SURVEY

Volitional pragmatism[☆]

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ABSTRACT

Pragmatism approaches the problem of knowing through a commitment to diagnostic strategies that offer tentative answers to the vexing question of "why." When we can answer the "why question" we are on our way to explanation. But all answers are provisional—fallible. Beliefs are rules for action, and so pragmatism asks us to find reasons for holding particular beliefs, and it asks us to be open to reasons why those beliefs may, on further reflection, be open to yet further doubt. Pragmatism turned the positivist's world upside down by refusing to entertain the possibility that human agency, even with elaborate training and great practice, could defeat a world of indeterminacy. The modernist quest for assured rationality and abiding truth in the world is a chimera. Rather, pragmatists take the world as it seems to be and offer coping strategies that dispense with willful deceit. That is, pragmatism is concerned with mastering a complex world. Pragmatism is realistic in its acknowledgement of an opaque world, and it is mature in its epistemological ambitions and promises. Pragmatism replaces the arrogance of modernism with the cautious discernment of one who is deeply cognizant of an unruly world, yet intent on working out reasonable beliefs about that world.

1.   The task at hand

> Grasping a concept is mastering the use of a word (Brandom, 2000, p. 6).

Accumulating evidence concerning the incoherence of rational choice models represents a serious challenge to a discipline that defines itself in terms of rational individuals seeking their best advantage by first consulting their preferences and then picking those actions that maximize their utility defined over those preferences (Akerlof and Dickens, 1982; Ariely, 2009; Bowles, 1998; Camerer and Weber, 1992; Lawson, 1997; Rabin, 1998; Sen, 1977, 1982; Shackle, 1961, 1992). The implications of this conceptual flaw are profound when the model of rational choice is transported into the contested realm of public policy. When collective action in the legislature or the courts is, by definition, an arena of contending and conflicting individual notions of what is "best" to do, it is intellectually dishonest to sweep aside the incoherence of rational choice models and pretend that all is well.

The history of science reveals to us that a theory known to be wrong will not be cast aside until a plausible alternative seems at hand. The human mind prefers *some* theory (explanation) over none at all; it is not only nature that abhors a vacuum. Once the possibility of a substitute theory is realized, the shift to a new paradigm becomes emotionally acceptable. The task at hand, therefore, is to offer an alternative theory of human action—and

to connect that theory to the difficult realm of public policy. The approach is that of volitional pragmatism (Bromley, 2006).

The word pragmatic, of Greek origin, conveys ideas of practical, functional, utilitarian, advisable, instrumental, workable, and useful. It is, however, not uncommon to see the word used to connote any action that seems the simplest and easiest to undertake. On this latter construction rests the notion that we are being pragmatic when we decide to do what merely feels good, or what satisfies a momentary whim. And so the word "pragmatic" is often thought of as the odious antonym for wise, reasonable, principled, and fact-based.

Pragmatism, as a branch of philosophy, emerged at the end of the 19th century from the empirical research of Charles Sanders Peirce (1839–1914) (McDermid, 2006). Trained as a chemist, Peirce graduated from Harvard and the Lawrence Scientific School where he met William James (1842–1910)— who would go on to elaborate, from a psychological perspective, the basic ideas of pragmatism (James, 1907). Peirce soon went to work for the United States Coastal Survey as a statistician. He lectured briefly at Johns Hopkins University on the subject of logic. It was there that he made the acquaintance of John Dewey (1859–1952). While William James popularized philosophical pragmatism, Peirce and Dewey are the primary source of its underlying conceptual development. Pragmatism offers insights concerning: (1) reasons for action; (2) what we claim to know; (3) what constitutes an explanation; (4) the impossibility of objective descriptions of possible outcomes in the future; and (6) truth (Menand, 1997).

2.   Reasons

…a reason makes an action intelligible by redescribing it (Davidson, 1963, p. 695).

One says to their dinner companion: "Gee, why did you order snails?" To which the individual responds: "In order to maximize my utility." Wrong. Utility does not—and cannot— constitute a *reason* for action. Utility maximization cannot be a reason for ordering snails because utility maximization could be invoked as a reason for (to "explain") any possible choice once that choice had been made—including deciding not to order anything at all. When one is asked why they did something the questioner is seeking reasons, not justifications. The questioner wishes to know why snails were ordered rather than something else. What sentences might count as reasons? Possibilities include: (1)"Because I spent 6 months in France and eating snails gives rise to such fond memories;" (2) "Because I read somewhere that snails contain high levels of Omega 67 (or some number) and it is good for us to consume as much of that as possible;" (3) "Because snails are farmed on a sustainable basis and I am into sustainability;" (4) "Because my grandfather always ate snails and I so much loved my grandfather (he is dead now);" (5) "Because snails are the most expensive thing on the menu—and since you are buying I thought I would splurge;" (6) "Because nothing else on the menu appeals to me;" or (7) "Because I love snails." As Joseph Raz would say, deliberation is not a process of discovering what we want, but a process of reflecting upon what there is the most reason to want (Raz, 1997). When we ask "why" we seek to move from doubt to belief.

When others offer up their reasons, we make a move in the right direction.

Did my companion offer good reasons? Is she rational? Every possible action is both rational and reasonable under some description. Pragmatism calls our attention to those descriptions. Pragmatism is concerned with the asking for and giving of reasons. But pragmatism is equally concerned with which statements count as reasons, and the conditions under which those reasons are plausible (Brandom, 1994, 2000). Utility is not a reason—it is merely an index of something that most people (non-economists) call happiness or satisfaction. Indeed before the marginalist revolution, the word "utility" in economics meant exactly what utility means to most everyone—useful, instrumental, practical. Pareto used the word that way, and he used the term "ophelimity" to denote some index of satisfaction or gratification (Cooter and Rappoport, 1984). Under the influence of W. Stanley Jevons, economists moved away from the awkward ophelimity and let the word utility connote gratification. Clarity suffered.

Pragmatists are interested in the reasons that will be offered in support of particular actions. If I announce to you that I am hungry, this sentence is not offered to signal that I am now undergoing some profound physiological event. Rather, my speech-act puts you on notice that you should not be surprised if I very soon suggest we take a break from what we are doing and proceed to gather in some lunch. Notice the connection between reasons and explanations. When I can offer plausible reasons for my current or likely future actions (in this case, speaking about hunger), I have explained those actions. Notice that an explanation of an action is simply a re-description of the reasons for that action. When we say *why* we are really saying, *for what reasons*. "For what reasons did you order snails tonight?" "I ordered snails because……." My dinner companion has explained herself— her choice—to me. Only someone taught to believe that utility explains choice and action would—or could—respond: "Because eating snails increased my utility over all other possible choices I could have made."

Consider the connection between reasons and explanations in a diagnostic mode. Notice that the conversation started with an expression of surprise: "Gee, why did you order snails?" An event has occurred and the questioner seeks an explanation—a reason for the surprise. This brings us to a particular way of fixing belief that is as old as Aristotle—who called it diagnosis. Most of us believe that deduction and induction exhaust our ways of understanding. This is not a true belief. Peirce took Aristotelian diagnosis and brought us abduction—or inference to the best explanation. The abductive syllogism is of the form:

The surprising fact, **C**, is observed:
But if **A** were true, **C** would be a matter of course,
Hence, there is reason to suspect **A** is true.

We are surprised by event **C**, but we assume that there are certain circumstances (**A**) that would make **C** not at all surprising. Since we now know that **C** has occurred, there are good reasons to suspect that those circumstances (**A**) are probably true. Notice that **C** and **A** stand as *explanandum* and *explanans*. The explanans will comprise a family of hypotheses. They could also be called assumptions, as in: "If these

assumptions turn out to be plausible then of course we would expect to observe event **C**." And so the scientist sets out to test whether or not those assumptions (those hypotheses) are indeed plausible. The assumptions in an abductive syllogism constitute the plausible explanation for the event **C**. The assumptions comprise the reasons why **C** exists and therefore why we should no longer be surprised that **C** is observed.

Pragmatists will then follow those hypotheses (assumptions) further back to get a better grip on their existence. That is, the assumptions (**A**) from the first stage become the surprising events **C** in the second stage of abduction—those events then requiring their own reasons or explanations. One can work backwards as far as necessary to pin down the family of probable explanations. When we do this we are plumbing the predicates of the hypotheses (**A**). And in economics it is necessary to go very far back. Indeed, we cannot explain economic phenomena until we encounter one or more *non-economic* hypotheses. To quote Joseph Schumpeter:

> …when we succeed in finding a definite causal relation between two phenomena, our problem is solved if the one which plays the "causal" role is non-economic. We have then accomplished what we, as economists, are capable of in the case in question and we must give place to other disciplines. If, on the other hand, the causal factor is itself economic in nature, we must continue our explanatory efforts until we ground upon a non-economic bottom (Schumpeter, 1961, pp. 4–5).

In addition, it is often helpful to go forward to see if we can offer insights concerning other events (**C′**) that are plausibly implied by the realized role of the hypotheses (assumptions) **A**. When we do this, we are exploring the full entailments of the hypotheses **A**.

In comparing induction and abduction, Peirce wrote:

> By induction, we conclude that facts similar to observed facts are true in cases not examined. By….[abduction], we conclude the existence of a fact quite different from anything observed, from which, according to known laws, something observed would necessarily result. The former is reasoning from particulars to the general law; the latter from effect to cause. The former classifies, the latter explains (Peirce, 1978 (1957), p. 136).

3.   Volition

> …the fundamental premise of pragmatism's theory of action…does not conceive of action as the pursuit of ends that the contemplative subject establishes a priori and then resolves to accomplish; the world is not held to be mere material at the disposal of human intentionality. Quite to the contrary, pragmatism maintains that we find our ends in the world, and that prior to any setting of ends we are already, through our praxis, embedded in various situations (Joas, 1993, p. 130).

Consider the classic choice problem (Manski, 2004). Let C represent a choice set, let Γ be the space of all feasible states of

nature, let $\gamma^* \in \Gamma$ denote the "true" state of nature, and let $f(\cdot,\cdot):$ $C \times \Gamma \to R$ be an objective function of the individual. The standard approach has the individual choose an action that solves:

$$\max_{c \in C} f(c, \gamma^*). \tag{1}$$

Here the individual is seeking to maximize over a set of choices (c) from all those choices that might be picked (C) in light of the true state of nature (γ^*). The impediment to rational choice is obvious—there is no way for the individual to know the true state of nature γ^*. In the absence of a single choice that dominates all others, the standard approach then assumes that individuals can assign subjective probabilities to what they regard as the feasible states of nature from within Γ and they can then maximize subjective expected utility as in:

$$\max_{c \in C} \int u[f(c, \gamma)]dQ. \tag{2}$$

Here Q depicts the subjective distribution on Γ and $u(\cdot):R \to R$ is a mapping (an increasing transformation) of f. Notice the necessary assumption that the true state of nature γ^* is the realization of a random variable and that the individual holds rational expectations with respect to the probability distribution that is responsible for generating the γ^*. Manski then asks us to suppose, for the moment, that there is a true state of nature that is the realization of the random variable distributed P. He then asks whether or not this provides any hope to rescue the standard rational choice problem. This strategy cannot offer hope since the individual is unable to get a grip on P. In summary Manski offers this observation:

> The standard practice has been for a researcher to pose a model of the economy, to assert that this model is correct, and also to assert knowledge of the information on which agents condition their expectations. The rational expectations hypothesis in combination with these additional assumptions closes the model…Why do economists so often assume that they and the decision makers that they study share rational expectations? Part of the reason may be the elegant manner in which these assumptions close an economic model. A researcher specifies his own vision of how the economy works, and he assumes that the persons who populate the economy share this vision. This is tidy and self-gratifying (Manski, 2004, p. 1336).

However, individuals cannot know future states of the world and they are therefore unable to decide what they must do in order that their purposeful actions—their volition—will indeed bring about their desired results. Their very best intentions will be thwarted by their inability to comprehend what the future holds, and therefore their complete inability to make a "rational" choice in light of that shifting future (Brock and Colander, 2000). Russell Hardin refers to this as the problem of indeterminacy (Hardin, 2003). Indeterminacy plagues choice through the strict inability of the individual to be sure that the specific intention that gave rise to a particular choice will indeed produce the intended outcome that was the plausible reason for the specific intention and the implicated

specific choice. Philosophers call this *final cause*. The "…final cause of an occurrence …[a chosen action]…is an event in the future for the sake of which the occurrence takes place… things are explained by the purposes they serve (Russell, 1945, p. 67)."

Hardin and others worry that indeterminacy defeats reason and rational calculation. Even the very best calculators are foiled by a confounding world as they contemplate their maximization algorithms.

In the face of insurmountable obstacles to true rational choice, pragmatism offers a better idea. Instead of conjuring elaborate guises to defeat complexity and indeterminacy so that allegedly rational calculators will—after all—be able to maximize utility, pragmatism understands that most of us have already figured out what to do. That is, while some economists lament the fact that individuals do not choose as our models suggest they do (or should), pragmatism offers an insight into actual (as opposed to idealized) choice. It seems that individuals have always employed reason over calculation. Moreover, reason is employed not just for means as in the classical choice problem. Reason is also used to work out the ends of action. "Because I spent 6 months in France and eating snails gives rise to such fond memories."

Volitional pragmatism is a theory of choice predicated on the realistic proposition that we work out what it is we think we want as we work our way through what it seems possible for us to have (to get) (Bromley, 2006). We come to want what it seems possible for us to have.

The fundamental purpose of reason—the reason we reason—is to contend with the fact that the world is vexingly indeterminate. In contrast to rational choice theory, volitional pragmatism does not start with the idea that indeterminacy defeats reason. Volitional pragmatism starts, instead, with the idea that the purpose of reason is to defeat indeterminacy. The reason we reason is precisely because—as evolved sapient agents—we have good reason to believe that the world is stochastic both on its own (nature is complex and indeterminate), and because other individuals are doing their own reasoning and choosing and acting—the aggregate of which means that the future changes as each of us seeks to go there. Is that not the plausible purpose of reason? Indeed if there were no indeterminacy we would hardly need reason at all—we would merely need to calculate in order to know the best thing to do. But to calculate is not to exercise choice. Calculation is the stuff of deterministic machine processes, and the world out there is neither a machine nor is it deterministic.

The standard model treats choice as a machine process in which right (good, perfect) calculations are necessary and sufficient to produce right (good, perfect) outcomes for the individual. This idealized vision of choice is precisely where rational choice theory has come up empty. Shackle invokes the idea of necessity—the imperative to adhere to what the calculations revealed to be "rational."

> Conventional economics is not about choice, but about acting according to necessity….Choice in such a theory is empty, and conventional economics should abandon the word….The escape from necessity…lies in the *creation of ends*, and this is possible because ends, so long as they remain available and liable to rejection or adoption, must

inevitably be experiences by imagination or anticipation and not by external occurrence. Choice, inescapably, is choice amongst thoughts, and thoughts….are not given (Shackle, 1961, pp. 272–73).

Volitional pragmatism understands human choice as a process of imagining plausible outcomes in the future under several possible descriptions. Pragmatists insist that thoughts about possible outcomes in the future are created once we find ourselves in the context of action: what should I do? We work out what we think we want as we work out what we think we might be able to have (to get). It is essential to acknowledge that future outcomes of current choice have no objective descriptions because, not having done that before, we have no way to describe to ourselves what it is we can expect from the choices we make now. And so we tell ourselves (and others) about those imagined outcomes quite without objective grounds for doing so. We create—but we do not discover—those outcomes that seem to be what it is we thought we wanted when we undertook choice.

Indeed, pragmatists insist that reason is simply the name of a process in which individuals engage in serious thought that will help them to learn about what it is they imagined they wanted when they first found themselves in need of making—in the particular context of—a choice (Joas, 1997). Reason is but another word for sapience—discernment and deliberation. Indeterminacy is not an enemy of reason. Rather, indeterminacy is the essential ally of—indeed an advocate for—reason. Indeterminacy is the reason we reason. Indeterminacy explains reasoning.

4.   Acting on reasonable beliefs

> Outcomes of *available* actions are not ascertained but created. We are not speaking…of the objective recorded outcomes of actions which have been performed. Those actions are not "available." An action which can still be chosen or rejected *has no objective outcome*. The only kind of outcome which it can have exists in the imagination of the decision-maker (Shackle, 1961, p. 143).

The comprehensive inability to write down objective descriptions of the future entailments of available actions puts us in the position of Neurath's Mariner who was forced to repair his ship while at sea. Unable to reach port, the mariner needed to figure out what he must do as he figured out what it was possible for him to do.[1] Each of us must work out (learn about) what is to be done as we work out (learn about) what can be done. While this is at odds with standard rational choice theory, it is consistent with the more sophisticated models of human action (Brenner, 2006). However, unlike some Bayesian approaches, pragmatists insist that the emphasis must remain not on what is known (or assumed) about the outcomes of available actions, but rather on what it would be reasonable to believe about the outcomes of available actions. The analogue of Bayesian updating in volitional pragmatism concerns the working out of reasonable

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[1] See Norton (2005) for a nice discussion of these ideas.

beliefs about the ends and means before us. Volitional pragmatism entails learning, but the learning is not focused on refining optimal-choice algorithms in a setting in which feedback hones the process, thereby improving the "good-ness" (the "rationality") of future action. This strategy is rarely available to us because many of our choices are one-time events in which doing it over better (or smarter) is not available. When faced with new and unfamiliar choices the process of learning necessarily precedes choice; we are forced to work out beliefs about the situation at hand as we contend with that situation.

In volitional pragmatism the individual approaches a decision problem by forming reasonable working hypotheses. In the formulation above, these hypotheses could pertain to: (1) the scope and content of the decision space C; (2) the plausible probability distribution that is responsible for generating γ^*; (3) the feasible states of nature Γ in the future; (4) the "true" state of nature $\gamma^* \in \Gamma$; and (5) the pertinent objective function—$f(\cdot, \cdot):C \times \Gamma \to R$. This latter dimension—the pertinence of a malleable objective function—distinguishes models motivated by reasonable belief from standard choice models in which the pertinent objective function is assumed to be both known and immutable. In volitional pragmatism the individual learns about and refines (updates) each component of the choice process—including the pertinent objective function—as the process evolves.

Each working hypothesis h represents a probabilistic statement $P(\gamma \mid h)$ about the occurrence of each event γ of the imagined plausible set of possible events Γ. The set of all hypotheses H is assumed to be complete and complementary so that every possible state (event) is represented by one and only one working hypothesis h. When the choice process starts the individual has no good reason to believe that one of the hypotheses h_i is any more likely than any other $h_{j \neq i}$. That is, the individual assigns to each hypothesis $h \in H$ the same probability $p(h, 0)$. The set $p(h, t)$ represents one individual's estimation of the probability that hypothesis h about γ is the correct one. Thus, $p(h, t)$ is the belief of the individual in hypothesis h at time t. The following condition must hold: $\sum_{h \in H} p(h, t) = 1$.

John Dewey considered knowledge acquisition to be a social process and so the task of fixing beliefs about possible action is a shared activity that might include friends, allies, and informal advisors. Indeed, constant interaction with others has already set in motion the stage (the platform) from which a narrowing down of reasonable working hypotheses occurs. Our embeddedness in particular communities gives to each of us a particular background cognitive frame—a referent—that preemptively rules in or out certain working hypotheses from the reasonable set.[2] We see here the contingency of what will come to be considered reasonable. Few of us act in isolation from the subtle (and not-so-subtle) influence of others. While biologists speak of "ontogeny recapitulating phylogeny," the issue under discussion here

concerns not physical traits but mental processes. The becoming of the individual's particularistic embeddedness through the lifelong process of socialization mimics the mental evolution of the community within which the individual is embedded. Cognition recapitulates genealogy. As social beings we want and seek the advice and approval of those we respect. In seeking the advice of others, those discourses inevitably come to focus on what it would be reasonable to believe about the specific choices we face. We get by with the help of our friends.

While most economists emphasize what it would be rational to do, pragmatists insist that humans act on the basis of what, at the time, seems reasonable. And individuals in a position to make choices are usually intent on gauging their belief about what is reasonable in terms of the beliefs of others. Indeed, a quick search of a dictionary or two will reveal that the word "rational" is defined in terms of the ability to reason, to be of sound mind, to be sane, to make decisions based on reason, and to be logical. Pragmatism teaches us that there is nothing quite as rational as being reasonable.

Let $p_d(h, t)$ represent the belief of David in hypothesis h at time t. Let $p_g(h, t)$ represent the belief of his trusted friend Gail in the identical hypothesis at time t. Note that both David and Gail agree on the family of hypotheses, but they attach different probabilities to their identical "hunches." As before, $\sum_{h \in H}^{d} p_d(h, t) = 1$ for David and $\sum_{h \in H}^{g} p_g(h, t) = 1$ for Gail. Standard Bayesian updating occurs when both individuals observe the results of prior events (choices and outcomes) and proceed to revise their initial probabilities associated with each of the shared hypotheses h. That is, the two individuals will calculate the probability

$$p(h, t+1) = \frac{P(\gamma(t)|h) \cdot p(h, t)}{\sum_{h^* \in H} P(\gamma(t)|h^*) \cdot p(h^*, t)} \qquad (3)$$

Bayesian updating works on a set of beliefs about events by holding those beliefs constant, while allowing the hypothesized probability (P) of those events to change as a result of learning about outcomes from prior choices. That is, standard Bayesian updating concerns repeated choices over time—with those choices being of the same kind. Updating allows the individual to become better at making those identical choices through processing the information that has been acquired from the feedback—and then applying what has been learned to improve subsequent (similar) choices.

Notice however that refined calibration of repeated choices leads to what must be regarded as habituated action. Once choices are refined in this way they no longer qualify as choice—the individual acts out of habit. Volitional pragmatism differs from the standard Bayesian approach precisely because in pragmatism we are concerned with the choices that are *not* habitual. When faced with the need to make non-habituated decisions, and most of the important decisions we make are of this kind, we become puzzled and unsure of what to do. "What should I order for dinner?" "Is camera X better for my needs than camera Y?" "Which college will best suit my educational goals?" "Should I study biology or economics?" "Should we get married now or wait until after college?" "For whom should I vote in the coming election?" These are the choices we agonize over, and

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[2] Affirmative action programs were unnecessary in the 19th century because few women or minorities found it reasonable to believe that they might actually go to a university. The various courts and legislative bodies, uniformly Caucasian male, there-fore found it reasonable to assume that affirmative action programs were not necessary.

these are the choices that defy rational choice models. Equally important, these choices are not amenable to Bayesian updating.

As Peirce insists: "…the action of thought is excited by the irritation of doubt, and ceases when belief is attained; so that the production of belief is the sole function of thought (Peirce, 1878 (1997), p. 30). When faced with the irritation of doubt, we are very much in need of fixing our belief about what to do. A belief is a rule for acting.

Bayesian updating is not available because we have not done that before. The only possible outcomes are those that exist in the *imagination* of the decision-maker. We do not discover through careful contemplation and calculation the exact contingent outcomes of our possible choices. Rather, once in the context of choice we create for ourselves plausible descriptions of those outcomes, and then we make our choice from that set of created imaginings about those outcomes (Bromley, 2006). This is a process of working out beliefs about outcomes. In this regard, I suggest that a process called *stochastic belief updating* (SBU) is a better way to think about how we work out what we will come to regard as a reasonable set of beliefs. This process is akin to the literature on constructing preferences (Camerer and Weber, 1992; Green et al., 1998; Gregory and Slovic, 1997; Lichtenstein and Slovic, 2006).

Volitional pragmatism also departs from rational choice theory by recognizing that individuals are situated in a variety of interpretive communities consisting of family members, friends, work colleagues, and perhaps others. Few of our non-habituated choices conform to the isolated autonomous maximizing individuals that populate rational choice models. Our understanding of the world and how to cope—get by—in that world is the product of socialization throughout our lives. Indeed, much of psychotherapy concerns individuals who have imperfectly internalized their embeddedness in the reality to which they have been exposed. As John Dewey insisted, living is to arrive in the middle of an on-going movie and the point of socialization is to become cognitively integrated into the action.

Human choice and action cannot be understood as a single individual operating in isolation (Emirbayer and Mische, 1998). Who among us fails to discuss non-habituated choices with at least a few trusted allies? We *are* interested in what others think. Returning to the above model, assume that David asks Gail to help him work out a set of plausible beliefs about the likely outcomes of a choice he must make. This does not necessarily mean that Gail has better (truer?) insights about possible outcomes. It means only that she has plausible reasons for rejecting the more improbable (unreasonable) outcomes—David can learn something from Gail. The variance of the distribution of David's beliefs about possible outcomes is greater than the variance of the distribution of beliefs held by Gail.

Stochastic belief updating starts (as does Bayesian updating) with recognition that there is a set of possible (and feasible) beliefs H, with each element denoted as $h \in H$. The number of *different* beliefs is denoted by H'. The beliefs of the two individuals—d and g—at time t are given by the sets $s_d(t) \subset H$ and $s_g(t) \subset H$, respectively. These are subsets of all possible beliefs H'. Each individual holds but a single belief so that $s_i(0)$ holds exactly one element denoted by $h_i(0)$. As David and Gail broaden the number of individuals discussing

and contemplating the decision, this new information helps in updating—revising—their beliefs. Notice that this updating of beliefs differs from standard Bayesian updating in that we do not require (or assume) that these other individuals have direct experience with the exact choice under consideration. Rather, other individuals bring different perspectives to the choice—they bring "wisdom." As this process goes forward each belief h in the set $s_i(t)$ is checked against new information from others $k \in K$, where K contains all possible pieces of new information.

This new information from others will fall into two general categories—it either contradicts the belief of d or g, or it reinforces (fails to contradict) their beliefs. If a prior belief h in the set $s_i(t)$ withstands new information k then $s_i(t+1) = s_i(t)$. If a prior belief h in the set $s_i(t)$ is contradicted by new information k then a random process determines whether or not this particular belief h disappears from the set $s_i(t+1)$. Stochastic belief updating does not require that a current belief h is immediately abandoned once it is found to be contradicted by new information. After all, many of us stick to our beliefs even when those beliefs fail to accord with new shared ideas in the population. We do not easily abandon what it is we presume we "know."

Finally we can define the probability p_i as the likelihood that a belief h_i will be abandoned in the face of new information k_i. The smaller is p_i the more likely it is that the individual will stick to his current belief. The higher is p_i the more likely it is that the individual will be open to altering a current belief. In this setting, in which two individuals are discussing their belief (s) about the better course to follow, define σ_{ij} as the probability that one individual successfully conveys the reasons for the beliefs in their set $s_i(t)$ to the other's set $s_j(t)$. By "successfully" I mean that in time t the elements of $s_i(t)$ become a part of the set $s_j(t+1)$. Volitional pragmatism suggests that the individual j whose beliefs are modified under the influence of another (i) must be given good reasons to incorporate new beliefs into his set $s_j(t+1)$ in time $t+1$. And the individual i whose task it is to alter the beliefs of the other party (j) must offer those reasons. This process of asking for and giving reasons will be dominated by contending notions of what it would be most reasonable to believe about the choice at hand.

A potential for asymmetry in learning and updating must be acknowledged. Such asymmetry could arise for several reasons: (1) one of the parties (including a third source of beliefs) is more persuasive than the other; (2) one of the parties has more "legitimate" credentials than the other; (3) one of the parties stands in a position of superiority or authority vis-à-vis the other; or (4) one of the parties could bring decisive trumps—the views of yet another person (an expert) to the discussion. Here, one party's beliefs will gain a nominal advantage in the struggle over ideas (beliefs). If it should happen that one of the parties has an advantage in several of these at the same time— persuasion, credentials, political heft, external ratification—we would not expect the probabilities of revised beliefs to be equal across David and Gail. Indeed there is reason to believe that $\sigma_{dg} < \sigma_{gd}$. That is, there seem to be good reasons to suppose that Gail—given her more extensive experience—has a greater ability to change the elements in $s_d(t)$ than conversely. If that change in beliefs is the product of unwelcome persuasion and the associated inability to refuse a suggestion on offer, then Gail

has coerced David into accepting her beliefs. Gail has made David into the instrument of her desires.

There is one more matter to address—and that is David's objective function $\{f(\cdot,\cdot):C \times \Gamma \rightarrow R\}$. I earlier suggested that we work out what we think we want as we work our way through what it seems possible for us to have (to get). In the above account, David revises (updates) his priors about the possible results from specific intentional choices and actions on his part. I call this stochastic belief updating because he alters the plausibility with which he holds particular hypotheses about his beliefs H. His initial reasons will be reframed and reconstituted. But that process of revising priors about hypotheses cannot logically leave his objective function unscathed. Stochastic belief updating induces modifications in the volitional premise—the original want statement—that animated the decision process at the outset. David revised what he thought he *wanted* as he revised his beliefs about what it was feasible for him *to want*. When we come to realize the impossibility of what it is we first imagine we want, that original want statement is nugatory. The original volitional premise must be abandoned in favor of a different—a newly created—want. "I am very sorry madam, but we just served our last plate of snails." "Oh, that is fine. My grandfather also loved sweetbreads—I will have those instead." We revise our wants in light of new information. Pragmatists suggest it would be unreasonable (irrational?) to do otherwise. Or, as Hans Joas wrote:

> In pragmatism, precisely because it considers all psychical operations in the light of their functionality for action, it becomes impossible to hold the position that the setting of an end is an act of consciousness per se that occurs outside of contexts of action. Rather, the setting of an end can only be the result of reflection on resistances met by conduct that is oriented in a number of different ways. Should it prove impossible to follow simultaneously all the various guiding impulses or compulsions to action, a selection of a dominant motive can take place which then, as an end, dominates the other motives or allows them to become effective only in a subordinate manner…action is teleological only in a diffuse fashion. Even our perception is shaped by our capacities and the possibilities for action (Joas, 1993, p. 21).

The standard model suggests that one's preferences—say for snails and sweetbreads—are fixed and my dining companion maximizes her utility over those preferences. Since she ordered snails first the standard response would be that she holds a clear preference for snails over sweetbreads (holding prices constant), and was only driven to sweetbreads when she learned about the absence of her first choice. On this account of the choice process it is easy to assume that she really wanted snails and will now be forever impoverished (worse off) at having to take her second choice. Her utility surely slumped.

Volitional pragmatism rejects this assumption of fixed wants (preferences) because adherence to such an assumption necessarily leads to irredeemable regret and a loss of utility when the restaurant is suddenly out of her first choice. Instead, volitional pragmatism suggests that the only plausible preference (want) for my dining companion was that she

was now ready to eat, and that a restaurant ("that one over there") with a number of French specialties would be instrumental to that end. Once there, my companion was open-minded about which specific entrée she "wanted"—and this serves as a plausible explanation (reason) for her close inspection of the menu. And when she scrutinizes the menu we may reasonably assume that she was not checking it for misspellings. Indeed, a plausible reason for her close inspection of the menu is that she was trying to figure out her "wants"—her preferences. She proceeded to figure out what she wanted once she became sufficiently acquainted with what she might be able to have. Is that not what most of us do with menus?

5.   Sapience

All reason functions within a tradition (Bernstein, 1983, p. 139).

We are constantly updating what we think we want, and we are constantly updating the epistemic presuppositions about how best to go about getting what it is we think we want—or what it was we originally thought we wanted. Updating our beliefs in the course of working out reasonable expectations about choices and outcomes can be thought of as a process of compacting the decision space C. In formal terms $c' \in C' \subset C$. That is, the process of searching for the reduced set of reasonable choices takes David from C to C', and thus from c to c'.

It should also be noticed that in the course of that compacting, the original objective function—the volitional premise of action—cannot possibly emerge unscathed. In formal terms:

$$\max_{c' \in C'} \int u[f(c',\gamma)]dQ \neq \max_{c \in C} \int u[f(c,\gamma)]dQ. \qquad (4)$$

Recall that volitional pragmatism is concerned with final cause—an outcome in the future for the sake of which a particular action now is plausibly instrumental. But if we are mistaken about the instrumentality of particular available actions, it seems reasonable to introduce certain modifications in the once-desired outcome in the future that initially seemed like a sufficient reason to undertake the once-imagined instrumental action. The role of the "expert" (sometimes consisting of friends and colleagues) is to tell us what we would be wise to believe about particular outcomes and about the actions thought to be instrumental to those outcomes. Notice that what it would be wise to believe about a particular choice is just another way of saying, "what would the reasonable person do in this case?"

For much of human history our decisions were not under the influence of scientific experts. Religion played a central role in providing answers to most existential puzzles. In addition, many societies deputized certain members to play the role of the expert—a shaman or some form of locally significant anointed one. As clever coping agents, humans somehow managed to get by. It was not until the 20th century, with the increased role for governments in large-scale investments and policy initiatives, that the role of secular experts—scientists—grew to the level we now take to be the norm. The role of such experts is to bring warranted assertions to the discussion about what would be the better thing to do. However, pragmatists remain skeptical and insist that not all

assertions from an epistemic community (a scientific discipline) are *warranted* assertions. Only those assertions based on beliefs that enjoy widespread agreement within that specific scientific discipline can be regarded as warranted assertions. John Dewey considered such claims to have warranted assertability (Dewey, 1938).

A valuable belief is a warranted belief that can be justified to an audience of attentive sapient agents actively contemplating a particular action. A valuable belief is one that will put me in a receptive mental state such that I am now prepared to act on that belief. A belief disposes me to act. As Peirce put the matter: "Belief does not make us act at once, but puts us into such a condition that we shall behave in a certain way, when the occasion arises. Doubt has not the least effect of this sort, but stimulates us to action until it is destroyed (Peirce, 1878 (1997), p. 13)."

Do I believe what the meteorologists tell me about the chances of rain on August 27? If I believe it, and if the prospects of rain on that day are serious threats to a planned activity, then I have no choice but to alter my plans. A belief is that upon which I am prepared to act. Do I believe what the geneticists tell us about a riskless future with genetically modified corn? It should not surprise us that there will be times when the warranted belief (the warranted assertion) of the experts will be found interesting, but not necessarily compelling. Some warranted belief may well be quite impertinent. In other words, not all warranted belief is valuable belief. In practical terms, as sapient agents we are under no special obligation, upon hearing the warranted belief of a particular disciplinary community, to stop what we are doing and immediately adopt that particular belief. We have the right to demand justification for discarding what we now believe. If the proffered justification by the experts is regarded as deficient, we have not yet been presented with valuable belief. Pragmatism gives us reasons to insist that the choice of what to believe is ours, not theirs.

This follows from the notion, conveyed in Bernstein's aphorism at the beginning of this section, that all reason functions within a tradition. An epistemic community offering up warranted assertions is doing so within a particularistic tradition of that specific disciplinary community. We see this tradition at work when warranted assertions from an epistemic community (say, plant geneticists) about the absence of proof of harm from genetically modified organisms (GMOs) gets transmuted into claims of proof of the absence of harm. While the community of geneticists may be quite satisfied with their *absence of proof* claim, the rest of us may be more interested in *proof of the absence* of harm. The tradition within which reasons are advanced and then accepted or rejected is, to pragmatists, of paramount importance. As Peirce would say, it is the effects for us of the object of our conception that comprises the entirety of our conception of the object.

6.   The consequences of pragmatism

…one may say that truth is a matter of collective judgment and that it is stabilized by the collective actions which use it as a standard for judging other claims (Shapin, 1994, p. 6).

Volitional pragmatism addresses choice and action at the individual level, and it therefore holds profound implications for public policy—institutional change. Public policy is *collective action in restraint, liberation, and expansion of individual action*. The purpose of public policy is to change economic institutions. The new institutional arrangements serve to redefine who *must* or *must not* undertake some specific action (duty), who *may* undertake certain actions without interference from other individuals (privilege), who *can* undertake certain actions with the explicit aid of the collective power (right), and who *cannot* expect the collective power to undertake certain actions in their behalf (no right). The difficulty in collective action is that all participants in the process will have their own individual perception of the nature of the problematic situation, the nature of a desired outcome in the future, and the preferred means by which that outcome might be brought about. In essence, each individual must work their way through stochastic belief updating in order to reach some consensus on these three attributes—problem, problem solution, instruments by which that solution is best achieved. And this brings us to the difficult matter of "truth."

Peirce's research in applied statistics and logic brought him in frequent contact with the struggle over the concept of truth. The core problem, of course, is how do we know (and here Peirce meant *really* know) what we think we know? Those engaged in applied science, whose job it is to produce empirical claims that will plausibly underwrite specific policy prescriptions, have good reasons to be concerned with the same struggle that plagued Peirce and other philosophers. The positivist legacy regarded truth as requiring proof. Peirce and Ludwig Wittgenstein understood that this is a standard to which no science can plausibly aspire. And so pragmatists regard truth as a belief—a warranted assertion—that it is no longer reasonable to doubt.

Truth is not a property of objects or events. Rather, truth is a property of *sentences about* objects or events. The only thing that matters is whether or not sentences contain truthful content. It is sentences about objects or events that stand in need of judgment about truth or falsehood. And it is only *to* these sentences that the judgment of true (or not true) can be affixed. After all, people cannot agree or disagree about an object or event without first hearing (or reading) what others have said (or written) about that object or event. Only sentences can be the basis of agreement or disagreement (Rorty, 1979, 1982).

Rene Descartes argued that we could only possess true knowledge when empirical claims could be subjected to reliable proof. Karl Popper, who admired Peirce for his emphasis on fallibilism, was primarily motivated by the need to demarcate scientific claims from metaphysical assertions. The potential falsifiability of empirical claims was, to Popper, the necessary demarcation rule. That is, for an empirical claim to be considered a plausible part of scientific discourse it must be advanced in a form that will allow it to be falsified. Popper insisted that if empirical claims are advanced in this form, and if they survive efforts at falsification, then those empirical claims constitute valid—and plausibly true—scientific propositions. However, falsification has turned out to be more difficult than Popper supposed. The Quine–Duhem thesis argues that it is impossible to test a single hypothesis—a single empirical claim—on its own, since each one comes

as part of a constellation of hypotheses (Duhem, 1954; Quine, 1951, 1960). The idea of holism concerns precisely this point. Lakatos (1976) and Feyerabend (1975) contributed, in quite different ways, to the running debate concerning falsificationism.

Peirce insisted that we arrive at the truth about contested claims through a process in which we persist in our investigations and then, after a particular empirical claim has survived a gauntlet of hostile challenges, that empirical claim might as well be regarded as true. At that point pragmatists insist that we have acquired *settled belief*. The empirical claim—a settled belief—has proven to be unassailable by doubt. Our settled belief is true. Truth consists of empirical claims that, in the fullness of time and repeated challenge, are no longer subject to doubt (McCloskey, 1983).

This conjunction of two ideas—we can only know what it is possible to doubt, and true sentences are those that through repeated investigation become increasingly resistant to doubt—may seem troubling at first. But reflection shows us that the process of knowing must be grounded on real skepticism and the persistent quest for reasons to believe something. Knowing cannot be grounded on immediately believing what one has been told. Knowing starts with doubt. And we are more satisfied with our acquired beliefs when we can say that it is now increasingly difficult to doubt them. We gain confidence—though not certainty—in our beliefs as we see them endure in the face of persistent challenges. The difficult task of working out reasons to believe particular empirical claims provides the grounds to transform original doubt into the absence of current doubt. The transformation of doubt has two attributes—that process is a *collaborative* enterprise, and it is *evolutionary*.

The implications for public policy are profound. First, collective action in the courts or the legislature is, by definition, a collaborative process. Groups of people—be they judges or legislators—come to understand what they want to do as they come to understand what they are able to do. And that process of learning about what is possible, and therefore what is desirable, is precisely the business of judges and legislators. Second, the process of learning about what is possible is inherently evolutionary. The very process of engaging in debate about problematic situations, about possible desirable outcomes in the future, and about the most efficacious means to bring about those new outcomes concerns learning, feedback, and reconsideration of positions once held. Consider these two aspects in greater detail.

6.1. The collaborative basis of truth

The opinion which is fated to be ultimately agreed to by all who investigate, is what we mean by the truth, and the object represented in this opinion is the real. That is the way that I would explain reality (Peirce 1934, p. 405) (emphasis added).

Starting with the inevitability of doubt, and arriving at a point where continued doubt is unreasonable, the pertinent question becomes *doubted by whom?* Original doubt dissipates when an empirical claim can survive a gauntlet of hostile challenges and emerge untarnished by all who have tried to discredit it. A group of individuals focused on particular families of empirical claims comprises an epistemic commu-

nity. An epistemic community is engaged in what Thomas Kuhn would call normal science (Kuhn, 1970). This community is self organizing, it shares a commitment to investigate particular realms of doubt and surprise, and it invests in particular instrumental conceptual conventions and empirical protocols that will serve as its organizing principles. We call such epistemic communities *disciplines*. When members of a discipline have arrived at settled belief about a particular matter, they are often called upon to offer public statements on specific matters of interest to the rest of us—smoking is a plausible cause of lung cancer, second-hand smoke can be hazardous, chlorinated fluorocarbons are plausible causes of the depletion of atmospheric ozone, surface temperatures of the earth do seem on an upward trajectory. When a discipline speaks with "one voice" on such matters, the rest of us, not experts, will generally regard their statements as warranted. That warrant comes from the fact that a specific epistemic community has investigated a particular matter, and now that community seems to have arrived at settled belief—the matter is no longer in doubt. We will usually regard these announcements as constituting *warranted assertions* (Dewey, 1938). Epistemic communities offer warranted assertions predicated on settled belief. When this happens, it means that all who have investigated a particular issue have reached a point where particular empirical claims have become immune to further doubt. For all practical purposes, and until further investigation yields contrary results, those empirical claims can be taken as true. We see that inquiry is an activity in which individuals engage with others—it is social in nature.

The social nature of enquiry is not limited to scientific disciplines. When legislators or judges struggle with issues before them, an identical process is underway. Claims and counter-claims will be advanced, evidence will be introduced, scientific experts will be consulted, persuasion will be tried, and positions will be defended or abandoned. Eventually a decision will be reached—favorable or unfavorable to a specific choice being considered. Throughout, the essence of deliberation is a shared discourse—with the purpose of figuring out the better course of action.

But to achieve settled belief today does not mean that at some future time those beliefs will no longer seem compelling. This brings us to the core of a scientific discipline—what one generation of investigators had thought was settled will usually be challenged by a subsequent generation. Indeed, the engine of scientific progress is that newcomers to an epistemic community have strong incentives to challenge the beliefs of their predecessors. And this brings us to the evolutionary dimension.

6.2. The evolutionary basis of truth

…we seek for a belief that we shall think to be true. But we think each one of our beliefs to be true, and, indeed, it is a mere tautology to say so (Peirce, 1877 (1997)).

Science is a social activity in two senses of that idea. Within specific epistemic communities there is an inevitable creative tension between producing results that others will find agreeable, and the necessity to create profound breakthroughs. Conformity is necessary if your work is to be favorably reviewed

and therefore recommended for publication. Innovation is necessary if you are to be seen as promising and a potential intellectual leader of a new school of thought within your particular epistemic community. The safest route to disciplinary fame is a delicate balancing act. The first attribute, tending to conformity, comprises Kuhnian normal science. The second attribute, tending to offer important breaks from the past, comprises Kuhnian paradigm shifts.

Turning from activities within an epistemic community to the larger sociopolitical sphere within which science is practiced, we encounter another tension. Recall that the practice of science is an organized and mostly state-supported activity, and it is therefore dependent upon the political sanction of the nation-state in which it exists. This means that scientific practice must, within certain limits, sit comfortably within the prevailing ethical norms of the larger community. Recent debates over stem-cell research remind us of this imperative. We know that many universities contain departments of nuclear engineering, but until recently very few had departments of alternative energy. The same could be said for traditional medicine versus schools of alternative medicine. Certain activities will always lack the political cachet to become official ways of knowing.

At the same time, the views of the larger society in which science is practiced are themselves undergoing transformation. That evolutionary process is often predicated upon the results of earlier scientific thinking—what "the science says" about skin cancer and sunbathing, about the alleged glamour of smoking, or about diet and obesity. Science and the societies in which it is practiced co-evolve.

Pragmatism emerged in America at a time of great intellectual ferment concerning evolution. A number of thinkers drew the obvious conclusion from Darwin's work; if organisms evolve in their genetic and phenotypical traits, why shouldn't the knowledge embedded in—or used by—those organisms (humans come immediately to mind) also evolve? Accepting this possibility, pragmatists were early critics of the standard dichotomy between knowledge and action that is often referred to as the "mind-body problem" of such importance to Descartes. As Richard Posner writes:

> The first and perhaps most fundamental thesis of philosophical pragmatism,…is that Darwin and his successors in evolutionary biology were correct that human beings are merely clever animals. Mind is not something a benevolent deity added to the clay. Body is not a drag on the mind, as Plato thought (Inverting Plato is generally a reliable method of generating the main propositions of pragmatism). Body and mind coevolved. Being thus adapted to the ancestral human environment, human intelligence is better at coping with practical problems, the only thing that preoccupied our ancestors 50,000 years ago, than at handling metaphysical entities and other abstractions. That is, our intelligence is primarily instrumental rather than contemplative. Theoretical reasoning is continuous with practical reasoning rather than a separate human faculty (Posner, 2003, p. 4).

In other words, by denying the mind–body dichotomy that had ruled philosophy for so long, pragmatism brought mind and body together as one, and in doing so introduced an ecological dimension to the process of knowing. After all, it is the body—smell, touch, hear, see, taste—that brings the world into contact with us, and the body then actualizes a response to what it has internalized. Humans work out what we know (our settled beliefs) as we work out how to cope with—and flourish in—the specific received and interpreted environment in which we are situated. Knowledge, like the suitability of an organism, is contingent. Knowing which plants to use for particular purposes, and which plants to avoid because they make us ill—the essence of adaptive learning—is as much a variable as is "finchness." What matters *to* us is the effect of the world *on* us. Peirce's Pragmatic Maxim holds that:

> Consider what effects…we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object (Peirce, 1934, p. 1).

This is a profound departure from the standard Cartesian inheritance in which we have been led to believe that there is a *real* reality out there in the world and we can only write down accurate accounts of that reality if we first empty our mind of all predispositions. Once the mind is suitably flushed of its inconvenient barriers to true apprehension, we can get in touch—*really* in touch—with what is out there and write down the true version of it for others. Many accounts of science suggest that repeated interactions with that real reality will, over time, produce an accurate and irrefutably true description. This is called representationism. But, as D.H. Lawrence is said to have observed, "The map appears to us more real than the land."

Responding to the Cartesian evacuation principle, pragmatists want to know which parts of the brain must be emptied out before aspiring observers are authorized to send back reliably true accounts of what is out there. Which words, concepts, and predispositions will preclude us getting in touch with the real "real" out there? This question seems to have no reliable answer. And so Peirce, in the face of this difficult problem, suggested a rather reasonable (shall I say "pragmatic"?) solution. As above, our perceptions of the *effects* for us of what we observe—a beautiful sunset, a burglar running from a bank—constitute *the* entire conception of what we see and how we will describe to others what we saw. And when I say that this becomes the complete conception of what we have observed then one might as well say that this conception depicts for us what we *really* saw—and what we will tell others we saw. And if it is really what we saw then it is, for us, the object we saw. It is our *real* reality. It is true.

The essential task in all human endeavors is to arrive at individual and collective understandings of what will be considered settled belief. When we have settled our beliefs about something it means we have reached a point in the consideration of possible action that individuals (or groups) can honestly declare, "This seems the better thing to do at this time." When we can say to ourselves and to colleagues—whether in a faculty meeting, in a legislature, or a court chamber—that we have reached a decision, it means that our settled deliberations have given us a new coherent belief. And a belief is that upon which we are prepared to act. In the realm of public policy, we

have now found *sufficient reason(s)* to alter specific institutional arrangements in the interest of – for the purpose of – modifying particular economic outcomes in the future.

Pragmatism offers conceptual guidance here through the ideas of *warranted belief* (or warranted assertion) and *valuable belief* (or valuable assertion). But not all assertions from an epistemic community (a scientific discipline) are warranted assertions. Only those assertions that enjoy widespread assent within a discipline earn the right to be regarded as warranted assertions. As above, the purpose of warranted belief is to help the rest of us figure out what we ought to believe. A valuable belief is one upon which I am now prepared to act. But not all warranted belief is valuable belief. In practical terms, as sapient agents we are under no special obligation, upon hearing the warranted belief of a particular disciplinary community, to stop what we are doing and immediately adopt that particular belief. We have the right to demand justification for discarding what we now believe. If the proffered justification by the experts is regarded as deficient, we have not yet been presented with valuable belief. Pragmatism insists that the choice of what to believe is ours, not theirs.

If we project this idea into the legislative halls or the courts, we see immediately a source of consternation among many economists. Having offered up discipline-based analysis and policy prescriptions to those engaged in public policy—and being quite sure that those policy prescriptions represent warranted assertions—most economists evince dismay, indeed contempt, when their warranted assertions are ignored in favor of other considerations. Perhaps legislators and judges have less faith in rational choice models, and in related efficiency-based policy prescriptions, than do those economists who insist that such approaches are necessary and sufficient for rational public policy. Pragmatists would suggest, instead, that the scientific experts have failed to offer sufficient reasons for their confident analyses and prescriptions. Perhaps it is time to consult the decision-makers with respect to the reasons that matter to them. This would be an essential first step if economics is to become relevant to public policy.

7. Implications for public policy

The object of reasoning is to find out, from the consideration of what we already know, something else which we do not know (Peirce, 1877 (1997)).

Pragmatism represents a comprehensive re-definition of the quest for reasonable coping strategies in a complex, indeterminate, and thus opaque world. We struggle with our individual and shared perceptions of reality, we struggle with notions of causation, we are never quite sure what we know about our world, we are often at a loss for good reasons, we can never be sure of the reasons for the actions of others, and we are prone to accept those things we hear or read when they fit comfortably within the mental matrix we have constructed as we move through life. New data that does not find an accommodating place in our particularistic matrix of meanings is easily ignored or rejected. We are creatures of various habits of mind—some of which seem to serve us well, and

some of which often seem at odds with our overall well being. But who is to know which is which?

As Veblen noted:

The economic life history of the individual is a cumulative process of adaptation of means to ends that cumulatively change as the process goes on, both the agent and his environment being at any point the outcome of the past process. His methods of life to-day are enforced upon him by his habits of life carried over from yesterday and by the circumstances left as the mechanical residue of the life of yesterday (Veblen, 1898 (1990), pp. 74–75).

The historic response to this ineluctable aspect of the human condition has been to conjure order and rules for that which is unclear—even fearful. In the beginning God (or the "gods") clarified and explained the world for us—offering guidance about what should be believed and what should be done in specific instances of doubt. The Enlightenment pushed God aside and offered a vision of the human as being far too clever and rational to be oppressed by superstition. This willful creation of autonomous agency was at the same time exhilarating and unsettling. If the individual was now in charge of everything, how were we to replace the coercive external certainty of religious rule with an individually created—an autonomous—internal certainty? August Comte and Rene Descartes did their part to get us started. And then much of the enterprise of moral (rule-issuing) philosophy checked in with rigid standards for moral behavior (Kant's Categorical Imperative). As Alasdair MacIntyre has noted, "We use moral judgments not only to express our own feelings and attitudes, but also precisely to produce such effects in others (MacIntyre, 1984, p. 12)." And therefore when moral philosophers issue their abundant warranted assertions, we must understand such assertions to be nothing but the willful attempt to use those to whom such warnings are issued as means to their—the writers'—own ends. MacIntyre continues:

To treat someone else as an end is to offer them what I take to be good reasons for acting in one way rather than another, but to leave it to them to evaluate those reasons….By contrast, to treat someone else as a means is to seek to make him or her an instrument of my purposes by adducing whatever influences or considerations will in fact be effective on this or that occasion…The sole reality of distinctively moral discourse is the attempt of one will to align the attitudes, feelings, preference and choices of another with its own. Others are always means, never ends (MacIntyre, 1984, pp. 23–24).

In addition to the imposition of moral authoritarianism, this period in human history brought us a set of approved protocols for coming to grips with an obscure world. These protocols comprised the official epistemology of the logical positivists and those convinced that there was but one proper scientific method. This brand of philosophy—moral absolutism and epistemological authoritarianism—comprised our new superstition. Modernism promised rational relief from the irritation of surprise and doubt.

But the medicine did not do what it had promised, and by the beginning of the 20th century the High Philosophers were in retreat. And then pragmatism changed the subject. Rather than seeking yet another gift of authoritative guidance regarding truth, Peirce and Dewey argued that the search for a new ruling truth was misguided. There is no Archimedean Point. Nietzsche and Wittgenstein (and a few others) provided important foundational insights. And so pragmatism flourished because it turned the question around. Rather than seeking to impose order and clarity and authoritative ways of finding truth in a world that was disorderly, opaque, and devoid of incorrigible truth, pragmatists pursued a different strategy. In essence, given the unruly and vague world in which we must live and thrive, pragmatism asked how can our language, our concepts, and our ways of knowing be crafted in ways that will be plausibly instrumental such that we stand a better chance of figuring out what it would be reasonable to believe about that world? If we can but accomplish that, we might then be in a better position to figure out what it might (just might) be useful to do. Useful does not mean the most expeditious. Useful means instrumental. What will work?

Rather than denying the opaqueness and unruliness of the world around us, and rather than conjuring official protocols that offer the false promise of taming that world, pragmatists accept that inevitability of the world as it seems to be, and then offer guidance concerning how to work within the confines of the world as it appears to us—as it seems to be. Pragmatism is a philosophy that seeks to help us master our world.

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