

Bain's Theory of Belief and the Genesis of Pragmatism

Aaron Z. Zimmerman

November 25, 2020

Pragmatism is more than just a philosophy of mind; but, as a matter of intellectual history, the movement seems to have emerged from theorizing on a central topic in this philosophical subdiscipline. For if C.S. Peirce's recollection is to be trusted, it was Nicholas St. John Green's application of Bain's theory of belief to one issue after another that first provoked Peirce to use the term 'pragmatism' as the pair discussed the views of the day with James, Holmes, John Fiske, Joseph Warner, Chauncey Wright, and, occasionally, Francis Ellingwood Abbot, when the young men met up as a 'Metaphysical Club' in Cambridge, Massachusetts in 1872 (Fisch 1954). Indeed, Peirce would go on to describe Bain's theory of belief as the 'axiom of pragmatism,' granting it a paramount position in his conception of the philosophy's structure.

Nicholas St. John Green was one of the most interested fellows, a skillful lawyer and a learned one, a disciple of Jeremy Bentham. His extraordinary power of disrobing warm and breathing truth of the draperies of long worn formulas, was what attracted attention to him everywhere. In particular, he often urged the importance of applying Bain's definition of belief, as 'that upon which a man is prepared to act.' From this definition, pragmatism is scarce more than a corollary; so that I am disposed to think of him [i.e. Green] as the grandfather of pragmatism. (Hursthorne and Weiss 1934, vol. 5, para 1)¹

Peirce wrote this passage in 1907, reporting on meetings that took place thirty-five years before, leading some scholars to question the accuracy of the report. And it must be admitted that the path from those first meetings of the Metaphysical Club in the early 1870s to the emergence of pragmatism on the national stage was long delayed. Five years would pass before Peirce would go on to sketch a kind of pragmatism (without the name) in seminal essays that appeared in the *Popular Science Monthly* in 1877-8, and another twenty years would pass before James was invited by George Howison to deliver a lecture entitled 'Philosophical Conceptions and Practical Results,' at the University of California, Berkeley in 1898, in which James would refer to the Cambridge group and describe the philosophy Peirce avowed at its meetings as both 'practicalist' and 'pragmatist'. And it was only in response to James' 1898 lecture that a wider group of philosophers and intellectuals would describe themselves as 'pragmatists' and were allowed that label by their critics. Thus, decades would pass after Green's use of Bain on belief so impressed Peirce, James, and their cohort, before a literature would emerge devoted to the definition and evaluation of the creed in question (Fisch 1981).

In light of this timeline, it would be worthwhile, I think, to reexamine Bain's theory of belief alongside Peirce's founding essays and James' movement-launching lecture to assess Peirce's retrospective claim that pragmatism's many doctrines are all just 'corollaries' that emerged from Green's relentless applications of Bain's definition of belief to issues of philosophical significance. In any event, my plan is to devote this essay to that project.

¹ Peirce gave a similar account in an undated letter to the editor of the *Sun*. "Green was especially impressed with the doctrines of Bain, and impressed the rest of us with them; and finally the writer of this paper brought forward what we called the principle of pragmatism" (Weiner 1946, 223).

Bain's theory of belief acknowledges the state's many dimensions, the heterogeneity of the class of beliefs, the many different factors that cause people and other animals to believe various things, and the myriad emotional, cognitive and behavioral consequences of conviction once established. But despite his recognition of the many kinds of beliefs and the many dimensions of each belief we hold, Bain's analysis of the state of mind privileges *action* in several, crucial respects. First, Bain classified belief as a state of will rather than sense or intellect, though he acknowledged the believer must have some representation of what is believed, implying intellect of some sort, however primitive.² Second, as Peirce recalled in the letter quoted above, Bain posited action as criterial for belief. Without the requisite connection to action and active potentialities, a representation cannot be said to qualify as a belief. Given the centrality of action to philosophies deemed 'pragmatic' in orientation by contemporary scholars and public intellectuals, Bain's influence on pragmatic philosophy as it exists today is, I think, beyond reasonable doubt. The question for us, however, is just how central the Scot's theory of belief was to the genesis of what would become known as America's distinctive mode of thought.

1. Bain's definition of belief

In addition to its invocation by Green during discussions at the Metaphysical Club, Peirce was presented with Bain's theory of belief in several different published versions. Bain's two most influential books were *The Senses and the Intellect* and *The Emotions and the Will*. The chapter on belief is presented toward the end of *The Emotions and the Will*, as, recall, Bain classified belief as a state of will, and this chapter was revised over the book's three editions. Bain also included a chapter on belief in his *Mental Science*, an abridged compendium of the two works just mentioned, which Peirce and James both used as a textbook for their courses on psychology, at a time when psychology was not yet differentiated from philosophy of mind at Harvard and Johns Hopkins, where the two men taught. And there is a short rehearsal of the theory of belief in Bain's *Logic*, which Peirce reviewed in print. But Bain also contributed a chapter on belief to Chambers' *Encyclopedia* (1861) which reappeared without changes in the American editions of this volume (1864, 1870, 1873, 1876, 1882), and in two American encyclopedias parasitic on the Chambers' work: Alden's *Library of Universal Knowledge* (1880) and *The International Cyclopaedia* (1884, 1891, 1894, 1898). Thus, as Fisch (1954) reports, Bain's views on the nature of belief were basically the household world on the subject in both the US and UK for over thirty years.

Though Bain's statements of his theory differ from one another in emphasis, they entirely cohere in substance and method. My account in what follows will largely adhere to Bain's most extensive treatment of belief in *The Emotions and the Will*, which presents a conception of the mental state from which Bain never departed.

² According to Fisch, Bain's admission that the intellect is involved in the genesis and modification of belief first appears in the third edition of Bain's *Mental Science* published in 1872 and then the third edition of *The Emotions and the Will* published in 1875. Fisch suggests that this revision marked a modification of Bain's original theory in response to James Sully's (1872) criticisms. But I show in the text below that the admission is already made in the first edition of *The Emotions*. Cf. Bain's critic, F.H. Bradley (1883, 22) and (1922, 20 and 40), who regarded the varying formulations of Bain's theory of belief as equivalent to one another.

At the outset, Bain acknowledges the connections between belief and intellect and belief and emotion. These admissions are most prominent in the third edition, which begins:

The state of mind called Belief, Expectation, Confidence, Trust, Assurance, Conviction, involves obviously our intellect, or ideas: we must know or conceive the fact that we believe in. (Bain 1875, 505)

The first edition is more confident, insofar as it starts with an assertion of the relationship between belief and action, and only then anticipates an intellectualist critique.

It will be readily admitted that the state of mind called Belief is, in many cases, a concomitant of our activity. But I mean to go farther than this, and to affirm that belief had no meaning, except in reference to our actions; the essence, or import of it is such as to place it under the region of will. We shall see that an intellectual notion, or conception, is likewise indispensable to the act of believing, but no mere conception that does not directly or indirectly implicate our voluntary exertions, can ever amount to the state in question. (Bain, 1859, 568)

These initial statements already establish a definition of “belief” as: (i) a mental representation (perception, memory, expectation, evaluation, plan, notion, conception, idea, etc.), that is (ii) directly or indirectly implicated in our “voluntary exertions.” We can discuss these two elements in turn.

The definition’s first condition might be used to distinguish belief from states of mind that are not themselves representations of anything. Common examples include feelings, like nausea, which lack a salient, represented location, and amorphous moods, like ennui, which are phenomenologically backgrounded. So understood, the distinction would put Bain in mild opposition to James, who endorses Benjamin Blood’s (1874) claim that the drunk and drugged can just “feel convinced” without knowing what they are convinced of.

One of the charms of drunkenness unquestionably lies in the deepening of the sense of reality and truth which is gained therein. In whatever light things may then appear to us, they seem more utterly what they are, more ‘utterly utter’ than when we are sober. This goes to a fully unutterable extreme in the nitrous oxide intoxication, in which a man’s very soul will sweat with conviction, and he be all the while unable to tell what he is convinced of at all. (James 1918, 518)

Is this belief in the absence of representation? A positive answer led James to analyze belief as a feeling.

In its inner nature, belief, or the sense of reality, is a sort of feeling more allied to the emotions than to anything else (James 1918, 517, emphasis in original; cf. Russell, 1921).

Suppose though, as Brentano maintained, that “aboutness” is the mark of the mental, and all and only mental phenomena are representations, feelings included. (Perhaps nausea represents the sorry state of the nauseous animal’s digestive process, or the disorientation of the nauseated in relation to her surroundings. Perhaps ennui represents the dearth of Gibsonian “affordances” or

an absence of opportunities for satisfaction.) Even if we make this supposition, the definition's first condition might still be used to distinguish belief from the states of various sensorimotor processes that have been conceptualized, by connectionists and others, as consisting in something other than computations performed on representations (Van Gelder 1995; cf. Price 2011 and Solymosi 2013).

Supposing with Bain that belief is a representation, what sort of content can it have? Bain begins at the beginning with an animal's perceptual awareness of its own movements through space, the objects with which it interacts in space, and the regularities it discerns between its movements and alterations in what it experiences as a result.

The infant, who has found the way to the mother's breast for food, and to her side for warmth, has made progress in the power of faith; and the same career goes on enlarging through the whole of life. Nothing can be set forth as belief that does not implicate in some way or other the order, arrangements, or sequences of the universe. (Bain, 1875, 506)

But he allows that belief soon extends beyond what is perceived, remembered, and expected to include fantasies, myths and fictions we fail to distinguish from reality.

Not merely the sober and certain realities of every man's experience, but also superstitions, dreams, vagaries, that have found admittance among the most ignorant and misled of human beings, are conversant with the same field. When we people the air with supernatural beings, and fill the void of nature with demons, ghosts, and spirits; when we practice incantations, auguries, charms, and sacrificial rites, we are the victims of a faith as decided and strong as is our confidence in the most familiar occurrences of our daily life. (ibid.)

Deep knowledge of history, scientific speculation, and the conceptual schemes we employ in law and business are also classified as beliefs, even when they lie tacit and dormant, awaiting their relevance to actions in view.

As the intellectual functions are developed, and become prominent in the mental system, the materials of belief are more and more abundantly reaped from their proper field... [but] there lurks a tacit appeal to action in the belief entertained respecting all that unapplied knowledge. (Bain 1875, 507)

To believe something is to be disposed to use information to guide one's actions when that information becomes relevant to them.

We may act upon very imperfect knowledge, but that knowledge must be believed by us. We may have perfect knowledge without acting on it; much of our highest theoretic knowledge is seldom reduced to practice. The reason is, not want of faith, but want of opportunity. The preparedness to act is still the only test of this highest kind of knowledge. (ibid.)

Pretty much anything can be believed, so long as it is potentially relevant to action, decision, or the kinds of effective thought and deliberation that shape our actions as they unfold in space over time.³

We turn then to the second element of Bain's definition, which is commonly used to distinguish believing something from entertaining the idea of its truth as a supposition on which to reason. (A similar distinction is commonly drawn between believing something on the one hand, and, on the other, regarding it as a hypothesis fit for investigation, or believing something on the one hand, and acting as though it is true for the purposes of deceiving another.) And Bain employs his definition to this end, but in more controversial ways too. For example, in the third edition of *The Emotions*, Bain uses belief's connection to voluntary movement to distinguish belief from emotion. Bain allows that emotion constitutes belief when its bearer is poised to act on it. The soldier's good cheer is indistinguishable from his belief that he will emerge from the conflict unscathed, especially when the man has no reason for his confidence. Faith is a felt belief: confidence in good to come.

The soldier in a campaign, cherishing and enjoying life, is unmoved by the probability of being soon cut off. If, in spite of the perils of the field, he still continues to act in every respect as if destined to a good old age, his conviction is purely a quality of his temperament, and will be much less strong at those moments when hunger and fatigue have depressed his frame, or when the sight of dying and dead men has made him tremble with awe....Under this hypothesis of no positive evidence, elevation of tone and belief of good to come, are the same fact. Where the acquired trust in evidence does not find its way in any degree, belief is the same thing as happy emotion. (1875, 524)

The same is true of religious belief, which has intellectual instances in Aquinas, Cavin and Butler, but is more often constituted by emotions of comfort in divine protection or fear of posthumous punishment (1875, 532). Indeed, Bain proposes that we can often measure the strength of belief by assessing the strength of emotion. 'The elation caused by attaining the means to a given end,' is an indication of a firm belief in the sufficiency of the means to that end. 'The depression caused by a prognostication of calamity,' evinces a strong belief in the evil to come (Bain 1875, 510).

Nevertheless, Bain insists that, as a general matter, emotion is insufficient for belief.

Belief is often accompanied by strong emotion, yet emotion, as such, does not amount to believing. Fictitious narratives may stir the mind more strongly than real; we disbelieve and yet tremble. (Bain 1875, 505)

Nor is emotion necessary for belief. Most of our beliefs are not characterized by pronounced emotions, nor even less robust intellectual feelings of conviction or assurance.

³ In the first edition of *The Emotions*, Bain stresses the role language plays in decoupling belief from perceptual experience. 'It is, however, in the operation of the human intelligence, that the detaching of natural conjunctions and sequences is carried to the greatest lengths. The intervention of language, the coupling of the 'name' with the 'local habitation' gives a distinct existence to these experiences of terrestrial phenomena, and they become a subject of mental manipulation of their own account' (Bain 1859, 572).

We are often under strong conviction, while yet we are devoid of emotional excitement. The mathematician is as cool as he is convinced, when declaring his belief in a proposition of Euclid. (ibid.)

In the first edition of *The Emotions*, Bain's immediate aim is not the distinction between belief and emotion, but the distinction between activities or movements that manifest an animal's beliefs and those in which belief is not operative. 'Voluntary exertions' implicate a being's beliefs in some form or other, as when, in paradigm circumstances, the animal acts from the belief that her actions will achieve ends that lie beyond her present movements. But, on Bain's reckoning, an animal's first instinctive activities do not involve means-ends beliefs, nor beliefs of any kind. As he says above, belief is only implicated in the genesis and trajectory of 'voluntary exertions.'

It should be emphasized, however, that Bain does not limit these voluntary exertions to the efforts of human adults. A movement is not voluntary unless the moving animal is *controlling* her behavior in some fashion or other, so on Bain's account, self-control is essential to belief, and reflexes, instincts, and habits fail to manifest belief to the extent that they are automatic. But sentential language is not essential to belief because it is inessential to control of this kind. Nor is reasoning necessary for belief, nor the articulation of reasons for action, nor the ability to supply a rationale for doing what one is doing. Bain finds no conceptual connection between control and the use or comprehension of language, or the kinds of justificatory practice that require language, or the kinds of articulate self-awareness language makes possible. In this, he firmly breaks from Descartes and the heirs to Cartesian intellectualism. Instead, Bain adopted a developmental and ur-evolutionary approach in his reflections on the will, which he utilized to inform his analysis of belief.

Still, though he allows beliefs to all sorts of animals, including insects, Bain insists that humans are not born with beliefs in place. It is only when our instinctive motor programs fail to get us the nourishment and succor that we need, and we must modify our movements to surmount obstacles to these inborn ends, that our beliefs first come into play. Without these obstacles we would never have evolved beliefs of any kind.

In the primitive aspect of volition, which also continues to be exemplified through the whole of life, an action, once begun by spontaneous accident is maintained, when it sensibly alleviates a pain, or nurses a pleasure. Here there is no place for belief, any more than for deliberation, resolution, or desire. (1859, 568)

The various editions of *The Emotions* illustrate the thesis with the same example: Thirsty people and animals do not manifest belief when they drink what is pressed to their lips. The suck-swallow reflex is operative in utero, requires no representations for its initial activations, and so no beliefs are implicated in its initial exercise. But to find the liquid that they need to survive after birth, humans and other animals must eventually link some perceptual representation of the needed resource to memories of how they initially met this need. And Bain allows that this representation is aptly described as belief.

The animal that makes a journey to a pool of water to relieve thirst believes that the object signalized by the visible appearance of water quenches thirst. (1875, 506)

The first edition generalizes:

The primordial form of belief is expectation of some contingent future about to follow on our action. (1859, 569)

In the case above, this would be an expectation that relief from thirst will follow drinking.

The obvious objection to Bain's developmental proposal is that the kind of expectation he describes as primordial is only possible if the animal has some memory of drinking, which memory would entail that she already believes that she drank water in the past. And mustn't she already know, and so believe, that she is in the process of pursuing water, if she is to be said to expect that pursuit to eventuate in the satisfaction of her thirst? An animal cannot expect to quench thirst from drinking in complete ignorance of drinking and having drunk.

In response to this critique, Bain allows that 'When I imbibe the water in contact with my lips, under the pain of thirst, I perform a voluntary act in which belief might by a fiction be said to be implied' (ibid.). The question, however, remains why this sort of belief attribution, which rationalizes relatively automatic response, is supposed to contain an element of 'fiction.' Bain's answer returns us to what he regards as belief's adaptive function.

If all my actions were of this nature, the state of belief would never have been signalized as a phenomena of the human mind, just as no place would be given to deliberation. (1859, 569)

If I instinctively swallow water pressed to my thirsty lips, it is 'as if' I am acting from my desire for hydration and my belief that I can secure this end by drinking the liquid on hand. But this belief is only assigned to me 'by a fiction' because the movements under review are in fact unfolding in a manner that is not dependent on it. When our instincts and habits are well-adapted, we react in a relatively automatic fashion just as we would act were we exerting control over our responses and so acting from our knowledge of what we are doing and our beliefs about how these movements will help achieve our ends. But the mode of action is quite different in the two cases, and Bain takes pains to ensure that his definition of belief captures the difference.

2. Primitive credulity

Bain's next subject is the relationship between belief, disbelief, and doubt. His views on the interrelation between these concepts is worthy of study, as they would be rehearsed verbatim by both James and Peirce in the decades to come. Bain allows that there is a sense in which the 'logical' opposite of believing something is disbelieving it. He equates disbelieving something with believing the negation of what's believed (e.g. by another person) or holding a belief that one at the same time recognizes to be incompatible with the truth of some other belief (e.g., one held by another person with whom one disagrees). But Bain insists that the "psychological" opposite of belief is not disbelief, but doubt, which manifests itself as "hesitation" and is both unnatural and difficult to sustain.

Speaking logically, or with regard to the form of the subject-matter, the opposite of belief is disbelief; but as a mental fact these two states are identical...The real opposite of belief as a state of mind is not disbelief, but doubt, uncertainty. (1875, 509)

These reflections lead Bain to what he describes as the “leading facts of belief,” facts he articulates as a principle of “Primitive Credulity.”

We begin by believing everything; whatever is, is true. (1875, 511)

Now Bain acknowledges that the principle of primitive credulity is a paradox as stated, since, by his own admission, believing something is tantamount to disbelieving whatever you find obviously contrary to that thing. And Bain doesn't think you can both believe something and disbelieve it at once. His example here is a fork in the road. To believe that the left path offers the best way home is to disbelieve this of the right path. The propositions in question are no doubt different. ('The left path is best' clearly differs in descriptive meaning from 'The right path is best.' The latter statement is in fact the former statement's 'opposite' in some sense of that term.) But Bain observes that there is no distinct psychological state or structure, beyond that involved in one's *believing* that the left path is best, that constitutes one's *disbelieving* that the right path is best. And disbelieving that the right path is best is incompatible with believing that the right path is best and (in this sense) incompatible with believing everything the subject represents about the world and her place within it. So we *don't* begin by believing everything. We can't.

Bain's response to this apparent paradox clarifies the principle of primitive credulity considerably. When an animal finds a means to its instinctive ends, it believes that means sufficient and it assumes that it will remain sufficient indefinitely. Gullibility and over-generalization are 'the vice of every human being in the early part of life, and of more than nineteen-twentieths to the last' (1875, 513). The phenomenon is fully general; the inborn tendency to believe first and to only seek evidential support when checked or pressed to do so covers perceptual beliefs, memories, and the expectations of regularity that are projected on their basis. But disbelief in what is obviously incompatible with what's been seen, heard, remembered or imagined as real is, in fact, constituted by these positive beliefs. Of course, we don't believe what we disbelieve; that really would be incoherent. But our disbeliefs have no distinct psychological or neurological reality beyond the positive beliefs we acquire because of our primitive credulity.

What the principle of primitive credulity rules out is primordial doubt, as Bain insists that doubt is impossible without an obstacle to those actions premised in beliefs acquired in pursuit of inborn ends.

To be thwarted and opposed is one of our earliest and most frequent pains. It develops the sense of a distinction between free and obstructed impulses; the unconsciousness of an open way is exchanged for consciousness; we are now said properly to believe in what has never been contradicted, as we disbelieve in what has been contradicted...Thus, the vital circumstance in belief is never to be contradicted—never to lose *prestige*. (1875, 512, emphasis in original)

We begin acting instinctively, without the aid of belief or the obstruction of doubt. The infant (or fetus) enjoys the ‘unconsciousness of the open way.’ But soon enough obstacles to our ends necessitate the search for solutions. In the first instance, solutions are modifications of an instinctive motor routine, which modifications are believed to be effective as soon as they prove to be effective in securing the end or adaptive function of the initial routine. As we gain control over our behavior and modify it to better realize these inborn ends, we come to believe every body of information that proves useful to the task. It is only when obstacles prove insurmountable that we hesitate and vacillate, which are signs that belief has been replaced with doubt. Doubt is painful. It means that we have failed to achieve what we need to achieve. Our goal then is to find a solution; to replace doubt with belief.

On Bain’s account, belief is the default. He considers, as an objection, that early experiences provide the premises for an induction, which then fixes a belief in the regularity of nature: a general expectation that the future will resemble the past and the unobserved resemble what has been perceived to date. Bain rejects this account as untenable, and not because of traditional worries over the circularity of ‘justifying’ induction, which are often attributed to Hume. Instead, Bain insists, ‘It would be more easy to uphold the very opposite: belief is frequently greatest when knowledge is least; as in the credulity of the ignorant’ (1875, 514).

Experience and repetition would not originate what is implied in belief; would not give the disposition to act in a particular way with firm assurance or anticipation of a given consequence. But, there being a primordial tendency to follow out a lead, to accept whatever opening is presented, to do again what has once been successful, the effect of repetition would go to confirm that bent; the confirmation being unnecessary and unapparent, until there is an obstacle. (ibid.)

It is not proceeding from the right end, to say that the extended knowledge that enables us to substitute sure uniformities for hasty assumptions is the cause or essence of our believing disposition; it is rather the pruning operation that saves it from destructive checks. (1875, 516)⁴

Indeed, to actively doubt something when belief in it is *not* an obstacle to one’s ends, would mean halting the mind’s natural momentum, which is always difficult, insofar as it requires surmounting innate tendencies, and often impossible, as when we are asked to disbelieve what we can plainly see. People (and other animals) believe what it is useful for them to believe by nature. In this sense, belief does not ‘aim’ at truth. Accurate representation is not the adaptive function of belief-forming processes. Instead, belief is aimed at the adaptive functioning or fitness of the organism. This is one of Bain’s chief insights into the nature of human psychology, an insight which has been borne out and extended by subsequent centuries of research in social

⁴ See too ‘When James Mill represented Belief as the offspring of ‘inseparable association’, he put the stress upon the wrong point. If two things have been incessantly conjoined in our experience, they are inseparably associated, and we believe that the one will be followed by the other; but the inseparable association follows the number of repetitions, the belief follows the absence of contradiction’ (1875, 527). Here Bain anticipates one of the primary intuitions behind ‘predictive coding’ approaches to modeling perception. See, e.g., Clark 2015 and Williams 2018.

psychology, evolutionary psychology, and the study of judgment under uncertainty. And it is an insight for which he deserves more credit than he has been given to date.

3. Bain's epistemology

To argue, as Bain does, that belief is the default for humans and other animals, and that believing ahead of and beyond the evidence is natural for us, does not imply approval of these tendencies. Famously, James would argue two decades later, in a lecture entitled 'The Will to Believe' (1896), that 'over-belief' is sometimes a good thing, and that it can be defended, in special circumstances, on grounds of its utility. But Bain's reflections on normative epistemology in *The Emotions* were more virtue-theoretic than utilitarian in nature.

As we've seen, according to Bain, we believe in what works until it doesn't, and we then suffer the 'depressing or discouraging effect of contradictions' (1875, 513). Virtue is thereafter a mean between extremes, as we endeavor to 'balance the two opposing tendencies—primitive credulity and acquired scepticism' (Bain, 1875, 513). As is well known, Aristotle argued in his *Nicomachean Ethics*, that each 'triad,' of excess, deficiency, and virtue-as-the-mean has a pole to which we are innately drawn. Sometimes humans are prone to exhibit a quality in excess; but sometimes a deficiency is the norm. For this reason, inculcating virtue requires overshooting the mean, erring toward one pole or the other in our instruction, as we exceed the target and allow the student's natural tendencies to drag them back to what is ideal. In the case of epistemic virtue, our natural inclination is an excess of credence, as predicted by Bain's principle of primitive credulity. This is why Bain remarks, 'The great master fallacy of the human mind is believing too much—believing without or against evidence' (ibid.).

But just as there are people who don't eat enough, belying the general human tendency toward gluttonous overindulgence, and just as there are prudes and celibates who bely our general tendency toward promiscuity, Bain allows that 'the sceptical tendency is in some instances excessive and morbid...In the sanguine or joyous temperament the shock of contradiction is lightly taken, and soon obliterated; in the opposite frame of mind, the same shock has an abiding hold' (1875, 513-14). If we couple this teaching with Bain's reflections on doubt, we find him sorting purported 'skeptics' into two groups: (1) those, like Descartes, who merely feign doubt, as their actions reveal beliefs that contradict their verbal commitment to skeptical policies, and (2) those, in trouble, who really do doubt, and suffer the depression and indecision this implies. In either event, skepticism is no virtue.

It is in the context of these normative reflections on how best to determine one's beliefs that Bain analyzes probability and degree of belief, and asserts a kind of 'evidentialist' principle of belief fixation and revision.

When, on the one hand, we have got hold of an invariable sequence, and, on the other, have discovered a want of sequence, we are in the extreme phases of belief—total assurance, and total distrust. If knowledge were perfect, if we had the gift of omniscience, these would be our two alternatives. There is but a single mood of mind for an unvarying uniformity, and a single mood for total disconnection. But, in the imperfect state of our knowledge, we occupy intermediate positions; we exist in many gradations of confidence, and we are not always equally affected by the same case...The Theory of Probability, as systematically given under Logic, shows what ought to be the position or attitude of the mind in cases not absolutely certain, nor yet absolutely uncertain. There

ought to be one unvarying degree of expectation due to each case according to the facts for and against; the only legitimate source of change is the influence of new facts. (1875, 516-17; cf. Ramsey 1931)

But Bain carefully distinguishes this evidentialist normative proposal, which would be rejected by James and many other pragmatists in the centuries to come, from his descriptive psychology, which acknowledges the limited effects of the ‘logical’ norms to which he alludes.

Yet the best disciplined mind is liable to fluctuations of belief without any change in essential circumstances. The passing of a cloud across the sun, although quite compatible with our calculations, and admitted by us to be so for the moment depresses our tone of confidence; while the dispersion of the cloud, for the time, unduly elates us. The kind of day that we expect may even allow a few sparkles of rain; yet, if these actually come, we experience painful misgivings as to the value of our deliberate estimate. (1875, 517)

Changes in mood also yield changes in belief while evidence remains constant (*ibid.*). A vivid memory of an exception to a trend diminishes belief in that trend beyond what is warranted; and correlatively, when these exceptions are momentarily forgotten, belief exceeds its logical degree (1875, 518). One hundred and fifty years later, Amos Tversky and Daniel Kahneman would attribute these behaviors to an ‘availability heuristic.’ When determining the probability of an event or fixing the degree to which we are confident of its occurrence, we give more weight to examples that are ‘available’ because they come more easily to mind at the time in question. Bain not only identified this heuristic but emphasized that the undue influence of available examples is greatest when we consider generalizations relevant to what we are currently perceiving.

It is a standing weakness of the human mind, to pronounce general opinions under the pressure of the passing moment; reversing them, of course, under an altered state of things...While under a present experience, pointing in one direction, we are not easily induced to subscribe to a decision involving opposed facts, notwithstanding that these also have been experienced by us. When all things are going smoothly, we do not allow for disaster. (1875, 518)

Nothing induces belief as strongly as perception (1875, 519-20). But associations have some force, as do perceptions of things similar to what is believed. Both processes act to entrench beliefs or render them less vulnerable to contrary evidence than they ought to be. The influence of a ‘continuous stream of one-sided oratory’ utilizes all of these heuristics as it turns the minds of the audience toward the speaker’s view, leading them to discount contrary hypotheses and examples that would otherwise come to mind.

Bain also recognizes the kind of ‘confirmation bias’ identified by Peter Wason (1960, 1968). As doubt is painful and belief the default, belief entrains reluctance to even consider contrary information. In such cases,

There is a fight between an emotional excitement and the natural course of the intellectual associations; facts, considerations, and appearances that would arise by virtue of these associations are kept back, and a decision is come to in their absence. It is not

that the mind declares that to be a fact, whereof the contradiction is actually before it; it is that, under a one-sided fury, the contradiction that would otherwise come forward remains in oblivion. Emotion tampers with the intellectual trains, as a culprit would fain do with the witnesses in his case, keeping out of the way all that are against him. (1875, 523)

Again, ignoring evidence is easiest when observation leaves room for discretion, and ‘the Will, as an influence on the Attention, assists in that undue selection of circumstances that creates a prepossession on one side’ (1875, 525).

The prevalence of these phenomena provides a window for useful epistemic criticism. ‘Fluctuations of mental tone,’ or changes in a person’s mood or energy, ‘neither confirm nor impair our confidence in the refreshing power of food and sleep, or in an arithmetical computation’ (1875, 523), but evidentialist norms are not useless when the facts are less clear. In these cases, we do often believe ‘at will’ insofar as we believe what we want to believe because this affords us some pleasure or satisfaction.

No better example can be given of the power of the Will, as representing our likings and dislikings, to shape our creeds, than our being ready to believe in the healthiness of the particular regimen that we are inclined to. Equally strong is the tendency to believe that what is for our own interest is also for the interest of others, and fulfills our duties towards them. The cool pursuit of self-interest amounts to perhaps one-third of the force of an ordinary man’s conviction of what is right... The class bias makes men sincere believers, and not necessarily hypocrites. (1875, 525)

Self-interest, mental laziness and excessive self-regard are the strongest cognitive biases, prejudicing our thoughts as well as our actions, inducing a psychological pandemic that we can fight, but never fully vanquish.

It is from primitive credulity, and not from any of the other agencies of belief, that we constitute ourselves the measure and standard of other people, as regards everything; extending the *hic et nunc* to the *ubique et semper*. This is a very powerful belief, but its source is human weakness and not human strength. It has to be assailed and fought at every step, and only in the wisest of mankind, if in any one, is it every entirely conquered. (1875, 527)

4. Is Bain’s definition axiomatic in function?

Peirce’s description of Bain’s definition of belief as the axiom of pragmatism raises an interesting question: does the principle of primitive credulity in some sense follow from the definition of belief with which Bain begins his analysis? I have come to think so and that this provides some initial evidence of the definition’s axiomatic role in the subsequent development of pragmatism as a philosophy.

Recall that Bain’s definition says we believe what we are prepared to act upon. Now isolate an item of information, or a body of information, or the content of a representation, whether assertion or image. Can you be prepared, disposed or poised to act on that information in a given context (place, time, etc.) while also being prepared, disposed or poised to act on

contrary information in that context? If Bain's subject acts on the information that the left fork is best, by taking the left fork home, she cannot at that same time and place act on the information that the right fork is best by taking that road home. So if we agree to take action as criterial for belief in the way Bain imagines, we will follow him in taking disbelief in directly contrary information to be implied. Of course, this still allows that a subject's beliefs can contradict themselves over time, even viciously so, given extreme behavioral variability. And a partial belief in some content can contradict a partial belief in its negation within someone's mind, as when she is disposed to act on the information in certain contexts and its negation in others, at a single time of evaluation.⁵ But if we accept Bain's definition of belief, the parasitic nature of disbelief in contraries does seem to follow.

What then of doubt? Does Bain's definition entail its difficulty and unnaturalness? The derivation of this stance is even more straightforward. If our beliefs are implicated in our actions, we must halt our actions to extinguish the implicated beliefs. If doubt in actionable information is to hold sway, we must remain still, which is difficult in the short term and impossible beyond that. The difficulty of doubt is a direct function of the difficulty of refraining from acting in the ways we are 'designed' to act. It is no surprise, then, that doubt is strongly correlated with depression, though Bain acknowledges that it is even more depressing to despair, which includes a resigned belief in some dissatisfaction, pain or calamity to come (1875, 531). And depression is exacerbated by inaction, and sometimes even caused by frustration of the natural propensity to move, as evidenced by the punitive nature of imprisonment. Clearly, once belief is defined in terms of action, radical skepticism must be construed as radically maladaptive. It could never be species typical.

And what of the rejection of truth as the natural aim of belief? If belief evolved to identify means to our ends, its proximate function is the attainment of those ends. Accuracy in representation is only selected to the extent that it promotes utility, which is itself correlated with fitness. Observation and experience play a winnowing function. They often stop us from believing whatever first occurs to us as we search for a solution to the problem that prompted inquiry. But the generation of belief is primarily a means to practical ends. There is no way to know, a priori, how much belief is wishful, and how much necessitated by the 'pruning' functions of experience.

5. The role of Bain's theory of belief in the genesis of pragmatism

Though Bain's name is no doubt unfamiliar to many readers of *Mind*, he in fact founded this journal and kept it running in its early years. His corpus was enormous, containing several major works that were meant to function as textbooks in various aspects of psychology. Bain tried to decipher the implications of neuroscience for philosophy and produced a trenchant critique of phrenology in the process. His works on the development of consciousness and agency would inform Darwin's thinking, and his studies of moral feeling, judgment, and decision were heavily utilized by Mill. And yet, while Bain's extensive body of work contains many different

⁵ I defend this as a diagnosis of certain cases of Capgras syndrome, where the sufferer argues until the end that a loved one has been abducted and replaced with a fraud but fails to investigate the plot. So called "Frege cases" can also be fruitfully analyzed as partial belief. See AUTHOR'S WORK.

applications and refinements of the theory of belief I have sketched above, I think we have enough in hand to identify some of its more profound effects on the genesis of pragmatism.

Peirce did not begin his intellectual life as a pragmatist in the sense I am trying to define. Indeed, he wrote a scathing review of Bain's *Logic* for *The Nation*, in which the thirty-year-old Peirce makes fun of Bain's idea that modes of life and departments of inquiry embody beliefs and modes of inference or 'logics' of their own.

The chief peculiarity of this treatise is its elaborate treatment of applied logic. One-fourth of the whole book is taken up with 'Logic of Mathematics,' 'Logic of Physics,' 'Logic of Chemistry,' 'Logic of Biology,' 'Logic of Psychology,' 'Sciences of Classification,' 'Logic of Practice,' 'Logic of Politics,' and 'Logic of Medicine.' The word logic in these phrases is taken in a very much wider sense than that in which Dr. Whewell spoke of the logic of induction. Logic in general is defined by Mr. Bain as 'a body of doctrines and rules having reference to truth.' He regards logic, therefore, not merely as the *via veritatis*, but as including everything which bears upon truth, whether it relates to the investigation of it or to the testing of it, or simply to what may be called its statical characters. Accordingly, the logic of a particular science is the general description of the nature of that science, including not merely its methods, but also its fundamental conceptions and doctrines. (Peirce 1870, 77)

But seven years later, after attempting to write a logic textbook of his own (1872-3), Peirce would embrace this same idea of 'logics' wholeheartedly, writing, in 'The Fixation of Belief' that 'Every chief step in science has been a lesson in logic.' In fact, the identification of more general policies of belief fixation and revision, recoverable from forms of social life, would form the central conceit of Peirce's essay, with its famous contrast between the methods of tenacity, authority, and science. The source of this conversion is not in doubt, as the same essay rehearses Bain's views of belief, doubt and inquiry as gospel.

Doubt is an uneasy and dissatisfied state from which we struggle to free ourselves and pass into the state of belief; while the latter is a calm and satisfactory state which we do not wish to avoid, or to change to a belief in anything else. On the contrary, we cling tenaciously, not merely to believing, but to believing just what we do believe. (Peirce 1877, 114)

Logicality in regard to practical matters is the most useful quality an animal can possess, and might, therefore, result from the action of natural selection; but outside of these it is probably of more advantage to the animal to have his mind filled with pleasing and encouraging visions, independently of their truth; and thus, upon unpractical subjects, natural selection might occasion a fallacious tendency of thought. (Peirce 1877, 111)

Our beliefs guide our desires and shape our actions...The feeling of believing is a more or less sure indication of there being established in our nature some habit which will determine our actions. Doubt never has such an effect. (Peirce 1877, 113)

Peirce's contribution to the theory is clearest in 'How to Make Our Ideas Clear,' the essay James would name when introducing 'pragmatism' to the world. For after again

rehearsing Bain's conceptions of belief, doubt, and inquiry, Peirce explicitly uses them to derive a semantic corollary. Since belief is an action-guiding representation, there can be no difference in belief without some potential difference in action. And since the significance of a statement or the meaning of a phrase can be identified with the beliefs it is used to communicate, there can be no difference in meaning between statements that are identical in their implications for action.

The essence of belief is the establishment of habit, and different beliefs are distinguished by the different modes of action to which they give rise. If beliefs do not differ in this respect, if they appease the same doubt by producing the same rule of action, then no mere differences in the manner of consciousness of them can make them different beliefs, any more than playing a tune in different keys is playing different tunes... Thus, we come down to what is tangible and practical, as the root of every real distinction of thought, no matter how subtle it may be; and there is no distinction of meaning so fine as to consist in anything but a possible difference in practice. (Peirce 1878, 135-7)

What then of James and the start of pragmatism as a movement? James begins his famous lecture by apologizing for his inability to articulate the most important shared beliefs of his audience.

I confess that I have something of this kind in my mind, a perfectly ideal discourse for the present occasion. Were I to set it down on paper, I verily believe it would be regarded by everyone as the final word of philosophy. It would bring theory down to a single point, at which every human being's practical life would begin. It would solve all the antinomies and contradictions, it would let loose all the right impulses and emotions; and everyone, on hearing it, would say, 'Why, that is the truth! that is what I have been believing, that is what I have really been living on all this time, but I never could find the words for it before.' (1898, 287-8)

The thoughts expressed here—that we 'live on' our beliefs, which are the kinds of mental states we can share with inarticulate animals, and therefore the kinds of mental states that can go unarticulated until we put words to them—are implications of Bain's ideas about belief. And in the lecture's finale, James mentions Bain along with Hume and James Mill as the inspirations for pragmatism, and urges his audience to turn away from Kantian idealism to embrace the 'English [sic.] spirit in philosophy' as the 'saner, sounder and truer path' not only 'intellectually' but 'practically and morally' (1898, 309). But in the interim he turns to Peirce, and Peirce's use of 'pragmatism' at the Metaphysical Club in the early 1870s.

Years ago this direction was given to me by an American philosopher whose home is in the East, and whose published works, few as they are and scattered in periodicals, are no fit expression of his powers. I refer to Mr. Charles S. Peirce, with whose very existence as a philosopher I dare say many of you are unacquainted. He is one of the most original of contemporary thinkers; and the principle of practicalism—or pragmatism, as he called it, when I first heard him enunciate it at Cambridge in the early '70s—is the clue or compass by following which I find myself more and more confirmed in believing we may keep our feet upon the proper trail. (1898, 290)

And what was pragmatism supposed to mean in Peirce's mouth? James' first formulation is, again, premised in a passage from Peirce's 'How to Make Our Ideas Clear.'

Peirce's principle, as we may call it, may be expressed in a variety of ways, all of them very simple. In the *Popular Science Monthly* for January, 1878, he introduces it as follows: The soul and meaning of thought, he says, can never be made to direct itself towards anything but the production of belief, belief being the demicadence which closes a musical phrase in the symphony of our intellectual life. Thought in movement has thus for its only possible motive the attainment of thought at rest. But when our thought about an object has found its rest in belief, then our action on the subject can firmly and safely begin. Beliefs, in short, are really rules for action; and the whole function of thinking is but one step in the production of habits of action. (ibid.)

What we read here is a direct explication of central components of Bain's theory of belief. As stated, it doesn't even include Peirce's use of that theory to establish limits on the individuation of meanings.

But James did innovate, by applying Bain's theory to the act of philosophizing itself, which can be understood, in a pragmatic way, as the giving of lectures, writing of essays, holding of conversations and so on. If we think of the adoption of a philosophical theory as itself a change of belief in the sense defined by Bain, then philosophical disputes are not real unless they have some practical difference, which is the thesis James defends in his lecture.

An escaped Berkeley student said to me at Harvard the other day—he had never been in the philosophical department here—'Words, words, words, are all that you philosophers care for.' We philosophers think it all unjust; and yet, if the principle of pragmatism be true, it is a perfectly sound reproach unless the metaphysical alternatives under investigation can be shown to have alternative practical outcomes, however delicate and distant these may be. The common man and the scientist can discover no such outcomes. And if the metaphysician can discern none either, the common man and scientist certainly are in the right of it, as against him. His science is then but pompous trifling; and the endowment of a professorship for such a being would be something really absurd. (1898, 295)

6. Conclusions

Our survey of this episode in intellectual history confirms Peirce's retrospective description of Bain's theory of belief as the axiom pragmatism. It therein provides a substantive rationale for defining 'pragmatism' in terms of Bain's theory and the corollaries extracted from it by Peirce and James.

We might represent these as follows:

Bain's Pragmatic Axiom: A belief is a representation poised to guide an animal's voluntary actions or exertions.

We must add to this axiom, as an auxiliary hypothesis, a notion of meaning or semantic significance defined in terms of the expression of belief as we've defined it. We can then infer

that statements only differ in meaning for us if they induce different beliefs in us. And that conclusion, when wedded to Bain's axiom, delivers Peirce's corollary.

Peirce's Semantic Corollary: Statements, theories and other representations only differ in meaning if their acceptance (i.e., belief in their contents) would introduce different voluntary habits or actional dispositions.

If we then ascend to the meta-level, and apply Bain's definition to philosophical questions, like the question of how to define belief and the rest of the mind, time, divinity, knowledge, justice, truth and the like, and we agree that these disputes are supposed to involve a difference in belief, we arrive at James's methodological corollary.

James' Methodological Corollary: A philosophical dispute is only real (i.e. not merely a matter of words) if changing sides would entail a change in behavior or introduce different actional dispositions.

And this is the pragmatic reform of academic philosophy James urged his audience to adopt, sparking a movement that sizzled and then fizzled, in intervals, over the years to come.

I would like to draw two main conclusions from this investigation. First, Bain deserves even more credit for pragmatism than he is commonly given. In fact, pragmatism is Scottish in origin, if American in development. Second, philosophers and historians of philosophy ought to exercise caution when labeling philosophers 'pragmatists' when they deny beliefs to animals (e.g. Donald Davidson) or deny the reality of unarticulated thoughts (e.g. Richard Rorty).⁶ No doubt, many of these thinkers embrace pragmatic theorems among their other commitments. But the axiom of pragmatism is, as Peirce claimed, a naturalistic account of belief grounded in evolutionary and developmental biology. When 'pragmatism' is extended to thinkers who reject its axiom, it loses much of the meaning it once had, a meaning it can have again, if we only recall its origins in Bain's theory of belief.

Bibliography

- Bain, A. 1859, *The Emotions and the Will*, 1st edition (London: Longmans Green and Company)
- Bain, A. 1875, *The Emotions and the Will*, 3rd edition (London: Longmans Green and Company)
- Blood, B. 1874, *The Anaesthetic Revelation and the Gist of Philosophy* (New York: Amsterdam)
- Bradley, F. H. 1833, *Principles of Logic*, 1st edition (Oxford: Oxford University Press)
- Bradley, F. H. 1922, *Principles of Logic*, 2rd edition (Oxford: Oxford University Press)
- Clark, A. 2015, *Surfing Uncertainty* (Oxford; Oxford University Press)

⁶ Cf. Shusterman (1994) for a related critique absent a discussion of pragmatism's origins.

- Fisch, M.H. 1954, 'Alexander Bain and the Genealogy of Pragmatism,' *Journal of the History of Ideas*, Vol. 15, No. 3, pp. 413-444
- Fisch, M.H., Spring, 1981, 'Was There a Metaphysical Club in Cambridge? — A Postscript,' *Transactions of the Charles S. Peirce Society*, Vol. 17, No. 2, pp. 128-130
- Hartshorne, C. and P. Weiss (eds.) 1934, *C. S. Peirce: Collected Papers*, Vol. 5 (Cambridge, MA: Harvard University Press)
- James, W. 1898, 'Philosophical Conceptions and Practical Results,' *Berkeley University Chronicle*, Vol.1, No. 4, pp. 287-310.
- James, W. 1918, *The Principles of Psychology*, Volume 2, (New York: Henry Holt and Co)
- Peirce, C.S. August 4, 1870, 'Review of Bain's *Logic*,' *The Nation*, pp. 77-78
- Peirce, C.S. 1877, 'The Fixation of Belief,' *Popular Science Monthly*, 12, pp. 1-15; reprinted in S. Haack (ed.) 2006, *Pragmatism Old and New* (New York: Prometheus Books), pp. 107-126
- Peirce, C.S. 1878, 'How to Make Our Ideas Clear,' *Popular Science Monthly*, 12, pp. 286-302; reprinted in S. Haack (ed.) 2006, *Pragmatism Old and New* (New York: Prometheus Books), pp. 127-167
- Price, H. 2011, *Naturalism Without Mirrors* (New York: Oxford University Press)
- Ramsey, F. 1931, 'Truth and Probability,' in R.B. Braithwaite (ed.), *The Foundations of Mathematics* (London: Routledge and Keegan Paul), pp. 156-198
- Russell, B. 1921, *The Analysis of Mind* (New York: Allen and Unwin).
- Shusterman, R. 1994, 'Dewey on Experience: Foundation or Reconstruction?' *The Philosophical Forum*, 26, 2, pp. 127-148
- Solymosi, T. 2013, 'Against Representation: A Brief Introduction to Cultural Affordances,' *Human Affairs*, 23, pp. 594-605
- Sully, J. January 1872, 'The Development of Belief,' *The Westminster Review*, Vol. 97, pp. 121-163
- Van Gelder, T. July 1995, 'What Might Cognition Be, If Not Computation?' *The Journal of Philosophy*, 92, 7, pp. 345-381
- Wason, P. 1960, 'On The Failure to Eliminate Hypotheses in a Conceptual Task,' *Quarterly Journal of Experimental Psychology*, 12, 3, pp. 129-140

Wason, P. C. 1968, 'Reasoning about a rule,' *Quarterly Journal of Experimental Psychology*, 20, 3, pp. 273–281

Weiner, P.P. 1946, 'Peirce's Metaphysical Club and the Genesis of Pragmatism,' *Journal of the History of Ideas*, 7, 2, pp. 218-233.

Williams, D. 'Pragmatism and the Predictive Mind,' *Phenomenology and the Cognitive Sciences*, 17, pp. 835-859.