

# William James on risk, efficacy, and evidentialism\*

P.D. Magnus

March 26, 2020

Forthcoming in *Episteme*.

e-mail: [pmagnus\(at\)fecundity.com](mailto:pmagnus@fecundity.com)

ORCID iD: 0000-0002-2446-3494

web: <https://www.fecundity.com/job>

## Abstract

William James' argument against William Clifford in 'The Will to Believe' is often understood in terms of doxastic efficacy, the power of belief to influence an outcome. Although that is one strand of James' argument, there is another which is driven by ampliative risk. The second strand of James' argument, when applied to scientific cases, is tantamount to what is now called the Argument from Inductive Risk. Either strand of James' argument is sufficient to rebut Clifford's strong evidentialism and show that it is sometimes permissible to believe in the absence of compelling evidence. However, the two considerations have different scope and force. Doxastic efficacy applies in only some cases but allows any values to play a role in determining belief; risk applies in all cases by only allows particular conditional values to play a role.

**Keywords:** William James, evidentialism, doxastic efficacy, inductive risk, ampliative risk

In 'The Will to Believe' [10, pp. 14-33], William James defends "our right to adopt a believing attitude. . . in spite of the fact that our merely logical intellect may not have been coerced" [10, p. 14]. The words I've elided with an ellipsis are "in religious matters", and religion is the framing device for his lecture. Nevertheless, philosophers for more than a century have recognized that most of James' arguments face broader epistemic vistas. The issue is whether it is ever permissible to believe a claim in the absence of compelling evidence for it.

James takes as his foil William Clifford, who argues that "it is wrong, always, everywhere, and for anyone to believe anything on insufficient evidence" [4, p. 346]. As a matter of logic, one counterexample will suffice. James gets

---

\*Thanks to Alexander Klein, Ron McClamrock, Ryan Hickerson, and Rudy Stegemoeller for helpful discussion and feedback.

the best of Clifford if he can show that it is permissible on some occasion for someone to believe something on insufficient evidence. Nevertheless, James fires a shotgun blast of general considerations and kinds of cases. So commentators have differed on what exactly his argument is and how broad a conclusion it is meant to underwrite.

I take as my foil the recent interpretation offered by Scott Aikin and Robert Talisse ([1], henceforth A&T). They argue pro Clifford and contra James, suggesting that pragmatists should prefer Clifford's staunch evidentialism to James' permissivism.

By 'staunch evidentialism', I mean the view that evidence uniquely determines how one ought to believe. I set aside the possible positions of evidentialism without uniqueness (that evidence underdetermines rational belief but is the only relevant thing) or uniqueness without evidentialism (that rational factors include more than evidence but altogether uniquely determine belief). My target here is the combination of the two, what Chris Meacham calls the doctrine of Evidential Uniqueness [19]. So the discussion opens onto vistas larger than just whether A&T have got it wrong.<sup>1</sup>

Although A&T's interpretation is just one contribution to a long-running interpretive debate, their approach reflects moves that have been made by numerous other philosophers. By considering them, we can recognize misunderstandings of James and of epistemology which are more widespread.<sup>2</sup>

A&T summarize "the core of the will-to-believe doctrine" in a principle they label WTB:

If S faces an option that is genuine, rationally undecidable, and has a morally preferable outcome that is doxastically efficacious, then S may (perhaps *must*) decide on the basis of S's passionate nature for the morally preferable and efficacious hypothesis. [1, p. 63]

They build doxastic efficacy, the power of belief to influence the outcome, into the WTB principle. Although I turn in the next section to consider such cases, I ultimately aim to show that James' argument does not require doxastic efficacy. Although James does use considerations of doxastic efficacy to argue for permissivism, he also appeals to considerations of inferential risk. A&T fail to recognize that the latter considerations provide a separate argument for permissivism. The difference that doxastic efficacy makes is not *whether* personal factors may enter into belief, but instead *which* factors may do so.

I follow A&T in using the cumbersome but precise term 'doxastic efficacy'. A belief that  $P$  has doxastic efficacy iff the belief makes  $P$  obtain or increases the probability that  $P$ . James Campbell [2] writes instead of *contribution* cases, where belief itself causally contributes to the condition believed. He contrasts these with *recording* cases, those in which belief is meant to record a causally

---

<sup>1</sup>Although the distinction is not always made, most recent work on Uniqueness has been on Evidential Uniqueness. For helpful surveys, see Kelly [11] and Jackson and Turnbull [9].

<sup>2</sup>See especially the citations to Campbell [2], Misak [21], and Wood [25] in this section and the next.

independent state of affairs.<sup>3</sup>

The discussion that follows does not depend, one way or another, on pragmatic accounts of meaning or truth. If the truth of a belief just is its verification, then perhaps there is a sense in which every belief is a causal precondition of its being true. I do not mean doxastic efficacy to be ubiquitous in that way. I am inclined to agree with Robert Meyers, who argues that “the right to believe is not related to James’s doctrine of cognitive meaning” [20, p. 380]. Even if James had some relation in mind, the arguments for permissivism do not depend on it.

In what follows, I will discuss several different kinds of examples: the alpine climber (§1), love and friendship (§2), and scientific investigation (§3). Thinking through these cases will lead us to distinguish ones where personal factors legitimately influence belief because belief causally influences the outcome from ones where they do so because of uncertainty and risk. I then shift away from cases and consider some general arguments against permissivism (§4).

Although A&T turn out to be wrong both about cases and about the general issue, this matters because seeing *why* they are wrong highlights important, neglected features of James’ argument.

## 1 The alpine climber

Perhaps the most well-worn example of doxastic efficacy is the alpine climber case.<sup>4</sup> You will survive if you leap with determination, but if you hesitate then you are lost. James writes:

Suppose... that you are climbing a mountain, and have worked yourself into a position from which the only escape is by a terrible leap. Have faith that you can successfully make it, and your feet are nerved to its accomplishment. But mistrust yourself, and think of all the sweet things you have heard the scientists say of maybes, and... launching yourself in a moment of despair, you roll in the abyss. [10, pp. 53]

James writes that this “belongs to an enormous class” of cases in which it is wise to “*believe what is in the line of your needs*, for only by such belief is the need fulfilled” [10, pp. 53–54].

A&T argue that it is permissible for you to believe in such a case but that it is not a counter-example to staunch evidentialism. If you are a reflective mountain climber who knows that your belief will have doxastic efficacy in this case, then (they claim) your confident belief that you will survive does not

---

<sup>3</sup>Campbell interprets James’ arguments as applying only to contribution cases. I argue below that this overlooks a further line of argument in James’ discussion— viz., considerations of ampliative risk.

<sup>4</sup>A&T call it “James’ standard example” [1, p. 63]. Although James does not pose the alpine climber example in ‘The Will to Believe’, he poses it in ‘Is Life Worth Living?’ and ‘The Sentiment of Rationality’ which were published in the same volume. He uses it as a tool against Clifford explicitly in the latter.

lack sufficient evidence. Instead, they argue, your belief and the fact that it is efficacious are themselves evidence for the belief [1, p. 66]. Call this the *extra evidence view*. Versions of this view are also advanced by Wood [25, p. 10] and Misak [21, p. 63].<sup>5</sup>

In the case as James imagines it, you will survive if and only if you believe.<sup>6</sup> Allowing for degrees of belief modeled in the usual way, we can generalize the case and say that the objective probability that you will survive is equal to your personal credence that you will survive. Formally,  $\text{Pr}(S) = \text{Cr}(S)$ .<sup>7</sup>

$\text{Pr}(S) = \text{Cr}(S)$  together with  $\text{Cr}(S) = 1$  would provide evidence for  $S$  to a third-person observer. They entail that  $\text{Pr}(S) = 1$ . Yet this move is not available to a first-person alpine climber.

There is something unstable about taking your own credence that  $S$  as evidence for  $S$ . Note that  $\text{Pr}(S) = \text{Cr}(S)$  may hold even if the belief has no causal influence on  $S$ . If you wisely try to assign  $\text{Cr}(S)$  so that it matches your best estimate of  $\text{Pr}(S)$  and your estimate is correct, then the equality will hold. Moreover, you will believe that the equality holds just because you believe that your estimate is correct. Allowing the value of  $\text{Cr}(S)$  to be an extra piece of evidence threatens to provide you with such additional evidence for every belief once you reflectively notice that you believe it.

Taking your belief that  $S$  as evidence that  $S$  is odd for the further reason that it enters the scene too late. There is a moment on the mountain in which you believe  $S$  or you do not. You confidently jump or you die. Taking that moment in slow motion, you reflectively consider what your credence ought to be. The evidence prior to that moment does not settle matters, even for a third party. Knowing that  $\text{Pr}(S) = \text{Cr}(S)$ , a detached observer may conclude that you will form a true belief in that moment. If you are confident ( $\text{Cr}(S) = 1$ ) then you will survive. If you are disbelieving ( $\text{Cr}(S) = 0$ ) then you will die. In either case, your belief will accurately reflect the facts. Just as the detached observer cannot say how likely you are to live, there is no rule of evidence which settles what you ought to believe. In the generalized case, you can form any credence  $\text{Cr}(S)$  whatsoever and have an accurate belief. It is better for you to believe than not to, but the evidence simply does not exist until you have formed a belief one way or the other. Making a choice is different than responding to evidence, but A&T elide one into the other in accepting the alpine climber case.

One might defend the extra evidence view by noting that knowing that your situation is one of doxastic efficacy is stronger than knowing  $\text{Pr}(S) = \text{Cr}(S)$ . The

---

<sup>5</sup>A&T argue that it would not be permissible for you to believe if you were not reflectively aware that your belief would be efficacious. It seems to me that this conflates the issue at hand (staunch evidentialism versus permissivism) with the separate issue of epistemic internalism versus externalism. They write, “No epistemic norm should override reliable life-saving strategies” [1, p. 69]. For the strategy of believing in this case to be reliable— in the usual epistemic sense— your reflective awareness of efficacy is not required.

<sup>6</sup>James writes, “Refuse to believe, and you shall indeed be right, for you shall irretrievably perish. But believe, and again you shall be right, for you shall save yourself” [10, p. 54].

<sup>7</sup>Letting  $\text{Pr}(x)$  be objective probability,  $\text{Cr}(x)$  be subjective credence, and  $S$  be that you survive. I pose the example using precise probabilities and credences only for the sake of illustration. The same points could be made using imprecise values and dependencies.

extra evidence, doxastic efficacy, is that the value of  $\text{Cr}(S)$  causally determines the value of  $\text{Pr}(S)$ . However, this alone still allows for  $\text{Pr}(S)$  to take on any value. The extra evidence view requires that your belief itself enter into evidence for that belief itself— that is, that the value of  $\text{Cr}(S)$  play a role in arriving at a value for  $\text{Cr}(S)$ . The view runs afoul of an irreducible difference between choice and evidence.

It is worth noting, moreover, that the intuitive force of the alpine climber case does not require the precise equality  $\text{Pr}(S) = \text{Cr}(S)$ . Even though James claims to be considering cases where “our faith beforehand in an uncertified result *is the only thing that makes the result come true*” [10, p. 53], belief need not be the *only* thing at work. Even if you believe, perhaps a freak gust of wind will nudge you away from your target and to your doom. If we imagine that there is a ten percent chance of some interference causing your jump to fail, then the equation becomes  $\text{Pr}(S) = .9 \times \text{Cr}(S)$ . From this it follows that your credence  $\text{Cr}(S)$  can only correspond precisely to the objective probability  $\text{Pr}(S)$  if  $\text{Cr}(S) = 0$ . That is, they are equal if you believe without any doubt that you will die. A&T’s reply to the case supposes that you are reflective and driven to have your beliefs match the facts. In this revised version, their principle requires that you believe you will die and that you do in fact die. Contrariwise, James would insist that you are free to believe with whatever gusto you can muster.<sup>8</sup> Belief is an effective strategy with a ninety percent chance of success, and a ninety percent chance of survival is pretty good. It is better for you to believe and probably survive, even though it decouples your credence from the objective probability.

To sum up: A&T adopt the extra evidence view, claiming that a suitably reflective alpine climber may be seen as responding to evidence suitably construed. The view fails because (a) the construal of evidence required is unstable and (b) a variant of the case drives a wedge between James’ response to the case and extra evidence views.

## 2 Personal relations

In ‘The Will to Believe’, James offers examples of “personal relations”— friendship and love. Considering the question “Do you like me or not?” he writes, “Whether you do or not depends, in countless instances, on whether I meet you half-way, am willing to assume that you must like me, and show you trust and expectation. The previous faith on my part in your liking’s existence is in such cases what makes your liking come” [10, p. 29]. A&T object that this “sounds more than a little slimy” and reflects a “darker side” [1, pp. 70, 71]. Indeed, a stalker might well defend invasions of privacy and threatening intrusions on the grounds that the target of their stalking simply must love them. A&T are right to note, “Sometimes the reason why one doesn’t have evidence that another is

---

<sup>8</sup>James writes, “In truths dependent on our personal action, then, faith based on desire is certainly a lawful and possibly an indispensable thing” [10, p. 30]. I am pointing out that the dependence need not be perfect or complete.

romantically interested is because the other is *not* interested” [1, p. 71, emphasis in original]. However, recall the dialectic. James is merely aiming to show that one may sometimes permissibly believe without much if any evidence. It shows too little to note just that there are *some* cases in which one ought not.

Forming and maintaining human relationships is complicated. In the growth of a romantic relationship, it may be that one partner says ‘I love you’ before the second is prepared to say it back. The first partner may, at this stage of the relationship, believe that the two love each other. In some cases, the second eventually says ‘I love you, too’, and they live happily ever after. Perhaps the relationship would fall apart rather than continuing if the first partner did not believe in their love through a period in which the evidence was ambiguous. Of course, it may be that the second partner subsequently shows through their actions and words that they do not love the first. There is a point at which the evidence is sufficiently decisive that the first partner would be obtuse to continue believing that the second loves them.

So there obviously are cases (like a stalker) in which belief in the utter absence of evidence would be inappropriate and others (like a neglected or abused partner) in which counter-evidence should overwhelm belief. All that James needs, though, is that there are some situations in which the evidence alone is ambiguous and insufficient but in which one may nevertheless permissibly believe. The formation of romantic relationships is at least sometimes like that.

James thinks the point applies to non-romantic friendship, too. One may develop the point in this way: Being friends with someone requires trusting them. Insofar as one only depends upon them as far as evidence shows them to be reliable, one is merely relying on them and not trusting at all. Friendship requires more. As Alexander Nehamas writes, “My friends are people from whom... I don’t yet know exactly what I want to get, because I trust them enough to let them influence what I believe and what I desire in ways I would not be able to do... on my own” [22, p. 58]. On Nehamas’ account, being friends with someone involves the belief that there is indefinite pleasure and benefit to be gained by interacting with them— as he puts it, recognizing a beauty in them which is not some apprehended pleasure but is instead the promise of happiness. Importantly, for Nehamas, beauty is not a property that inheres in the object. Instead, it is a trust in indefinite and uncertain future goods. It “points to the future” in an open-ended way [22, p. 63]. Thus, friendship and beauty involve beliefs about what will happen that outrun our evidence.

A&T might respond by rejecting Nehamas’ theory of friendship, but a similar point can be made from more quotidian considerations.<sup>9</sup> Getting to know someone and becoming friends with them often requires a commitment of time. Although “one most certainly can be friendly to another person without holding the belief that the other is one’s friend” [1, p. 69], as A&T maintain, there is ef-

---

<sup>9</sup>A&T insist that James’ examples amount to bad relationship advice. Regarding friendship, they write: “There is a much more effective and appropriate way to win friends. Make yourself worthy of their friendship... [and] focus on being someone they should like...” [1, p. 70]. Note that the issue not what general advice is best but instead whether the Jamesian approach is ever permissible.

fort involved in spending time with someone and making overtures of friendship. Expending the effort with one person precludes expending it with someone else. Even if one cultivates many friendships, one cannot be friends with *everyone*. So, why this person or these people rather than others? It would be possible, I suppose, to begin either with people whom evidence suggests are promising as friends or to make the choice randomly. It is more common, I think, to act on a sense that another person holds the promise of being a friend. This sense is suggestive, but it is not sufficient evidence. A third-person observer or someone else in your situation need not see the same promise. Thus, one often believes ‘This person has more promise as a possible friend than other people do’ in the absence of sufficient evidence. And that person only has the potential to become your friend if you do make overtures to them. So it seems to be an example of doxastic efficacy. One’s life would be impoverished if one refused to believe in any such case.

To defend A&T, one may object that the belief which one forms in the absence of evidence is not that a person is already one’s friend. Let us introduce the locution ‘*X* is friend-apt’ as shorthand for ‘*X* has more promise as a possible friend than other people do’. Grant for the sake of argument that friend-aptness is a complex disposition that a person possesses regardless of whether they actually do become one’s friend or not. So ‘*X* is friend-apt’ is distinct from ‘*X* will be one’s friend’. If one acts to become friends with someone whom one believes to be friend-apt, then one is more likely to trigger the disposition and actually become friends with them. Doxastic efficacy of a belief that *P*, however, requires that the belief positively influence the chance that *P* obtains. The belief (that they are friend apt) and the outcome (that they actually become your friend) are distinct, and so it is not an example of doxastic efficacy.

The case is parallel to others which obviously do not involve doxastic efficacy. For example, suppose you endeavor to dissolve a lump of gold. You believe that gold has a particular disposition— that it is soluble in aqua regia. Your belief allows you to succeed in dissolving the gold, but gold is soluble in aqua regia whether or not you believe that it is. So, too, for someone being friend-apt on the assumption that friend-aptness is a disposition.

Even granting all that, the objection does not favor A&T over James. The example serves James’ purpose but lacks doxastic efficacy. Our rewarding personal relations may require that we sometimes believe in the friend-aptness of others in the absence of compelling evidence. James’ intuition, which I share, is that this suffices to show that such a belief can be permissible. Note that the attempt to become friends with someone is, among other things, a test of how friend-apt they are. So evidence eventually accumulates to settle the matter one way or the other. We will look at other cases that have this structure in the next section. For now, the upshot is that the early belief in friend-aptness serves as a counterexample to the staunch evidentialist claim that one ought never form beliefs in the absence of sufficient evidence.

To sum up: (a) Some romantic entanglements allow one party to believe that both are in love before there is sufficient evidence for that belief, at least for a while. (b) At least one philosophical account of friendship entails that belief in

the absence of sufficient evidence is *constitutive* of friendship. (c) Apportioning effort to befriend somebody rather than somebody else reflects an assessment of friend-aptness which involves belief in the absence of sufficient evidence.

### 3 Scientific investigation

Having dealt with the usual secular examples, let's consider another.

Alexander Klein offers a case of scientific investigation that seems to fit the Jamesian will-to-believe pattern [13]. Note that Klein is writing about the contrast between James' epistemology and Quine's, so he does not draw out all the lessons from the case that I draw out below.

In the early 1980s, it was believed that peptic ulcer disease (PUD) was caused by excess stomach acid. Barry Marshall and his collaborators found a correlation between the presence of the bacteria *Helicobacter pylori* (*H. pylori*) and PUD. However, it was unclear whether the bacteria caused the ulcers or was merely present because the stomach was already compromised. It was also known that almost all cats are infected with *Helicobacter*, but nevertheless PUD is not pandemic among cats. Experiments to infect piglets with *H. pylori* showed no effect. Marshall decided that further experiment was required, so he ingested a vial *H. pylori*. He got sick, and his illness along with biopsies proved that *H. pylori* is a pathogen. Further research reinforced the connection, and Marshall won the 2005 Nobel Prize in Physiology or Medicine (along with his collaborator Robin Warren).

Klein argues that Marshall's self-experiment shows that he believed, in advance of sufficient evidence, that *H. pylori* causes PUD. Klein writes, "James... would have to say that Marshall faced a choice of *belief*" and that Marshall's "willingness to swallow a vial of bacteria that, at the time, had not been widely studied reflects stunning confidence in his attending belief that he understood the causal pathways of *H. pylori*" [13, p. 238].

Matters before Marshall's self-experiment were equivocal. The evidence could be interpreted to favor Marshall's belief, but it need not be. He saw connections with earlier work and other unexplained findings, but other scientists were unconvinced. So Marshall's case, as Klein describes it, is one in which Marshall believed in the absence of sufficient evidence. Since epistemic strictures should not block meritorious, prize-winning science or condemn it as irrational, we should say that Marshall permissibly believed in advance of the evidence.

Klein writes, "Particularly for an early-career researcher, choices about what experimental program to pursue (and thus about what hypotheses one should believe) are inevitably tied up with one's desire and fears about one's future, about one's ability to provide for one's family, about one's own prospects for an interesting and fruitful career, and so on" [13, p. 239]. Philosophers of science, especially following Kuhn, have often noted this kind of personal investment in theories.<sup>10</sup>

---

<sup>10</sup>Kennedy, writing before Kuhn, writes, "Even the decision to undertake an arduous and



Note that James himself does not offer this kind of example. On the contrary, he supposes that scientists should exercise caution and remain agnostic until sufficient evidence is collected. He writes, “A chemist finds an hypothesis live enough to spend a year in its verification: he believes in it to that extent. But if his experiments prove inconclusive either way, he is quit for his loss of time, no vital harm being done” [10, p. 16]. It is possible to read this as James just making a concession for the sake of argument; in a later passage, he claims that “science would be far less advanced than she is if the passionate desires of individuals to get their own faiths confirmed had been kept out of the game” [10, p. 27]. Regardless, Marshall did not fit the description of James’ chemist. His research funding was nearing its end. Absent a breakthrough, he would have to pursue a job in private practice. Alternately, Marshall later wrote, “a successful infection with *Helicobacter* would point towards a career in clinical research, more exciting but likely to be financially insecure” [18, p. 269].<sup>11</sup> Marshall’s option was, in James’ terms, both momentous and forced.

One might object that Marshall did not actually *believe* that *H. pylori* causes PUD. Rather, he merely found it sufficiently promising to risk experimenting on himself. Even if he and his contemporaries agreed that the hypothesis was possible but unlikely, further research into it was a bet with different payouts for Marshall than for his contemporaries. He was at a critical juncture in his career, but they were not. He might rationally take actions that they did not, like experimenting on himself, even without disagreeing about any beliefs. Thus, one might argue, they all had or ought to have had the same degree of belief in the hypothesis.<sup>12</sup>

This objection can be tested by considering how Marshall and his colleagues acted in other contexts. The choice of how to treat a patient offered Marshall and his colleagues the same payouts, because the outcomes were just a third-party’s condition. If he and his colleagues had the same degrees of belief, then they should have made the same treatment recommendations. Contrariwise, if Marshall believed his speculation that *H. pylori* causes PUD, then he should have been willing to act on it when the health of others was at stake. As it happens, Marshall *was* willing to make treatment recommendations even before his self-experiment. His recommendations were met with what Marshall describes as “a certain coolness” by his “more senior colleagues” [18, p. 267]. He was not allowed to treat ulcer patients with antibiotics before his self-experiment and subsequent publication. What stopped him from acting for non-research purposes was not a low credence in his hypothesis but instead social constraints

---

expensive program of scientific experiments when it is not certain that these experiments will yield significant results can be an instance of the right to believe” [12, p. 584]. On the connection between this point in philosophy of science and Jamesian epistemology, see Magnus [16]. For related discussion of Jamesian epistemology and self-experimentation, see Welchmann [24].

<sup>11</sup>This passage is quoted with emphasis by Klein [13, p. 239].

<sup>12</sup>Arguably, this objection is not available to any of the parties to this debate. James’ pragmatism about belief dissolves any difference between believing the hypothesis and acting as-if for all purposes. As A&T argue, Clifford is as much a pragmatist about belief as James is.

of the clinical context. Those social constraints are important, because medical care should reflect standards of care rather than any doctor’s idiosyncratic beliefs.

Ongoing research requires some scientists sometimes believing in advance of sufficient evidence. So scientific investigation in general and the discovery that *H. pylori* causes PUD in particular are counterexamples to the staunch evidentialists’ insistence that we ought never believe in advance of sufficient evidence.

Note that this is not a case of doxastic efficacy. Marshall’s belief that *H. pylori* causes PUD made no difference to whether it does or not. I suppose we might isolate Marshall’s belief ‘Future research will decisively show that *H. pylori* causes PUD’. This was doxastically efficacious: Because he believed it, the research got done. If he had not believed it, then the research probably would not have been done. Yet a belief about future research, like the belief about making friends in the previous section, readily separates into two components. Future research would decisively show that *H. pylori* causes PUD *both* because *H. pylori* does cause PUD *and* because the research would be conducted. Marshall’s beliefs were efficacious in producing only the latter. The matter of real interest is that *H. pylori* causes PUD, and Marshall’s beliefs had no influence on that one way or another.

So Marshall’s case in particular and scientific investigation in general show that there are cases which lack doxastic efficacy but in which we should nevertheless “respect one another’s mental freedom” [10, p. 34]. At a certain time, the evidence does not decisively speak for or against an hypothesis. There are risks attendant with all the options: believe it, reject it, suspend judgment and wait for further research. In such a situation, the costs and benefits of various possible outcomes guide scientists’ decisions about which option to adopt.

Following Carl Hempel [8], this is standardly called the argument from inductive risk. Since the argument applies to induction in the broad sense of ampliative inference, I will call it the argument from ampliative risk.<sup>13</sup> Reintroduced to recent philosophy of science by Heather Douglas [5, 6], it is now taken as a standard argument for the claim that values may legitimately play a role in theory choice.<sup>14</sup>

Although he did not apply it to scientific cases, the argument from ampliative risk is already given by James. The pursuit of knowledge demands both that we try to believe true things and that we try to avoid believing false things—as James writes: “Believe truth! Shun error!” [10, p. 25].<sup>15</sup> As evidence accumulates, the point at which one ought to believe is guided not by some impersonal function but by the appropriate balance between these two demands.

---

<sup>13</sup>The word ‘inductive’ is sometimes read in the narrow sense of enumerative inference, e.g. by ChoGlueck [3].

<sup>14</sup>The argument is famously given by Rudner [23]. For recent discussion of the argument, see e.g. Elliot and Richards [7]. In previous work, I have pointed out the connection to James in passing; the upshot of the argument is what I label the James-Rudner-Douglas (JRD) thesis [15, 16].

<sup>15</sup>Thomas Kelly draws the connection between this passage and the debate over uniqueness [11].

James writes, “You... may think that the risk of being in error is a very small matter when compared with the blessings of real knowledge, and be ready to be duped many times in your investigation rather than postpone indefinitely the chance of guessing true” [10, pp.25–6].<sup>16</sup>

In their characterization of the will-to-believe doctrine, A&T require *both* that the matter be “rationally undecidable” *and* that belief be “doxastically efficacious” [1, p. 63, cited above]. Thus, they miss the fact that ampliative risk and the efficacy of belief are independent arguments against staunch evidentialism.

Considerations of ampliative risk are in play not just in cases of mortal consequence but, as Gail Kennedy notes, “wherever one must act upon insufficient evidence” [12, p. 584].<sup>17</sup> Since belief is always connected at least to possible action, though, ampliative risk is relevant wherever the evidence is less than compelling. For any live scientific question, the evidence admits of different interpretations and reasonable scientists may disagree. Ampliative inference necessarily goes beyond the evidence. There is always some ampliative risk, so there is always the potential for disagreement about how to weigh that risk—disagreement which may underwrite different judgements about what to believe [17].

It is not legitimate, though, to consider just any risk or consequence. The categorical goodness or badness of a state of affairs is irrelevant. In Marshall’s case, the consideration in favor of believing that *H. pylori* causes PUD was not that it would be good for it to do so. Rather, the relevant considerations were what would be gained by believing the hypothesis if it were true, what would be lost by believing if it were false, what would be lost by disbelieving if it were true, and what would be gained by disbelieving if it were false. Douglas calls this *values playing an indirect role* [6]. As she argues, theory choice always involves values in an indirect role but ought never involve values in a direct role. To put the point in different terms: Theory choice always involves the conditional values of believing/disbelieving given the hypothesis were true/false, but it should not involve the categorical value of the hypothesis being true/false.

In contrast, it is perfectly legitimate for values to play a direct role when belief is efficacious. In the alpine climber case where you are the climber, the value of your survival makes it reasonable for you to believe that you will survive.

So distinguishing the two considerations is not mere logic-chopping. Instead, there is an important sense in which ampliative risk is broader than doxastic efficacy, and another sense in which it is more narrow. Considerations of ampliative risk apply in a great many more cases, but only entitle us to assess beliefs in terms of specific conditional values (i.e., values may play only an indirect role). Considerations of doxastic efficacy apply to fewer cases, but entitle us to assess

---

<sup>16</sup>James recognizes this as tension as a central theme of ‘The Will to Believe’ and other essays published along with it. In the preface, he puts the point this way: that “there is really no scientific or other method by which men can steer safely between the opposite dangers of believing too little or of believing too much” [10, p. 7].

<sup>17</sup>Kennedy puts the distinction in different terms, separating the “right to believe” for reasons akin to ampliative risk from the “will to believe” when belief is efficacious [12].

beliefs in terms of any personal factors (i.e., values may play a direct role).

To sum up the paper so far: James offers two kinds of considerations, and we can use these to distinguish two kinds of cases. Either would be sufficient for James' positive argument that we may sometimes permissibly believe in the absence of compelling evidence.

One might think to defend Clifford by distinguishing epistemic reasons to believe from non-epistemic ones. The objection would go like this: Clifford's claim that one ought not believe when there is insufficient evidence can be construed as being just about epistemic reasons, and the considerations which James raises are extra-epistemic. Even if Jamesian concerns underwrite an all-things-considered conclusion that it is permissible to believe in the absence of sufficient evidence, this would be no counter-example to Clifford's thesis *qua* epistemological.

This objection fails for at least two reasons. First, neither Clifford nor James would accept such a distinction. The arguments that Clifford (and A&T) advance are not just concerned with getting the truth. As we'll see in the next section, they appeal to pragmatic consequences just as much as James does. Second, the considerations that James appeals to are epistemic. Regarding doxastic efficacy: The permission to believe comes precisely because  $\text{Pr}(S)$  is coupled to  $\text{Cr}(S)$  in such cases. Belief points to the truth. Regarding ampliative risk: Believing truth and shunning error are epistemic duties. Balancing between epistemic duties is still essentially an epistemic matter [17]. Insofar as the balancing inescapably depends on your personal temperament, the epistemic inescapably includes such personal factors.

## 4 Hygiene and dogmatism

A&T— and Clifford before them— offer arguments that permissiveness about belief would be harmful. These worries are independent of whether James' positive arguments for permissiveness are successful, so they merit at least some attention. I will summarize two arguments briefly and then rebut them.

The first argument is that believing permissively in some cases would weaken our habit of applying strict standards. In cases where it does matter— cases where James would agree that we should remain agnostic— weakened habits would leave us slipping up and believing where we should not. Call this the *cognitive hygiene* argument.<sup>18</sup>

The second is that James' argument is “a potent recipe for dogmatism” [1, pp. 73]. James concludes ‘The Will to Believe’ by claiming that we ought “to respect one another's mental freedom” [10, p. 34]. A&T object that this does not obviously follow. Instead, they note James' focus on options which are *momentous* and irreversible. They formulate James' argument as involving the commitment that “[i]f one believes fully for the sake of doxastic efficacy, one does not harbor doubts and one recognizes doubts as morally repugnant” [1, pp. 73]. Rather than leading to respect for one another's mental freedom, A&T

---

<sup>18</sup>I advanced a similar argument in earlier work [14], but I now think that it overreaches.

conclude, the upshot of James' argument is that one should adopt a belief and cleave to it come what may. Call this the *deepening dogmatism* argument.

With respect to cognitive hygiene: A&T draw an analogy with dieting, suggesting that someone who is willing to believe on less than compelling evidence *even once* is apt to fall off the wagon. They write,

Ask anyone on a diet, or a person who is trying to quit smoking or quit drinking or eating meat, someone who is trying to stop giving in to a *temptation* of any sort, whether the statement "just this once" ever holds. Instead, it sets in motion the weakening of one's resolve. "Just this once" *pragmatically* means that the person is developing the habit of abandoning her abstemiousness, cultivating weakness of will. [1, pp. 61–2]

They are right, of course, that there is sometimes a slippery slope between doing something 'just once' and doing it many times. On some occasions I have suffered an upset stomach from eating a whole package of Twizzlers which I opened with the intention of eating just two. If the upset stomach were a rift in the very fabric of my life, then it would be better to never open Twizzlers—better still to wipe Twizzlers out of existence lest I eat too many again! Yet this is obviously absurd. I will eat the occasional Twizzler, and we can respect one another's gustatory freedom.

Moreover, the argument from cognitive hygiene fails to fit with important features of actual belief.

First, evidence is never unambiguously sufficient. Clifford supposes that induction is possible on the assumption that nature is uniform [4, p. 360]. James notes that this assumption is not itself something which can be established with sufficient evidence.<sup>19</sup> We now recognize that the situation is even worse than that. After Goodman and the new riddle of induction, we know that an assumption of the uniformity of nature is insufficient to underwrite scientific inference. The real puzzle is not *whether* the future will resemble the past but *how*. Empirical inference is always ampliative. This means that it always involves risks. As we saw in the previous section, consideration of those risks makes it permissible for one to believe in some cases where others would find the evidence insufficient.

Second, the epistemic community is not as vulnerable as the objection presumes. Clifford argues not just that believing too quickly will lead down a slippery slope to credulity, but also that it "foster[s] a credulous character in others" [4, p. 345]. As the example of Marshall and *H. Pylori* illustrates, though, an epistemic community typically has mechanisms that allow for disagreement. Marshall believed an hypothesis that his fellows did not. Before more evidence accumulated, they tolerated his belief while giving it a cool response and refusing to let it guide treatment. Their tolerance did not mean that they were

---

<sup>19</sup>James writes, "The necessity of faith as an ingredient in our mental attitude is strongly insisted on by the scientific philosophers of the present day; but by a singularly arbitrary caprice they say that it is only legitimate when used in the interests of one particular proposition, the proposition, namely, that the course of nature is uniform" [10, p. 76].

growing credulous. That specific case, as well as general considerations from philosophy of science, show that the community is structured so as to accommodate disagreement at least on questions which are being actively researched. Different epistemic communities handle dissent in different ways, but there is often at least a window in which individuals may productively disagree.

With respect to deepening dogmatism: A&T pose the objection as their own, but it resonates with concerns raised by Clifford who writes, “The danger to society is not merely that it should believe wrong things, though that is great enough; but that it should become credulous, and lose the habit of testing things and inquiring into them; for then it must sink back into savagery” [4, p. 345].

In this form, the argument is no objection to James. Although James holds that we may permissibly believe in the absence of compelling evidence, this is in part because he is a fallibilist. He writes that “if we are empiricists, if we believe that no bell in us tolls to let us know for certain whether truth is in our grasp, then it seems a piece of idle fantasticality to preach so solemnly our duty of waiting for the bell” [10, pp. 33–4]. The fact that James calls this *empiricism* underscores the connection to further evidence. We ought always to go on testing things and inquiring into them. Belief should not stand in the way of further enquiry. James’ claim of a right to believe is the converse of this—there being further enquiry should not stand in the way of belief, either.

Of course, as a psychological matter, some evidence may be taken as compelling by a person on an occasion. As James writes, “The greatest empiricists among us are only empiricists on reflection: when left to their instincts, they dogmatize like infallible popes” [10, p. 22]. In the instant before jumping, the alpine climber believes without hesitation. Yet the climber does not, as A&T write, treat “doubts as morally repugnant” [cited above]. Taking a moment to disdain non-believers might spell doom as surely as doubting. And after the climber has survived, it will no longer be a matter of doxastic efficacy.

## 5 Conclusion

A&T’s mention of “the Eucharist” and “apostasy” [1, pp.73,4] suggest that they have religion specifically in mind when posing the deepening dogmatism argument. And James, for his part, offers ‘The Will to Believe’ as a “a defence of our right to adopt a believing attitude in religious matters” [10, p. 14]. Of course, resolving the question of religious belief requires determining what its actual content is. James defends not the Eucharist but woolly principles about “the things in the universe that throw the last stone” [10, p. 29]. Wood calls these “religious convictions that are so empty and insipid that they could not possibly do much harm” [25, p. 21].

I do not know how we should construe what constitutes a religious belief, and without further specification we cannot even pose the religious question. Nevertheless, the question must be settled on its own merits and not by appealing, as Clifford and A&T do, to a general principle that demands sufficient evidence in advance of any belief. The Jamesian considerations discussed above

show that, in at least some cases of doxastic efficacy and ampliative risk, we should allow space to believe both for one another and for ourselves. Perhaps religious belief occupies this space.

It is important to note that this space is not infinite and the freedom to believe is not unlimited. As I argued at the end of §3, the separate considerations of doxastic efficacy and ampliative risk have different scope and strength. Doxastic efficacy allows the invocation of any values or considerations, but only if belief actually is a causal factor in producing the outcome. The second-order belief that a particular belief is causally efficacious is not necessarily itself a causally efficacious belief. Determining whether it is or not requires looking at evidence and considering how the situation is actually structured. Ampliative risk allows invocation only of conditional costs and benefits: the value of believing or not conditional on the belief being true or false. Although these indirect considerations may change the force and weight of various lines of evidence, they never allow one to completely ignore evidence. The result is permissive, but not an anything-goes *carte blanche* to believe whatever whenever.

## References

- [1] Scott F. Aikin and Robert B. Talisse. Clifford's pragmatism and The Will to Believe. In *Pragmatism, Pluralism, and the Nature of Philosophy*, pages 59–75. Routledge, New York, 2018.
- [2] James Campbell. *Experiencing William James*. University of Virginia Press, Charlottesville, 2017.
- [3] Christopher ChoGlueck. The error is in the gap: Synthesizing accounts for societal values in science. *Philosophy of Science*, 85(3):704–725, October 2018.
- [4] William Kingdon Clifford. The ethics of belief. In Leslie Stephen and Frederick Pollock, editors, *Lectures and Essays*, pages 339–363. Macmillan and Co, London, second edition, 1886.
- [5] Heather E. Douglas. Inductive risk and values in science. *Philosophy of Science*, 67(4):559–579, December 2000.
- [6] Heather E. Douglas. *Science, Policy, and the Value-free Ideal*. University of Pittsburgh Press, 2009.
- [7] Kevin C. Elliott and Ted Richards. *Exploring Inductive Risk*. Oxford University Press, 2017.
- [8] Carl G. Hempel. Science and human values. In *Aspects of Scientific Explanation and other Essays in the Philosophy of Science*, pages 81–96. The Free Press, New York, 1965.

- [9] Elizabeth Jackson and Margaret Greta Turnbull. Permissivism, underdetermination, and evidence. In *Routledge Handbook for the Philosophy of Evidence*. Routledge, London, forthcoming.
- [10] William James. *The Will to Believe and Other Essays in Popular Philosophy*. Harvard University Press, Cambridge, Massachusetts, 1979. The Works of William James. Volume 6.
- [11] Thomas Kelly. Evidence can be permissive. In Matthias Steup, John Turri, and Ernest Sosa, editors, *Contemporary Debates in Epistemology*, pages 298–312. Wiley Blackwell, Chichester, West Sussex, 2014. Second edition.
- [12] Gail Kennedy. Pragmatism, pragmaticism, and the will to believe— a reconsideration. *The Journal of Philosophy*, 55(14):578–588, July 1958.
- [13] Alexander Klein. In defense of wishful thinking: James, Quine, emotions, and the web of belief. In Maria Baghramian and Sarin Marchetti, editors, *Pragmatism and the European Traditions: Encounters with Analytic Philosophy and Phenomenology Before the Great Divide*, pages 228–250. Routledge, London, 2018.
- [14] P.D. Magnus. Peirce: Underdetermination, agnosticism, and related mistakes. *Inquiry*, 48(1):26–37, February 2005. doi:10.1080/00201740510015347.
- [15] P.D. Magnus. What scientists know is not a function of what scientists know. *Philosophy of Science*, 80(5):840–849, December 2013. URL: <http://www.jstor.org/stable/10.1086/673718>.
- [16] P.D. Magnus. Science and rationality for one and all. *Ergo*, 1(5):129–138, 2014. doi:10.3998/ergo.12405314.0001.005.
- [17] P.D. Magnus. Science, values, and the priority of evidence. *Logos&Episteme*, 9(4):413–431, December 2018. doi:10.5840/logos-episteme20189433.
- [18] Barry J. Marshall. *Helicobacter* connections. In Karl Grandin, editor, *Les Prix Nobel*, pages 250–277. Nobel Foundation, Stockholm, 2006. The Nobel Prizes 2005.
- [19] Christopher Meacham. Deference and uniqueness. *Philosophical Studies*, 176(3):709–732, March 2019.
- [20] Robert G. Meyers. Meaning and metaphysics in James. *Philosophy and Phenomenological Research*, 31(3):369–380, March 1971.
- [21] Cheryl Misak. *The American Pragmatists*. Oxford University Press, Oxford, 2013.
- [22] Alexander Nehamas. *Only a Promise of Happiness: The Place of Beauty in a World of Art*. Princeton University Press, Princeton, New Jersey, 2007.



- [23] Richard Rudner. The scientist qua scientist makes value judgments. *Philosophy of Science*, 20(1):1–6, January 1953.
- [24] Jennifer Welchman. William James’s “The Will to Believe” and the ethics of self-experimentation. *Transactions of the Charles S. Peirce Society*, 42(2):229–241, 2006.
- [25] Allen Wood. The duty to believe according to the evidence. *International Journal for the Philosophy of Religion*, 63(1/3):7–24, February 2008.