made" "artificial mental things" (MT 1909, 52–53)—comparisons between stipulative definitions, or in other words between what he called "conceptions."

The causal account has its most detailed expression in chapter 28 of the *Principles*, entitled "Necessary Truths and the Effects of Experience." That chapter's central question is how we are able to make judgments of necessary truths:

> We *must* attach the predicate 'equal' to the subject 'opposite sides of a parallelogram' if we think those terms together at all, whereas we need not in any such way attach the predicate 'rainy,' for example, to the subject 'to-morrow.' (PP 1890, 1215)

James cited competing answers given by "the apriorists and the empiricists" (PP 1890, 1215). By the "apriorists" he meant Kant, Hegel, and neo-Hegelian idealists like Green, Bradley, and Royce. James clearly was targeting one particular representative of "empiricism" in this chapter: his old foe Herbert Spencer (along with American followers like Grant Allen).

James depicted "a priorists" as committed to two characteristic views (PP 1890, 1215):

1. There are some necessary truths that are correctly applied to the world, and yet are not drawn from experience.

2. These truths are of supernatural (transcendental) origin.

In contrast, "empiricists" like Spencer are committed to two opposed views:

3. Even our most general judgments about the world can be explained as the cumulative effect of many perceptual impressions, perhaps over many generations.
4. Our capacity to make these judgments is of thoroughly natural (definitely not transcendental) origin.

James's project was to split the middle by showing how we can coherently accept 1 and 4 but reject 2 and 3. As James put it, "the account which the apriorists give of the *facts* is that which I defend; although I should contend (as will hereafter appear) for a naturalistic view of their *cause*" (PP 1890, 1216; also see 1226).

Casual readers may be surprised that James allied himself with "apriorists" here. Indeed, he was often at pains to situate his own work as a development of British empiricism.[18] But James had long tried to develop a robust account of *a priori* "conceptions," and in this specific regard he typically allied himself with rationalism (for a discussion, see Myers 1986, 286ff).

James defined a "conception" as a functional role mental states occupy in virtue of picking out an object: "'conception' . . . properly denotes neither the mental state nor what the mental state signifies, but the relation between the two, namely, the *function* of the mental state in signifying just that particular thing" (PP 1890, 436). Two different token mental states instantiate the same conception, for James, just in case they play the role of picking out the same object.[19] James typically re-

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[17]Here I mean to distinguish James's account of *a priori* conceptions and judgments themselves from his account of how such conceptions and judgments are applied in science; see note 1 above.

[18]I myself have emphasized this point in Klein (2009); and the general idea that James saw himself as the real heir to the empiricist tradition has been central in the James literature since at least Perry (1935).

[19]This appears to amount to what we would today call a brand of "extensionalism" about meaning.

served "conception" for cases where the object picked out is some "ideal object," like the number 13 (as at PP 1890, 440–41).

So conceptions are not feelings, for James, but functions many different mental states can occupy.[20] What is important for our purposes is that these functions exist timelessly in the sense that any mental state at any time could instantiate a particular function. He wrote, "amid the flux of opinions and of physical things, the world of conceptions, or things intended to be thought about, stands stiff and immutable, like Plato's Realm of Ideas" (PP 1890, 437).[21]

Notice that there are *two* things here that stand "stiff and immutable"—the conceptions themselves, and the "things intended" *by* those functions. Again, the "things intended" *by* conceptions are typically "ideal objects" like numbers (PP 1890, 441). Unfortunately, one defect of James's view is that he was vague about just what these "ideal objects" are.

One thing is clear—he insisted that "ideal objects" are *real*, for the "pragmatist" reason that they are things "of which we find ourselves obliged to take account"[22] in the course of inquiry (James 1911/1979, 56). But readers may wonder about the ontological status of these things. He clearly cannot accept that "ideal objects" are physical. But are they mental? Perhaps—that would help make sense of how conceptions could be artifactual in the sense of being "man-made" (MT 1909, 52), and in fact he *calls* them "mental things" (at MT 1909, 53). But then it would be hard to see how they could have the timeless, immutable status James claimed for them. When the universe ceases to have

minded creatures, the conceptions will surely be gone too.

So are they full-blown Platonic *forms*? Certainly James claimed that they exist in a realm that is "*like* Plato's Realm of Ideas," as we have just seen (emphasis mine); but if they are meant to be *literal* Platonic forms, then they presumably cannot also be "man-made." We will see that James's considered view resembles a conventionalism about conceptions, but I think his vagueness on the ontological status of these entities reflects a kind of unfinished, immature quality in the account.

In any case, let us continue our sketch of James's account of judgments of necessary truths. On this account, such judgments affirm a similarity between the objects of two different conceptions. Summarizing the view he had first articulated in the *Principles*, James wrote that necessary truths

> … can only be relations of comparison. … Relations of comparison are matters of *direct inspection*. As soon as mental objects [of conceptions] are mentally compared, they are perceived to be either like or unlike. But once the same, always the same, once different, always different, under these timeless conditions. Which is as much as to say that truths concerning these man-made objects are necessary and eternal. We can change our conclusions only by changing our data first.

> The whole fabric of the *a priori* sciences can thus be treated as a man-made product. (MT 1909, 52; emphasis mine)

Suppose conception$_1$ is of a triangle (again, this *conception* is literally a function, i.e., a *role* that some mental state might play in picking out an ideal object, which in this case is a generic triangle). Suppose conception$_2$ is of the property three-angled-ness. When we "directly inspect" the ideal objects themselves—triangle and three-angled-ness—we just *see* that they are "like" one another. And since the ideal objects are human fabrications—here, we are "expressly decreeing" the "things we mean" by the conception *triangle* (MT 1909, 52)— we can simply make them immutable and timeless by fiat. And

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[20]See Duvernoy (forthcoming) for an exploration of the potential tension between Jamesean concepts, which are discrete, and Jamesean experience, which is always continuous. Some of the tension may be alleviated when we notice that conceptions are not feelings, as we have just seen, and that "feeling" is synonymous with "experience" (PP 1890, 186), for James.

[21]Another indication of kinship with Platonism about ideal objects can be found at James (1911/1979, 58).

[22]James was quoting approvingly from Taylor (1903, 51).

then relations *between* these immutable and timeless objects will themselves be immutable and timeless—in other words, necessary.

The defects in this account go beyond James's failure clearly to spell out the ontological status of ideal objects, it must be admitted. Another problem is that James did not even attempt to tell us how we might know that two mental states on two different occasions instantiate the same conception (as when I think about the same triangle today as yesterday), or how we are to know that two different conceptions really are "like" one another, as one commentator has noted (Myers 1986, 285–86). James simply repeated that such judgments are a matter of the direct inspection of ideal objects, which is not incredibly illuminating.

Nevertheless, although James's story about just how we make these comparisons between ideal objects was sketchy, he had some interesting reasons against adopting more traditional accounts of how we learn about necessities and possibilities. In particular, James denied that we can learn about what is possible or impossible by reflecting on what we can or cannot *conceive*.

His argument relied on some delightfully homespun psychological observations, and the argument has not been appreciated in the literature. Consider two points on the skin whose locations are so close that a subject cannot discriminate them. James claimed that if two such points are touched by a hot and a cold wire at once, the subject will experience both hot and cold in the same place at the same time—and similarly for bluntness and sharpness (PP 1890, 438n). His suggestion was that if we can *experience* a hot-coldness and a blunt-sharpness, surely we can conceive these properties as co-existing even though few would maintain such a co-existence really to be *possible*.[23]

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[23]The argument might be thought to be psychologistic, but then so might the view under attack.

Similarly, James also claimed that two different colors can appear to be in the same place at once "if, by optical artifice, one of the colors is made to appear as if seen through the other" (PP 1890, 438n). He had in mind cases such as where a small piece of green cellophane might be placed on a larger grey background to make the grey under the cellophane "look" both green and (because of color constancy) grey at the same time.[24] Again, his thought was that we could be made to experience all kinds of apparently self-contradictory ideas (blunt-sharp things, hot-cold things, green-grey things), so we have no reason to think that what we can conceive tracks what is in fact possible. Conceivability, in other words, does not entail possibility. And what is more, in the same passage he also denied that *inconceivability* entails *impossibility*, because if *p* is actually inconceivable, then we have no clear way to identify what this *p is* that we allege to be impossible.[25]

So contemporary readers may find James's own account of judgments of necessity as arising from the direct inspection of ideal objects to be thin or unsatisfying. But I submit that he was driven to this sort of view because he found the traditional alternative to be unworkable.

6. Causes of *A Priori* Conceptions and Judgments

I have just outlined what *a priori* conceptions and judgments are, for James. I now turn to his account of how, as a psychological matter, *a priori* conceptions and judgments are generated in the first place. Although the question of psychologism has to do with James's account of how such judgments are *justified*

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[24]James discusses a case like this in a different context, at (PP 1890, 669–70).

[25]It is worth pointing out that the philosopher under attack here is again Spencer, who had endorsed the principle that inconceivability entails impossibility: "the inconceivableness of its negation is that which shows a cognition to possess the highest rank [viz., necessity]—it is the criterion by which its unsurpassable validity is known" (Spencer 1873, II.407).

rather than how they are *caused*, an investigation of the latter will repay dividends for two reasons. First, James's justificatory story in a way grows out of his more detailed causal story, so the latter provides clues for understanding the former. And second, the context behind the causal story helps us understand Jerusalem's relationship to James, which is a point of special relevance to Uebel's discussion. For there was an interesting debate about the psychology of necessity even among those who shared a broadly evolutionary approach to the field. Jerusalem was on Spencer's psychologistic side; James was on the other.

To unpack James's causal account, we must explore a crucial distinction he draws between two factors that can influence mental processes—what he calls "front door" and "back door" factors, respectively. His central criticism of empiricist accounts of necessary truths, in fact, is that empiricists have not appreciated the distinction.

James defines a "front door" experience as one that has its own object as a primary cause (PP 1890, 1223). For instance, light reflecting off the bird's nest outside my window directly causes my visual experience of the nest; but the same nest is also that same visual experience's object (i.e., what the experience is about).[26] Such experiences typically involve the five senses (PP 1890, 1225), perhaps along with any inner perception of which we are capable.

But James points out that there are other causes of mental modification, like blood chemistry, neurological structure, and (as we would today put it) genetic inheritance. These are the "back door" routes to mental influence. Here, causal factors of an experience are not part of the experience's direct object—not

part of what the experience "take[s] cognizance of" (PP 1890, 1223). To borrow one of James's examples, our ears may ring because we hear a bell, and that is a front door experience; but our ears may also ring because we have taken quinine, and that is a back door case because the ringing experience takes no cognizance of its own primary cause.

In talking about judgments based on "experience," James wanted to confine this latter word to front-door mental modification. Back-door factors do not count as experience properly so-called. In fact, James denied that back-door cases can be understood even in terms of *ancestral* experience, and this is a central aspect of his conflict with empiricists (especially Spencer) over necessary judgments. Some context is helpful here.

Spencer, along with of course Darwin, was one of the preeminent evolutionists of the latter half of the 19th century. Spencer's theory of evolution differed from Darwin's in crucial ways. Though both theories were originally inspired in part by Lamarck's conception of the inheritance of acquired characteristics, whereas Darwin came to downplay the role of acquired characteristics in evolution, Spencer remained a committed Lamarckian throughout his life (Richards 1987, 422).

The disagreement was not over whether species evolve, and at least in broadest outline was not even over the main process that accounts for their evolution (it was Spencer, after all, who coined the phrase "survival of the fittest"). The disagreement was at root over the causes of what we would now call the heritable phenotypic variations upon which selective forces operate. While Darwin held that such variations (at least sometimes) *spontaneously* arose, Spencer insisted that these variations could only have been caused by the acquisition of novel characteristics over the lifetime of particular organisms in a population.[27]

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[26]The nest cannot be the object of the visual experience *in virtue* of having played an appropriate causal role, for James. This is because he held that experiences are *about* their particular objects in virtue of furnishing the subject practical guidance in navigating through the environment and in handling the object in suitable ways—not in virtue of being caused by them. See James (1885) and (PP 1890, 445).

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[27]James portrayed the anti-Darwin argument in Spencer (1887) as hinging on the contention that accidental mutations affecting different body parts would be independent of one another, and therefore unable to produce com-

Spencer's most famous interlocutor on this issue was not actually Darwin, but the German naturalist and inventor of the germ-plasm theory,[28] August Weismann. Spencer and Weismann had a famous intellectual butting-of-heads that took place in the journal *Contemporary Review* starting in earnest in 1893.[29] Weismann had created one of the first influential developmental theories in biology that effectively precluded the inheritance of acquired characteristics, and thus found himself defending what was at the time a very difficult position: that the inheritance of acquired characteristics was *impossible*, and should have *no* role in a proper evolutionary explanation (Churchill 1977, 453).[30] Thus Weismann went a full step further than Darwin and launched a pointed attack on Larmarck's doctrine, sometimes using Spencer as a foil.

One important aspect of his early defense of Darwin is that James had latched onto just this Lamarckian feature of Spencer's conception of evolution in 1878 (in the essay discussed above),[31] at least seven years before Weismann's position became known in Germany.[32] Judging by his series of attacks on Spencer during the years 1878–90, James appears to have increasingly viewed the inheritance of acquired characteristics as the centerpiece of their debate. It is thus fitting that in an addendum to the final chapter in the *Principles*, James rejoiced in what he took (probably prematurely, as Spencer had yet to reply) to be Weismann's decisive attack on Lamarckian evolutionary theory. That final chapter had also been an extended critique of Spencer's view of the evolution of our capacity to make necessary judgments, as I have noted, and was completed (without the addendum) in 1885.

In the addendum, which was presumably written closer to 1890, James said that when he originally wrote the chapter he drew "a tentative conclusion to the effect that the origin of *most*

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plex body plans that have integrated, inter-dependent parts; see (PP 1890, 1279). I thank Trevor Pearce for calling my attention to this passage. One should note that Darwin did accept the *occasional* efficacy of acquired characteristics in evolution (e.g., at Darwin 1859/1975, 454), but he nevertheless did not lean heavily on that Lamarckian doctrine; see Freeman (2000, 11ff.). Thus Darwin and Spencer's respective definitions of evolution were separated by a matter of emphasis, at least when it came to the inheritance of acquired characteristics.

[28]This is a hereditary theory according to which germ cells are isolated from the rest of the body such that changes to other cells in the body (somatic cells) during an organism's lifetime do not affect the hereditary material passed on, through germ cells, to the next generation.

[29]Churchill notes that Weismann's early essays in heredity began to appear in *Nature* in 1885, though it took Spencer a few years to notice (Churchill 1977, 45–58). In (PP 1890), James was clearly responding to Weismann's earlier essays.

[30]To be precise, Weismann's prohibition on "inheritance of acquired characteristics" only extended to acquired characteristics in somatic cells, as Winther (2001) has shown; Weismann allowed that early developmental disturbances could cause heritable variations in germ cells; and James actually noted this subtlety at (PP 1890, 1278).

[31]See the emphasis on "spontaneous variation" and "spontaneity" at (EP 1878, 11–12, 19, 21). Trevor Pearce (forthcoming) has asked precisely when James became a committed Darwinian, which is more difficult to answer than might appear. I regard the references to "spontaneity" in the 1878 piece as at least suggestive, though Pearce attributes such early "spontaneity" references to the influence of Shadworth Hodgson, rather than Darwin. More suggestive evidence of Darwin's influence on James during this era comes from Richards (1987, 425–26) , who quotes from lecture notes where James accused Spencer of "repeat[ing] the defects of Darwin's predecessors in biology." (Richards suggests that the notes are from an 1876 class, but in fact they are unlikely to have been written before 1878; for a note on the dating of this text, see James 1988, 482–83 and for the text itself see James 1988, 136–41.) And Pearce himself quotes from an 1868 letter in which James expresses reverence for Darwin (in Pearce forthcoming; see James 1992–2004, vol. 1, 38–39.)

[32]Indeed, though Weismann was among the first to present a coherent theory that *prohibited* the inheritance of acquired characteristics, there had been a controversy about the *extent* of the efficacy of the inheritance of acquired characteristics since *On the Origin of Species* first appeared; and James had been thinking about this debate at least as early as 1868. In a book review that year on Armand de Quatrefages' *Rapport sur les Progrès de l'Anthropologie en France*, James wrote that "There has always been a great deal of controversy as to the extent of … [the] modifying influence" of the environment in evolution; at James (1987, 219).

of our instincts must certainly be deemed fruits of the back-door method of genesis, and not of ancestral experience in the proper meaning of the term" (PP 1890, 1278, original italics). But now Weismann's "very serious attack upon the Lamarck-ian theory … has at last excited such a widespread interest among naturalists that the whilom almost unhesitatingly ac-cepted theory seems almost on the point of being abandoned" (PP 1890, 1278). After briefly reviewing Weismann's arguments, James triumphantly concluded that "[e]xperience-philosophy has failed to prove its point" (PP 1890, 1280). With the pub-lication of these words, James appears to have considered his battle against Spencer won.[33]

  Now what has this controversy to do with necessary truths? The answer is that if there are no spontaneous variations of physical traits, and if we pass "without break" (Spencer 1873, I.294) from the physical to the mental, then there are no spontaneously-generated mental states either. James thought this was why Spencer mistakenly held that all mental states must come from "front door" experience, either in an organ-ism's lifetime or in the lifetime of the organism's ancestors. But James held that such a view could not adequately explain how our perceptual and cognitive capacities evolved.

> The ordinary evolutionist answer to this question is exceedingly simple-minded. The idea of most speculators seems to be that, since it suffices *now* for us to become acquainted with a complex object, that it should be simply *present* to us often enough, so it must be fair to assume universally that, with time enough given, the *mere presence* of the various objects and relations to be known must end by bringing about the latter's cognition, and that in this way all mental structure was from first to last evolved. Any or-dinary Spencerite will tell you that just as the experience of blue objects wrought into our mind the color blue, and hard objects got it to feel hardness, so the presence of large and small objects in the world gave it the notion of size, moving objects made it aware of motion, and objective successions taught it time. (PP 1890, 1226–27)

James's Spencer says that environmental factors create new ex-periences, and the *capacity* to have these experiences gets passed on to offspring, such that there is literally an inheritance of ac-quired *mental* characteristics. The idea is that if an organism is visually bombarded by blue or hard objects long enough, then she somehow will start having blue or hard ideas; the *capacity* to have these ideas is then passed on to descendants.

  But then what are we to say of our capacity to judge that two conceptions are necessarily alike? The Spencerian account seems to require that these judgments of necessary truths, too, are ultimately derived from "front door" perceptual experi-ence. But James takes it that to do justice to the timelessness of necessary judgments, they cannot have been gained through experience—the judgments must occur to us "spontaneously." Otherwise we would have to say what is absurd, that "a sin-gle experience"—or at least a finite number of experiences— "would suffice to make us feel the neccessariness of [some] … relation" (PP 1890, 1238).[34]

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[33]I want to remain agnostic on whether Weismann actually succeeded in showing, contra Spencer, that variation cannot be directed. For the argument that Spencer should actually be understood as the real victor in this debate, *see* Pearce (2014, 2010, chap. 2).

[34]Here one arrives at another potential difficulty. Why is James's own "di-rect inspection" account immune from this criticism? He writes as though one "direct inspection" of ideal objects is enough to make us feel not only that they are *like* one another, but that they are *necessarily* alike. Perhaps his point is that the ideal objects of conceptions are *stipulated*, not perceived even through inner sense, so that when we once "see" a relation to hold be-tween two stipulated conceptions, we know that that relation will *always* hold (and in that sense be necessary) because the conceptions themselves do not change. This account would make James's talk of "direct inspection" heav-ily metaphorical—what we are "inspecting" is perhaps something like an *in-tended meaning* rather than an inner image of some kind. A problem lingers, though, since we have already noted that James has an extensionalist account of the meaning of conceptions; see note 19 above. This would make the

I take James's point here to be psychological. He seems to assume that we *do* make reliable judgments of necessary truths, at least sometimes, and the question is about these judgments' psychological genesis. He makes the familiar point that simply amassing front-door experiences of, say, squares that have the property of being four-sided would tell us nothing about the modal force of the connection between squares and four-sidedness—and Spencer's attempt to extend the mass of relevant experiences to those of our ancestors does nothing to address the problem.

James's solution is that a properly Darwinian, evolutionary account should chalk our necessary judgments up to *back door* mental modification, making the formation of *a priori* conceptions a matter of spontaneously-generated *ideas*, not ideas that enter the mind through perception.

THE PURE SCIENCES EXPRESS RESULTS OF COMPARISON *exclusively; comparison is not a conceivable effect of the order in which outer impressions are experienced—it is one of the house-born* [i.e., "back door"] ... *portions of our mental structure; therefore the pure sciences form a body of propositions with whose genesis experience has nothing to do.* (PP 1890, 1237; original italics)

Judgments of necessary truths thus take on a stipulative character, for James—they are *generated* by "spontaneous" acts of comparison between "spontaneously" stipulated conceptions, not by any outer experience. James thus arrived at a kind of biological conventionalism about logic and mathematics ("the pure sciences").

7. Justification of *A Priori* Conceptions and Judgments

James makes clear in a discussion of geometry that it is precisely because experience has "nothing to do" with judgments of necessary truths that such judgments cannot be defeated by any experience:

Some say that the certainty of our belief in these [geometric] axioms is due to repeated experiences of their truth; others that it is due to an intuitive acquaintance with the properties of space. It is neither. ... Straight lines, planes, and parallels, as they figure in geometry, are mere inventions of our faculty for apprehending serial increase. The farther continuations of these forms, we say, *shall* bear the same relation to their last visible arts which these did to still earlier parts. ... If we mean by a parallel a line that will never meet a second line; and if we have one such line drawn through a point, any third line drawn through that point which does not coalesce with the first must be inclined to it, and if inclined to it must approach the second, i.e., cease to be parallel with it. No properties of outlying space need come in here: only a definite conception of uniform direction, and constancy in sticking to one's point. (PP 1890, 1251–52)

James was of course discussing Euclid's notorious parallels postulate.[35] He was writing at a time when centuries of debate about whether or not this postulate was true (let alone obvious or necessary) was giving way to demonstrably consistent non-Euclidean geometries that *dispensed* with the postulate (for background, see Sklar 1974, sec. B). The rise of such alternative geometries sparked questions about how our geometric systems relate to physical space, and James anticipated later forms of conventionalism by denying that our choice of geometry is empirical. Geometric judgments are indeed necessary,

"meaning" of the conception just the ideal object itself, and we are back trying to understand what it is to "inspect" these things in a wholly non-perceptual, non-front-door way.

[35]This postulate says that given a line and a point outside the line, there is exactly one line that contains that point that never intersects the first line no matter how long either is extended.

but only in the sense that they are the result of "spontaneous" stipulations about how we "*shall*" define our geometric terms. Although his conventionalism about geometry was not as well worked out as someone like Poincaré's, James clearly held that the parallels postulate is necessary because "lines, planes, and parallels" are our own "inventions"—we *stipulate* what these conceptions pick out.

He was also clear that nothing *forces* us to accept Euclid's system over another consistent geometry, or even one form of logic over another—nothing, that is, beyond pragmatic considerations.

> "God geometrizes," it used to be said; and it was believed that Euclid's elements literally reproduced his geometrizing. There is an eternal and unchangeable 'reason'; and its voice was supposed to reverberate in *Barbara* and *Celarent*. ... Up to about 1850 almost everyone believed that sciences expressed truths that were exact copies of a definite code of non-human realities. But the enormously rapid multiplication of theories in these latter days has well-nigh upset the notion of any one of them being a more literally objective kind of thing than another. There are so many geometries, so many logics, so many physical and chemical hypotheses, so many classifications, each one of them good for so much and yet not good for everything, that the notion that even the truest formula may be a human device and not a literal transcript has dawned upon us. (MT 1909, 40)

The truths of geometry and logic are not simple "copies" of the outer world. They are tools that may be used or left aside, depending on what kinds of tasks, if any, they are good for. And they are tools that are "created step by step by men, as fast as they successively conceive them" (MT 1909, 52).

How, finally, do such "*a priori*" bodies of truth apply to experience, as when we use geometry to construct a building, or arithmetic to compare physical magnitudes? A similarity with Lewis's later view is striking. Our spontaneously-generated conceptions are not independent of one another, for James. We

typically create "*ideal conceptions*" that "*form a determinate system*" (PP 1890, 1255). And although our judgments about these ideal systems are themselves eternal and totally independent of sense experience, whether these systems can fruitfully be applied *to anything in the world* is ultimately a pragmatic matter.

> Only *hypothetically* can we affirm intuitive truths of real things—by *supposing*, namely, that real things exist which correspond exactly with the ideal subjects of the intuitive propositions.

> If our senses corroborate the supposition all goes well. ... [But networks of ideal conceptions] leave us as regards outer reality none the better for their possession. We still have to "go to our senses" to find what the reality is. The vindication of the intuitionist position is thus a barren victory. The eternal verities which the very structure of our mind lays hold of do not necessarily themselves lay hold on extra-mental being, nor have they, as Kant pretended later [footnote omitted], a legislating character even for all possible experience. They are primarily interesting only as subjective facts. They stand waiting in the mind, forming a beautiful ideal network; and the most we can say is that we *hope* to discover realities over which the network may be flung so that ideal and real may coincide. (PP 1890, 1257–58)

Systems of conceptions form a kind of net that "may be flung" over the empirical world. Until we attempt to do this, our conceptual systems may be beautiful, but in some sense we will not have fully *adopted* them in our practical lives.

Thus like Lewis after him, James distinguished such conceptions' being true *qua* conceptions (which, again, is a timeless and eternal matter) from their actually being adopted in experience.[36] He wrote that when it came to applying *a priori* conceptions to the world, we are dealing with a relation "not of our

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[36]James frankly vacillated on what would become a hallmark of mature forms of conventionalism. As Ben-Menahem (2006) has argued, classic conventionalists regarded supposed necessary truths as disguised definitions, and *definitions are not themselves truth-apt*. Now James *sometimes* wrote as though judgments of necessity are disguised definitions, as in this *Pragmatism* passage: "Relations among purely mental ideas form another sphere where

ideas to non-human realities, but of conceptual parts of our experience to sensational parts." We retain those conceptual nets that "guide us to beneficial interaction with sensible particulars as they occur" (MT 1909, 51). James is rather metaphorical in his justificatory account, but the metaphor of a conceptual net of necessary judgments that can be adopted or discarded for pragmatic reasons is consonant with Lewis's notion that *a priori* judgments are "necessary as opposed to contingent, not as opposed to voluntary" (Lewis 1923, 169).

8. James and the Relativized *A Priori*

As we have now seen, *a priori* conceptions and judgments cannot have been drawn from "front door" experience, for James. They are the results of spontaneous inventions or stipulations, and we accept or reject networks of these stipulations according to their pragmatic value.

One way this bears on Uebel's historical account is that, although James's *de facto* representative among German-speaking philosophers was his translator Jerusalem, the two men were in fact quite far apart when it came to their respective accounts of the *a priori*. Jerusalem wrote, "[e]ven the most universal propositions of logic and mathematics are regarded only as sedimentations, as condensations of earlier experience" (quoted at Uebel 2015, 12). Assuming he meant *perceptual* (i.e., front door) experience, Jerusalem was advocating precisely the sort of account

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true and false beliefs obtain, and here the beliefs are absolute, or unconditional. When they are true they bear the name either of *definitions or of principles*. It is either a principle or a definition that 1 and 1 make 2, that 2 and 1 make 3, and so on . . ." (James 1907/1975, 100). Whatever he might mean by "principle," the fact that James characterized necessary truths using the word "definitions" suggests a genuine conventionalism in Ben-Menahem's sense. But a few sentences later he says of these judgments "once true, always true." So James apparently held that even though *a priori*, necessary judgments are stipulative, they are somehow truth-apt. He did not attempt to show how these two views are compatible, at least not in any passage I have found.

Spencer had defended, and that James had steadfastly argued against. If Hahn, Neurath, and Frank were turned off of James early on because of psychologism concerns, it appears that these concerns have more to do with pragmatism's German proxy than with James's own actual account of the *a priori*.

Also, we saw in section 2 that because he read the *Aufbau* as a form of verificationism, Frank thought Carnap advocated a kind of pragmatism. However, Frank (along with Hahn and Neurath) did not see how they could help themselves to the universally valid logical principles the *Aufbau* seems to need in order to reduce scientific statements to statements about what is immediately given. Wittgenstein's account of logical statements as tautologies was what helped them see past the allegedly "psychologistic" aspects of James's pragmatism and to connect it with the sort of verificationism they thought they saw in the *Aufbau*.

But a special irony emerges at this point, because there are several respects in which James's view bears a closer kinship to the kind of project neo-Kantian readers have found in the *Aufbau* (and in logical positivism more generally) than to verificationism. For one thing, it should now be clear that James was *not* tempted by empiricism or verificationism *about logic*. His stipulative account foreshadowed the sort of "relativized" *a priori* that neo-Kantian interpreters of logical positivism have emphasized.[37] According to the relativized account, *a priori* principles are necessary in the sense that they are preconditions for making empirical descriptions intelligible and precise. But no one set of principles is necessary in the sense of being forced on us by the structure of the mind or anything else. We adopt or reject these principles for reasons that are ultimately pragmatic.

Similarly, James saw the application of networks of *a priori* judgments to experience as a pragmatic matter. In fact, when

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[37]Two standard sources for this notion of a relativized *a priori* are Friedman (1999) and (2001).

James actually applied *a priori* judgments in his own psychology, his explicit intent was to help solve the practical problem of figuring out how to divide labor between psychology and neighboring fields, notably philosophy. He contended that by establishing an *a priori* conception of the mind's "ultimate" (PP 1890, 16) nature insofar as scientific psychology was to be concerned, he could effectively demarcate the field from its encroaching neighbors—but precisely which mental features we treat as "ultimate" is a purely pragmatic, stipulative matter, for James. (For a comparison between the relativized *a priori* and James's account of the role presuppositions play in psychology, see Klein 2008.)

What is more, James did not just reject verificationism (or psychologism) about logic. He also could not have accepted the usual assumptions behind verificationism about meaning in general, because he rejected the notion that we have incorrigible access to any sensory "given" (Klein forthcoming). So if Hahn, Frank, and Neurath thought they recognized a kinship between James's pragmatism and a form of verificationism in the *Aufbau* that reduces scientific claims to statements about the *allegedly incorrigible* deliverances of sense experience, they were mistaken on this count as well. James certainly sought the "cash value" of speculative statements in experience, but he made no claims to certainty whatever when it came to our experience reports. (This point is quite explicit in the opening pages of James 1884.)

Nevertheless, whether or not members of the first Vienna circle had a charitable grasp of James's account of the *a priori*, Uebel is surely right to see a kinship on other matters. Hahn, Frank, and Neurath's view of scientific theories as *instruments* that are ultimately to be evaluated in terms of how well they help us manipulate our environments would have had a clear appeal to James, and this general approach seems far more central to his pragmatist project than any particular account of the

a priori. What is more, Neurath and his colleagues' rejection of the notion that science is successful when it faithfully *copies* the physical world is a deeply pragmatist attitude as well.

Finally, let me say that the complaints I have raised focus primarily on the way Hahn, Frank, Neurath, and indeed Jerusalem read James rather than on the way Uebel has read his subjects. To return to a figure with which I opened, in a garden as cross-pollinated as that of early 20th-century scientific philosophy, it can be excruciatingly difficult to distinguish offspring from parent from accidental look-alike. Uebel has given us as careful a philosophical botany as one could hope for.

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