

PRAGMATISM AND ECONOMIC DOCTRINE

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There is continuity in the progress of ideas from Adam Smith's eighteenth century moral philosophical system of political economy to the positive mainstream economic doctrine of today. The orientation, methods and prescriptions are quite consistent. This continuity is anchored in the notion that the social world is governed by fixed and immutable laws and that the goal of social science is the discovery and application of these immutable laws. These social laws are deemed to be founded upon an innate and immutable human nature. The normative theme is strictly regarded as *laissez faire*. My intent is to provide an outline of the evolution of the continuous elements in political economic theorizing from Smith to today. I will then provide a critique of mainstream economic doctrine from a pragmatist perspective. Finally, I outline some preliminary thoughts regarding the reconstruction of economic doctrine towards an evolutionary political economy.

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The Eighteenth-Century Natural Law Philosophy of Adam Smith

The eighteenth-century moral philosopher Adam Smith is widely regarded as the defining figure of Classical English Political Economy. Smith worked within the natural law framework characteristic of seventeenth- and eighteenth-century western philosophy. "It was common for seventeenth- and eighteenth-century deists to perceive God as a creative demiurge who desisted from direct intervention in human affairs via miracles, visions and so on. On this view, God is the First Cause, ... creating it [the Natural world] perfect and equipping it with uniform laws of Nature in order to keep it in motion."¹

Smith envisioned the social world as a harmonious machine

¹ Lisa Hill, "The hidden theology of Adam Smith," *European Journal of Economic Thought* 8:1 (Spring 2001): 5.

with its origins in Nature, with Nature being the product of an “all-wise Being.”

The idea of that divine Being, whose benevolence and wisdom have, from all eternity, contrived and conducted the immense machine of the universe, so as at all times to produce the greatest possible quantity of happiness, is certainly of all the objects of human contemplation by far the most sublime. ...

The administration of the great system of the universe, however, the care of the universal happiness of all rational and sensible beings, is the business of God and not of man. To man is allotted a much humbler department, but one much more suitable to the weakness of his powers, and to the narrowness of his comprehension; the care of his own happiness, of that of his family, his friends, his country...²

For Smith philosophy was:

... the science of the connecting principles of nature. ... by representing the invisible chains which bind together all these disjointed objects, endeavours to introduce order into this chaos of jarring and discordant appearances, to allay this tumult of the imagination and to restore it...³

In Adam Smith we find the doctrine of a harmonious natural order. This order is established by First and Final Causes, installed through divine providence, providing for limited human control

² Adam Smith, *The Theory of Moral Sentiments* (Los Angeles: Enhanced Media Publishing, 2016), 208.

³ Smith, *The Theory of Moral Sentiments*, 45-6.

over events, and with self-interested human activity proving to be socially beneficial. This divinely inspired natural order operates through propensities instilled in humans by a divinely inspired Nature. These propensities are Smith's "connecting principles of nature." Two of Smith's major works explore the workings of these propensities and how they insure social harmony and wellbeing independent of any individual or collective human intent or desire.

In *The Theory of Moral Sentiments* (1759) Smith identifies the propensity of "sympathy" as the guiding principle that insures the moral and ethical workings of society.⁴ Smith's notion of sympathy is what we would call empathy today—the word empathy did not come into use until the twentieth century. In Smith's system sympathy is instilled in us by divinely inspired Nature through what Smith terms the "impartial spectator."⁵ The impartial spectator resembles a Cartesian conscience that counsels us to virtue; defined by "prudence,"⁶ "justice and beneficence."⁷

Smith, in *The Wealth of Nations* (1776), turns his philosophical gaze from the moral and ethical foundations of society towards questions regarding the economy. Smith begins by introducing his principle of the division of labor and the propensity to "truck, barter and exchange:"

This division of labour, from which so many advantages are derived, is not originally the effect of any human wisdom, which foresees and intends that general opulence to which it gives occasion. It is the necessary, though very slow and gradual, consequence of a certain propensity in human

⁴ Smith, *The Theory of Moral Sentiments*, 13-6.

⁵ Smith, *The Theory of Moral Sentiments*, 27.

⁶ Smith, *The Theory of Moral Sentiments*, 50.

⁷ Smith, *The Theory of Moral Sentiments*, 77.

nature, which has in view no such extensive utility; the propensity to truck, barter, and exchange one thing for another.⁸

Further on, Smith identifies the critical propensity of self-interest or self-love:

It is not from the benevolence of the butcher the brewer, or the baker that we expect our dinner, but from their regard to their own interest. We address ourselves, not to their humanity, but to their self-love, and never talk to them of our own necessities, but of their advantages.⁹

He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it. ... he intends only his own security; and by directing that industry in such a manner as its produce may be of the greatest value, he intends only his own gain, and he is in this ... led by an invisible hand to promote an end which was no part of his intention. Nor is it always the worse for the society that it was no part of it. By pursuing his own interest, he frequently promotes that of the society more effectually than when he really intends to promote it.¹⁰

Thus, Smith reveals to us his perfect system of Lockean natural liberty. A system that has the critical normative character of *laissez faire*, a term Smith did not use, but which is consistent with his view of a limited role for the sovereign (government):

⁸ Adam Smith, *An Inquiry Into The Nature and Causes of The Wealth of Nations* (New York: Random House, 1994), 14.

⁹ Smith, *The Wealth of Nations*, 15.

¹⁰ Smith, *The Wealth of Nations*, 485.

According to the system of natural liberty, the sovereign has only three duties to attend to; three duties of great importance, indeed, but plain and intelligible to common understandings: first, the duty of protecting the society from the violence and invasion of other independent societies; secondly, the duty of protecting, as far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of justice; and, thirdly, the duty of erecting and maintaining certain public works, and certain public institutions, which it can never be for the interest of any individual, or small number of individuals to erect and maintain; because the profit could never repay the expense to any individual, or small number of individuals, though it may frequently do much more than repay it to a great society.¹¹

Smith was a political economist, envisioning an intimate relationship between the political and the economic in society:

[p]olitical economy, considered a branch of the science of a statesman or legislator, proposes two distinct objects: first, to provide a plentiful revenue or subsistence for the people, or more properly to enable them to provide such a revenue or subsistence for themselves; and secondly, to supply the state or commonwealth with a revenue sufficient for the public services.¹²

The Rise of Nineteenth-Century Social Physics

¹¹ Smith, *The Wealth of Nations*, 275.

¹² Smith, *The Wealth of Nations*, 779.

The nineteenth-century can be characterized as a time of boundless scientific optimism, with growing confidence in the power of progress driven by positive scientific developments. Science and philosophy felt they were on solid ground in their quest to solve the mysteries and miseries of the physical and social world. At the beginning of the nineteenth-century no one captured this spirit more than Pierre Simon de Laplace. Laplace “claimed that if he had stood beside God at the moment of Creation he could have used Newton’s laws to predict the entire future of the universe.”¹³ Laplace described his dream to discover a single mathematical formula that could describe the entire history of the world:

An intellect which at a given instant knew all the forces acting in nature, and the position of all things of which the world consists—supposing the said intellect were vast enough to subject these data to analysis—would embrace in the same formula the motions of the greatest bodies in the universe and those of the slightest atoms; nothing would be uncertain for it, and the future, like the past, would be present to its eyes.”¹⁴

Certainty and predictability became the goals of science, the understanding of final, true causes.

Under the influence of positive scientific determinism, political economy witnessed a significant transformation in outlook beginning in the middle of the nineteenth century. Political economy would no longer be the domain of speculative moral philosophy, but rather became the striving to create a social physics. The rational

¹³ F. David Peat, *From Certainty to Uncertainty: The Story of Science and Ideas in the Twentieth Century* (Washington, D.C.: Joseph Henry Press, 2002), 117.

¹⁴ Quoted in Phillip Mirowski, *More Heat Than Light: Economics as Social Physics, Physics as Nature’s Economics* (New York: Cambridge University Press, 1989), 27.

search for divinely inspired natural laws was replaced by the search for Laplace's intellect—the search for the objective laws of nature governing the social world modeled along the lines of Newtonian physical mechanics. “Conceptions of the world largely borrowed from the physical sciences channeled the evolution of economic theory far more profoundly than the idiosyncratic whims of any individual or of any school could possibly explain.”¹⁵

John Stuart Mill was a classical political economist in mid-nineteenth-century England. Mill was a key transitional figure in the evolution from classical political economy to the social physics that would come to known as neoclassical economics. Mill asserted that a complex subject like economics needed to be studied using deductive methods—arguing that the complexity of the social world could not be intelligently understood using inductive methods:

In Mill's view, a complex subject matter like political economy can only be studied scientifically by means of the deductive method. Since so many causal factors influence economic phenomena, and experimentation is generally not possible, there is no way to employ the methods of induction directly. The only solution is first inductively to establish basic psychological or technical laws—such as “people seek wealth,” or the law of diminishing returns—and then deduce their economic implications given specifications of relevant circumstances. Empirical confirmation or verification has an important role in determining whether the deductively derived conclusions are applicable, in checking the correctness of the deductions and in determining whether significant causal factors have been left out, but such testing does not bear on one's commitment to the basic “laws.” They

¹⁵ Mirowski, *More Heat Than Light*, 192.

have already been established by introspection or experimentation. Political economy is in this regard similar to the science of tides ...¹⁶

While Mill believed that his premises accurately described causal factors, he recognized that these were “tendencies” and not “universal laws.”

The basic generalizations are instead statement of tendencies. Since these tendencies are subject to various “disturbances” or “interfering causes,” which cannot all be specified in advance...¹⁷

Note that deviations from critical assumptions are deemed “disturbances,” not indicative of a property of complex social systems inhabited by purposeful, fallible, human agents. This perspective has led to the liberal use of the ‘*ceteris paribus*’ (all other things being equal) clause in economic theorizing. The notion that if the theory doesn’t work, then look for some ‘external disturbances.’

The final eclipse of classical political economy came in the 1870’s with the ‘marginal revolution,’ marking the full ascendancy of neoclassical economic theory. With the work of Stanley Jevons and Leon Walras the deductive logic of mathematics became the only acceptable methodology for neoclassical theorizing. Jevons stating:

The theory of the economy thus treated presents a close analogy to the science of Statical Mechanics, and the Laws of Exchange are found to resemble the Laws of Equilibrium of a lever ... The nature of Wealth and Value is explained by the

¹⁶ Daniel M. Hausman, “Economic Methodology in a Nutshell,” *Journal of Economic Perspectives*, Vol. 3, No. 2 (Spring, 1989): 116.

¹⁷ Hausman, “Economic Methodology in a Nutshell,” 116.

consideration of indefinitely small amounts of pleasure and pain, just as the Theory of Statics is made to rest upon the equality of indefinitely small amounts of energy.¹⁸

Walras published his *Elements of Pure Economics* in 1874, introducing the concept of general equilibrium into economic theorizing. Equilibrium is a concept imported from physics where a body or physical system is in a state of unaccelerated motion, where the sum of all forces acting on it are zero. In economics, equilibrium reflects the conditions necessary for supply and demand to be in balance, resulting in all markets clearing.

In his [Walras] opinion, a pure science is only concerned with the relationship among things, the “play of the blind and ineluctable forces of nature,” which are independent of all human will. ... Walras demands, the application of the *same* mathematical techniques as those deployed in mid-nineteenth-century physics. In Walras’s scheme of things, other social phenomena tainted by the influence of human will would be relegated to studies employing nonscientific literary techniques.¹⁹

In 1900 Lord Kelvin expressed his certainty that; “In essence, everything that could be known was, in principle at least, already known.”²⁰ Lord Kelvin was confident that Newton’s theory of motion could be extended to explain two remaining troubling phenomena, heat and light. But it wasn’t long before the perfect certainty of nineteenth-century mechanics was upended. In 1905

¹⁸ William Stanley Jevons, *The Theory of Political Economy*, (New York: A.M. Kelly, 1965), x.

¹⁹ Mirowski, *More Heat Than Light*, 220.

²⁰ Peat, *From Certainty to Uncertainty*, ix.

Einstein published his Special Theory of Relativity, followed in 1915 by his General Theory of Relativity. Newtonian mechanics fell to a new definition of gravity as the effect of mass warping the four-dimensional fabric of space/time. But the truly devastating blow to certainty in science came with the development of quantum mechanics.

In the second half of the nineteenth-century science had been steadily penetrating the atomic world, with the remaining mystery being light energy. Light energy in the mid-1800's had been conceived of as a wave, proposed by Maxwell in 1865. In 1900 Max Planck demonstrated that light energy is emitted in discrete quanta. In 1913 Niels Bohr extended the notion of light energy as quanta to radiation emitted from atoms. Bohr took the dual character of energy as a wave and a quanta, and developed his principle of complementarity. Bohr's complementarity principle makes the physical world a bit messy, something could be "both A and not A" at the same time; "And with it uncertainty entered the heart of physics."²¹ Ultimately Planck and Bohr's work would result in the theory of quantum mechanics developed in the mid-1920's. Chance was now embodied in the very nature of the sub-atomic world.

The economist W. Brian Arthur clearly summarizes the significance of the early twentieth-century changes in scientific outlook:

The story of sciences in the twentieth century is one of the steady loss of certainty. Much of what was real and machine-like and objective and determinate at the start of the century, by mid-century was a phantom, unpredictable, subjective and indeterminate. What had defined science at the start of the century—its power to predict, its clear subject/object

²¹ Peat, *From Certainty to Uncertainty*, 7.

distinction—no longer defined it at the end. In the twentieth-century, science after science lost its innocence. Science after science grew up.

What then of economics?²²

Economics as a “Positive Science”

While the physical sciences may have been losing their innocence in the early twentieth-century, economics took a very different turn. By the 1930’s Mill’s “tendencies” morphed into unassailable hard-core axioms. Lionel Robbins boldly states:

The propositions of economic theory, like all scientific theory, are obviously deductions from a series of postulates ... These are not postulates the existence of whose counterpart in reality admits of extensive dispute once their nature is fully realized. We do not need controlled experiments to establish their validity: they are so much the stuff of our everyday experience that they have only to be stated to be recognized as obvious.²³

The following is an outline of the main postulates of neoclassical economic theory, the “stuff of our everyday experience:”

- Perfect rationality—all agents are perfectly rational, allocating their incomes so as to maximize their total utility.

²² W. Brian Arthur, “The End of Certainty in Economics,” Accessed March 7, 2021,

<http://tuvalu.santafe.edu/~wbarthur/Papers/Magritte.pdf>, 1.

²³ Quoted in Hausman, “Economic Methodology in a Nutshell,” 117.

- All economic agents have preferences that are innate, immutable and transitive.
- All agents are independent, in the sense that they are not influenced in their behavior by other agents—methodological individualism.
- Perfect knowledge—all agents, buyers and sellers, are perfectly aware of the prices and the comparative quality of all goods.
- All producers in the market have complete information regarding the resources and technologies available, and in use.
- All markets are composed of small-scale participants with complete freedom of market entry and exit—no buyer or seller, or group of buyers or sellers can dominate the market.
- All factors of production have complete freedom of mobility for entry and exit from the market.
- Economies are equilibrium systems—seeking and returning to equilibrium when disturbed.

Given this set of assumptions economics employs the deductive logic of mathematics to create a theoretical system that is complete and rigorous. The conclusions are ‘true’ based upon the application of deductive logic, creating a value free positive social science.

Lord Robbins was also responsible for narrowing the definition of economics. Recall that Adam Smith had defined his political economy in terms of the provisioning of the requisites of life. Alfred Marshall from the 1890’s until the early 1920’s was one of the principal theorists of the new neoclassical school. Marshall’s *Principles of Economics* was the primary text in neoclassical microeconomics throughout the first half of the twentieth century. Marshall begins by stating:

Political Economy or Economics is a study of mankind in the ordinary business of life; it examines that part of individual and social action which is most closely connected with the attainment and with the use of the material requisites of wellbeing.²⁴

Robbins redefined economics in the 1930's: "Economics is the science which studies behavior as a relationship between given ends and scarce means which have alternative uses."²⁵ Economics is by this definition a study in constrained optimization. Economics is focused on the efficient use of scarce resources, the efficient use of things, as opposed to the study of social processes and relations operating in the provisioning of human welfare. Accordingly, all the critical socio-cultural processes involving learning, experimentation and innovation are outside the boundaries of economics.

Terence Hutchinson in 1938, responding to Robbins, argued that the claims of neoclassical theory were empty definitional or logical truths—tautology:

An economic problem is a problem as to how people behave. Equilibrium economics describes a community without economic problems, because *so far as it affects him* everybody knows how everyone else is going to behave...

If economists are once and for all going to abandon often completely misconceived notions and standards of the "exactness" and "necessity" of their conclusions, and strive, rather after more practical and "realistic" applicability, they

²⁴ Alfred Marshall, *Principles of Economics*, (New York: Prometheus Books, 1997), 1.

²⁵ Lionel Robbins, *An Essay on the Nature and Significance of Economic Science*, (London: MacMillan Co. Ltd., 1962), 16.

must be prepared to extend the range of their conclusions to include political and sociological factors, or to co-operate in formulating their conclusions with specialists in these fields.²⁶

Frank Ramsey, the Cambridge mathematician and philosopher, who was influenced by the pragmatist C.S. Peirce, provides a clear understanding of the nature of axiomatics:

In his [Ramsey] entry to the 1929 edition of the Encyclopedia Britannica on “The Foundations of Mathematics,” he said, with respect to geometry, “all that the mathematician can say is that if the axioms are true, then all the rest of geometry will be true also.” Whether the axioms are true, “lies with the physicist.” Similarly, he thought that all the mathematician can say in economics is that if the assumptions are true, then all the rest will be true. Whether the assumptions are true, is a matter for psychology, philosophy and ethics.²⁷

Neoclassical economic theorists have continually attempted to defend their assertions about the positive nature of neoclassical theorizing. One of the most cited arguments for the positive scientific status of neoclassical doctrine came in the 1950’s when Milton Friedman published his “The Methodology of Positive Economics.”²⁸ Friedman asserts that economists seek usable predictions, not understanding or explanation. Friedman creates a means/ends dichotomy by asserting that predictive hypotheses are all

²⁶ T.W. Hutchinson, *The Significance and Basic Postulates of Economic Theory* (New York: Augustus M. Kelley Publishing, 1965), 164-5.

²⁷ Cheryl Misak, *Frank Ramsey: A Sheer Excess of Power*, (Oxford and New York: Oxford University Press, 2020), 327.

²⁸ Milton Friedman, “The Methodology of Positive Economics,” in *Essays in Positive Economics*, (Chicago: University of Chicago Press, 1966), 3-43.

that is important in theory creation, dismissing any relationship to the realism of the assumptions. Friedman states; "... theory is to be judged by its predictive power for the class of phenomena which it is intended to explain."²⁹ The unfortunate problem is, "the implications of neoclassical theory have certainly been contradicted on many occasions."³⁰

Pragmatism—Some Basics

Pragmatism comes about in opposition to critical elements of the two major branches of modern western philosophy—Cartesian Idealism and Lockean Empiricism. There are three foundational figures in the history of American pragmatism. C.S. Peirce (1839-1914), who developed the original formulations of pragmatism, had expressly Kantian influences while finding appeals to Kantian transcendental a priori truth as unwarranted. William James (1842-1910), who was one of the original members of the Metaphysical Club at Harvard in the 1870's along with C.S. Peirce, is firmly centered in the tradition of British Empiricism. James discards the crude correspondence theory of truth found in Locke. Finally, John Dewey (1859-1952), was the inheritor and extender of pragmatism from Peirce and James. Dewey began his philosophical life as a Hegelian idealist, ultimately abandoning idealism, but clearly maintaining the Hegelian notions of continuity.

Peirce's pragmatism is scientifically elitist, James's is psychologically personalistic, Dewey's is democratically populist.³¹

²⁹ Friedman, "The Methodology of Positive Economics," 8.

³⁰ Hausman, "Economic Methodology in a Nutshell," 121. Also see Tony Lawson, *Economics and Reality*, (New York: Routledge, 1997), 112.

³¹ R. Ormerod, "The history and ideas of pragmatism," *Journal of the Operational*

In a very real sense pragmatism is the anti-traditional western philosophy. Traditionally idealist philosophy has been the search for absolute, authoritative sources and immutable foundations to anchor human understanding and action in a changing and uncertain world. These absolute, authoritative sources and immutable foundations have historically been conceived of as residing separate from the natural world. Access to this extra-natural plane has historically been conceived of as occurring through some form of pure thought, thus skeptically discounting the world of everyday physical experience. This disembodied approach to philosophy is evident in Aristotle's essences, Plato's ideal types, Hegel's philosophy of history, and most importantly in Descartes famous statement that, "I think, therefore I am"—the dichotomous separation of mind and matter.

The notion of a disembodied mind that has access to some realm where truth resides outside the physical world is what Peirce objected to in notions of a priori truths—foundational truths that come to us from nowhere. The notion of a disembodied spirit realm is what Dewey rejects in Hegel. Hegel's idealism was cast as an ongoing continuous dialogue between human efforts in the real world and the ideal types of the spirit realm, creating a dialectical process of human endeavors to attain the ultimate good of the spirit through successive cycles of thesis-antithesis-synthesis. Dewey retains the dialectical process but casts it in an empirical naturalistic framework. The obvious issue whenever we discuss idealism is some notion of supernaturalism, a realm beyond the natural physical world we inhabit. Pragmatism, as a form of empiricism, generally avoids appeals to any forms of supernaturalism and transcendental a priori truths.

Research Society (2006) 57: 893.

Descartes' hard and fast separation of mind and body, claiming that there is some special character of the mind that is capable of transcending the physical world and capable of accessing pure thought producing unassailable truths, leads to a number of hard and fast dualisms—mind-body, subject-object and value-fact, to name a few. These dualistic notions belie what it means to be human; we cannot separate values from facts, the subjective from the objective, much less mind from body.

Dewey makes the point regarding the relationship of the knower and the known in opposition to the objective spectator theory of knowledge and the quest for certainty, stating:

What is known is seen to be a product in which the act of observation plays a necessary role. Knowing is seen to be participant in what is finally known. Moreover, the metaphysics of existence as something fixed and therefore capable of literally exact mathematical description and prediction is undermined.³²

Dewey made this observation as part of his Gifford Lectures given in 1929; "...nobody ... spoke or wrote more profoundly about the epistemological meaning of Heisenberg's [uncertainty principle] than Dewey did in these lectures."³³

For pragmatists the world is constantly evolving, changing, and uncertain, and our knowledge of the real world is fallible and incomplete. "All that people are capable of and fortunately all they are really interested in is getting better control over their

³² John Dewey, *The Later Works, 1925-1953, Volume 4: 1929, The Quest for Certainty*, (Carbondale: Southern Illinois University Press, 2008), 163.

³³ Steven Toulmin, "Introduction" in *John Dewey the Later Works, 1925-1953, Volume 4: 1929, The Quest for Certainty*, (Carbondale: Southern Illinois University Press, 2008), ix.

environment, enlarging their horizons, and enriching and improving their lives.”³⁴ This never-ending process is broadly a function of community, not the exclusive domain of expert individuals and/or political leaders. Peirce defined truth as that which ultimately a community of scientists would agree upon, a movement toward ultimate agreement, but never to be attained. Dewey was much broader in his conception of community, for Dewey everyone could and should jointly participate in the process of inquiry—fostering democratic critical intelligence.

The other major branch of western philosophy that pragmatism discards, Lockean Empiricism, consists in the crude representational theory of knowledge: knowledge of the world impressed on the mind like symbols pressed into clay tablets, Locke’s famous ‘Blank Slate.’ James rejects this crude representational empiricism and realism, and establishes an active role for the mind in interpreting, understanding, extending and exploring the real world. Knowledge is based in experience, but experience that is enhanced and interrogated by human intelligence. James was trained as a medical doctor and explored human psychology in some depth, producing a masterpiece of instinct psychology, his *Principles of Psychology*³⁵—a work that sees human nature as the constantly evolving interaction of instincts and habit—nature and nurture.

Pragmatists do not accept the notion that our ideas are true copies of the real world, our ideas originate in the real world through primary experience. These primary experiences become the basis for inferential beliefs generated through human intelligence. Human intelligence is the product of interactions between evolved innate

³⁴ Richard A. Posner, “John Dewey and the intersection of democracy and the law,” in Elias Khalil ed., *Dewey, Pragmatism, and Economic Methodology*, (New York: Routledge, 2004), 181.

³⁵ William James, *The Principles of Psychology, Vols. 1-2*, (CreateSpace Independent Publishing Platform, 2017).

neural biology and culturally evolved habits, creating beliefs. Beliefs are models or maps, secondary products we use to navigate the world, both physical and social. These models or maps are never true representations of the world, they are in the words of Peirce, fallible. Understanding belief as being fallible does not lead to skepticism. Through testing our models, maps, and beliefs in the real world they may become what Dewey called warranted assertions.³⁶ Warranted assertions are settled beliefs that we utilize until we encounter a problem that disturbs these beliefs, motivating us to further inquiry. This is the true sense of pragmatic instrumentalism, not the common notions of “whatever works.”

This empirical method I shall call the *denotative* method. That philosophy is a mode of reflection, often of a subtle and penetrating sort, goes without saying. The charge that is brought against the non-empirical method of philosophizing is not that it depends upon theorizing, but that it fails to use refined, secondary products as a path and leading back to something in primary experience. The resulting failure is three-fold.

First, there is no verification, no effort even to test and check. What is even worse, secondly, is that the things of ordinary experience do not get enlargement and enrichment of meaning as they do when approached through the medium of scientific principles and reasonings. This lack of function reacts, in the third place, back upon the philosophic subject-matter in itself. Not tested by being employed to see what it leads to in ordinary experience and what new meanings it contributes, this subject-matter becomes arbitrary and

³⁶ John Dewey, *The Later Works, 1925-1953, Volume 12: 1938, Logic: The Theory of Inquiry*, (Carbondale: Southern Illinois University Press, 2008), 15.

aloof—what is called “abstract” when the word is used in a bad sense to designate something which exclusively occupies a realm of its own without contact with the things of ordinary experience.³⁷

Inquiry is the key, for Dewey inquiry was the scientific attitude and the experimental method employed to solve problematic situations. In our everyday experiences we find problematic situations (doubt). These problematic experiences move us to inquiry, using our intelligence we study the problem and develop hypotheses about the nature of the problem. Finally, we return to experience through action to test our hypotheses. For Dewey any problematic situation could be the subject of inquiry; why do the planets go around the sun? or why does tremendous wealth inequality exist, where some people have more than they could ever need and others go hungry? Both are equally subject to and demanding of inquiry.

All pragmatists are Naturalists, simply implying that all aspects of the world can be given a naturalistic explanation, without recourse to any forms of supernaturalism.³⁸ James and Dewey were additionally committed to Darwinian evolutionary theory, and certainly believed that Darwin’s theory had tremendous import beyond the biological sciences, applicable to the behavioral and social sciences. Dewey published his *Influence of Darwin on Philosophy and*

³⁷ John Dewey, *The Latter Works, 1925-1953, Volume 1: 1925, Experience and Nature*, (Carbondale: Southern Illinois University Press, 2008), 17

³⁸ With the exception of James who at various points makes various muddled arguments regarding religious experience being on par with science, at one point stating, “If one should make a division of all thinkers into naturalists and supernaturalists, I should undoubtedly have to go . . . into the supernaturalist branch (VRE:409).” Quote taken from Cheryl Misak, *Cambridge Pragmatism: From Peirce and James to Ramsey and Wittgenstein*, (Oxford, UK: Oxford University Press, 2016), 71.

Other Essays in 1910:

In laying hands upon the sacred ark of absolute permanency, in treating the forms that had been regarded as types of fixity and perfection as originating and passing away, the “Origin of Species” introduced a mode of thinking that in the end was bound to transform the logic of knowledge, and hence the treatment of morals, politics, and religion.³⁹

Below I explore the concept of Gene/Culture Coevolution, providing a version of evolutionary naturalism that I believe is consistent with pragmatism. Of particular importance is the role culture plays in establishing beliefs.

As one would expect, Dewey rejected the standard and easy counterposition of the Individual and the Social as if they were fixed concepts or entities. Individuals are made, not born—they are born only as particular organisms—and are made by the multiple associations of which society consists. And as those associations develop historically, different individuals are created. Concern then must be with specific institutions, political, economic, educational, in their effects in releasing and organizing personal capacities to their fullest desirable growth. We must always ask, and judge a society by its answer, the question: What kind of person is being created?⁴⁰

Gene-Culture Coevolution

³⁹ John Dewey, *Influence of Darwin on Philosophy*, 4.

⁴⁰ Sydney Hook, “Introduction” in John Dewey, *The Latter Works, 1925-1953, Volume 1: 1925, Experience and Nature*, (Carbondale: Southern Illinois University Press, 2008), xi.

For over 2 million years our human ancestors have had the ability to transmit between generations two kinds of information, one genetic and the other cultural. With the implication being that simultaneously both genetic and cultural evolution have been occurring, driven by complex interactions with the environment. One controversy over the years focuses on the nature of the relationship between genetic and cultural evolution. Specifically, from a human behavioral perspective, which one matters more, 'nature vs. nurture'. Today this debate is more and more arriving at the view that the answer to this question is both. The culture displayed by our human ancestors is the result of a series of genetic adaptations. Culture enables the rapid learning of new skills and behaviors, in response to changing environmental surroundings.

For human behavioural ecologists, culture is viewed as a flexible system that produces the most adaptive outcome in a given environment and that can be altered over a relatively short period of time in response to environmental change.⁴¹

This theoretical perspective has come to be known as gene-culture coevolution.⁴² Human behavior is clearly the result of the interaction of both genes and culture, operating in a specific environmental context.

The social ontology of gene-culture coevolution places the study of institutional evolution at the heart of social science. Institutions are seen as the product of cultural evolution. Within this view, social science is not the search for immutable natural laws,

⁴¹ Kevin N. Laland and Gillian R. Brown, *Sense & Nonsense: evolutionary perspectives on human behaviour*, (New York: Oxford University Press), 246.

⁴² Robert Boyd and Peter J. Richardson, *The Origin and Evolution of Cultures*, (New York: Oxford University Press, 2005).

whether divinely inspired or otherwise, but rather the investigation of the evolution of social institutions driven by human intentionality in creating the requisites of social well-being through historical time:

The consequences of this culture-gene coevolutionary process is that to understand people's psychology we have to consider not only our genetic inheritance but also how our minds have adapted ontogenetically and culturally to local technologies and institutions—present or even a few generations past. Thus, we should expect a rich array of diverse cultural psychologies to go along with disparate societies. The cultural evolution of psychology is the dark matter that flows behind the scenes throughout history.⁴³

This understanding allows us to see the social world of morals, laws, and political economic institutions as human creations.

A Pragmatic Critique of Economic Doctrine

Economic doctrine continues to utilize the hypothetical-deductive method to derive 'true' conclusions from axioms. The axioms of economic doctrine are in fact inferences supposedly drawn from empirical observation of the social world, as Robbins stated they are "so much the stuff of ordinary life." Deductive logic is tautology, the conclusions are always 'true' if one follows the proper rules of logic. But what of the axioms? Axioms are inferential beliefs derived from the world of experience and thus require testing to determine their validity, and correspondingly the validity of the deductions derived.

Dewey died in 1952 before the cognitive revolution, much

⁴³ Joseph Henrich, *The WEIRD People In The World: How The West Became Psychologically Peculiar and Particularly Prosperous*, (New York: Farrar, Straus and Giroux, 2020), 469-70.

less the explosion of work in experimental psychology,⁴⁴ neurobiology,⁴⁵ and experimental economics.⁴⁶ Today there is a large and growing body of experimental work from psychology, neurobiology and experimental economics that one can draw on to evaluate the conceptions of pragmatists', as well as neoclassical economists,' views of human cognition. In 2002 the Nobel Prize in Economics was awarded to the experimental economist Vernon Smith and the psychologist Daniel Kahneman, "This signaled that knowledge from psychological research and the use of experimental methods is accepted as 'mainstream' in the field of economics."⁴⁷ As one would obviously expect the cognitive capabilities of humans revealed in these experimental sciences do not resemble the axioms of mainstream economic doctrine.

There have been attempts to 'relax' some of the fundamental axioms of economic doctrine to make them more 'realistic.' These attempts have led to the development of what is called Behavioral Economics. Unfortunately, Behavioral Economics still operates within the same framework as mainstream neoclassical economics. Behavioral economics relaxes several of the basic assumptions of mainstream theory; utilizing very limited notions of bounded rationality, bounded self-interest and malleable preferences. While an improvement on mainstream theorizing, behavioral economics is still a species of constrained optimization completely divorced from the richness of cultural habit and experience, denying the existence of true uncertainty, and downplaying the role of human

⁴⁴ Daniel Kahneman, *Thinking Fast and Slow*, (New York: FSG Adult, 2013).

⁴⁵ Robert M. Sapolsky, *Behave: The Biology of Humans at our Best and Worst*, (New York: Penguin, 2017).

⁴⁶ Nicolas Jacquemet and Oliver L'Haridon, *Experimental Economics: Method and Applications*, (New York: Cambridge University Press, 2018).

⁴⁷ Dag Oivind Madsen and Tonny Stenheim, "Experimental methods in economics and psychology: A comparison," *Procedia - Social and Behavioral Sciences* 187 (2015): 113.

imagination.⁴⁸ The Noble Laureate Daniel Kahneman noted: “Theories of behavioural economics have generally retained the basic architecture of the rational model, adding assumptions about cognitive limitations designed to account for specific anomalies.”⁴⁹

A pragmatist would pose the question, axiomatics or inquiry? The axioms of economic doctrine assume away all the critical questions of what it means to be human, part of a social existence struggling to get by in an uncertain and precarious world. The orientation of pragmatism sees economics not as a problem of choice under scarcity or constrained optimization, but rather as how people collectively utilize habit and imagination in confronting an uncertain future, and in the process create new beliefs and institutions.

Economics is the study of how humanity copes with its needs by means of resources that the natural world and its own social organization provide. This task of administration can only be done if there is knowledge of the needs and the resources. Knowledge exists in the minds of individuals. This is the only form in which it can be effective and usable. We can have knowledge of some degree of what is and what has been. We cannot have knowledge of what will be. The course of human affairs is something that humans themselves will create by their actions based on an imaginative interpretation of their world.⁵⁰

The rich complex social world that we see around us today is the product of millions of years of human evolution, both biological

⁴⁸ Peter E. Earl, “Economics fit for the Queen: A Pessimistic Assessment of its Prospects,” *Prometheus*, 28(3), (2010): 216-7

⁴⁹ Daniel Kahneman, “Maps of Bounded Rationality,” *American Economics Review*, 93(5), (December 2003): 1459.

⁵⁰ G.L.S. Shackle, *Epistemics and Economics: A Critique of Economic Doctrine*, (Cambridge and New York: Cambridge University Press, 1972), i.

and cultural. Evolution has given us the creative imagination to constantly seek new opportunities, new ways and means of making a living, and imagining the future. This is the true essence of the study of economics, not trying to reduce human behavior to a series of mathematical equations used to solve an optimization problem based upon a complete knowledge set.

The market economy is not something that has always existed, it is not a “natural” entity obeying its own inner laws. Despite Adam Smith’s claim, to “truck, barter and exchange,” are not innate human characteristics. The creation of the market economy, and associated culture beliefs, are a product of human social engineering over the last several hundred years. Exchange has been around for thousands of years, much of it ceremonial. Exchange economies did not become the primary means for making a living until very recently.

the legend of the individualistic psychology of primitive man is exploded. Neither crude egotism, nor a propensity to barter or exchange, nor a tendency to cater chiefly for himself is in evidence. ... As a rule, the individual in primitive society is not threatened by starvation unless the community as a whole is in a like predicament. It is the absence of the threat of individual starvation which makes primitive society, in a sense, more humane than nineteenth century society, and at the same time less economic.⁵¹

Today the dominant cultural paradigm is that the economy is “autonomous, coherent, and regulated by its own internal logic. Many go to the next step and embrace the idea that if we pursue

⁵¹ Karl Polanyi, “Marketless Trading in Hammurabi’s Time,” In Karl Polanyi, Conrad M. Arensberg and Harry W. Pearson, eds, *Trade and Market in the Early Empires: Economies in History and Theory*, (New York: Free Press, 1957), 69.

policies that conflict with the imperatives of capitalism, they will inevitably backfire.”⁵² The economy is walled off from society, considered out of bounds for “democratic tinkering.” This makes economics truly the domain of experts.

The issue of experts was one that Dewey clearly addressed. Dewey used a clever metaphor to convey his point, “The man who wears the shoe knows best that it pinches and where it pinches, even if the expert shoemaker is the best judge of how the trouble is to be remedied.”⁵³ Dewey saw experts as being embedded in and not above participatory democracy.

Dewey’s approach is “democratic” in the sense of emphasizing the community over the exceptional individual. Knowledge is not produced mechanically by the repeated application of algorithmic procedures by expert investigators all trained the same way, but by the tug of communal demands, the struggle between doubt, and habit, the diverse strivings of individuals of diverse background, aptitude, training, and experience, and the application of methods of inquiry, such as imagination and intuition, that owe little to expert training. No one, no elite even, has a pipeline to truth—truth is always just out of reach, like the grapes of Tantalus, at most a regulatory, an orienting, ideal—and if this is the case with scientific truth, it is all the more likely to be the case with moral and political truths as well.⁵⁴

In the post WWII era neoclassical economics has been unrivaled in its command of academia and governmental economic

⁵² Fred Block, *Capitalism: The Future of an Illusion*, (Oakland: University of California Press, 2018), 2.

⁵³ John Dewey, *The Public and Its Problems*, 365.

⁵⁴ Posner, “John Dewey and the intersection of democracy and the law,” 170.

policy—truly experts if there ever were. While all neoclassical economists employ the standard set of assumptions and methods discussed earlier, they curiously fracture along ideological lines. Neoclassical economists come in all stripes from socialists to free market capitalists.⁵⁵

The two dominant branches of neoclassical ideology in the post WWII era have been characterized as ‘Freshwater vs. Saltwater’ economists. Freshwater economists refer to the constellation of ‘free market’ economists originally around the University of Chicago and the development of New Classical Economics. Saltwater economists were predominately associated with the program of integrating Keynes’ ideas into the neoclassical framework. This work was done by economists around MIT in Cambridge, Massachusetts, thus saltwater.

Both freshwater and saltwater economists start from an idealized vision of perfect competition. Mathematically it can be shown that this idealized model of perfect competition results in all factors of production (labor and capital) receiving what is referred to as their marginal product, and thus resulting in a Pareto Optimal outcome—maximum efficiency—with all factors of production being completely employed. This is referred to as the Marginal Productivity Theory of Distribution, developed by J.B. Clark. Clark argued that, “... the distribution of the income of society is controlled by a natural law, and this law, if it worked without friction, would give to every agent of production the amount of wealth which that agent creates.”⁵⁶ In 1962 Milton Friedman used Clark’s argument to justify the distribution of income under capitalism, declaring that “marginal

⁵⁵ Geoffrey M. Hodgson, *Is There a Future for Heterodox Economics?* (Cheltenham, UK and Northampton, MA, USA: Edward Elgar, 2019), 8.

⁵⁶ John Bates Clark, *The Distribution of Wealth: A Theory of Wages, Interest and Profits*, (New York: The MacMillan Company, 1902), v.

productivity theory shows that each man gets what he produces.”⁵⁷

Any deviations from the idealized model of perfect competition results in what is referred to as Market Failure. Market failure is the failure to account for all costs and benefits necessary for the production and consumption of a good. Market Failure results in a non-Pareto Optimal outcome, where the market will not supply the “socially optimal amount of a good”—allocative inefficiency. The question of market failure goes to the heart of the differences between freshwater and saltwater economists. Saltwater economists argue that because market failures are so widespread and produce suboptimal outcomes, government action is required to remedy these failures. Freshwater economists generally agree that market failures are pervasive, but the outcomes of “imperfect” markets are preferable to governmental interference in the market. The post WWII era has been dominated by the conflicts and confrontations between those who subscribe to the notion of governmental responsibility for improving market outcomes and those who argue “the market knows best.”

The notion of market failure is a very peculiar one. Markets are the product of the creativity of cultural existence, displaying all the characteristics associated with the process of social institutional evolution. As such, markets must be studied as they exist by understanding their unique historical path dependent developmental processes and outcomes. Markets are institutions of constantly evolving formal (legal) and informal monetary exchange relationships embedded in a broader set of cultural institutions oriented towards the provisioning of the requisites of human life, and should be studied as such.

Fesmire summarizes Dewey’s view of cultural experience as a product of nature:

⁵⁷ Milton Friedman, *Price Theory: A Provisional Text*, (Chicago: Aldine, 1962), 198.

The imaginative creativity of cultural existence, from industry to the fine arts, stretches beyond what is already distinctly disclosed to reveal nature's generative potential. Dancing, writing a haiku, and improvising a jazz solo are events as revelatory of nature as a double-blind scientific experiment...disclosing nature's emergent potentialities.⁵⁸

For Dewey "nature is what nature does,"⁵⁹ accordingly markets are what markets do. Markets are evolving and experimental creations of human imagination, they are real social structures, but at the same time products of human knowledge creation and therefore fallible. Accordingly, if the outcomes in specific markets are viewed as problematic, they are open to experimental change and ongoing improvement, not based upon the standard of some ideal type, but in accordance with the goal of improving the quality of human life, not of trying to engineer market outcomes to match an abstract timeless model of perfect competition.

In *The Quest for Certainty*, Dewey provides his view of the nature and problems with established economic doctrine:

Its [the doctrine that nature is rational] paralyzing effect on human action is seen in the part it played in the eighteenth and nineteenth century in the theory of "natural laws" in human affairs, in social matters. These natural laws were supposed to be inherently fixed; a science of social phenomena and relations was equivalent to discovery of them. Once discovered, nothing remained for man but to

⁵⁸ Steven Fesmire, *Dewey*, (New York: Routledge, 2015), 61.

⁵⁹ Thomas M. Alexander, *The Human Eros: Eco-ontology and the Aesthetics of Existence*, (New York: Fordham University Press, 2013), 17.

conform to them; they were to rule his conduct as physical laws govern physical phenomena. They were the sole standard of conduct in economic affairs; the laws of economics are the “natural” laws of all political action; other so-called laws are artificial, man-made contrivances in contrast to the normative regulations of nature itself.

Laissez-faire was the logical conclusion. For organized society to attempt to regulate the course of economic affairs, to bring them into service of humanly conceived ends, was a harmful interference. ...

Human intervention for the sake of effecting ends is no interference, and it is a means of knowledge.⁶⁰

Towards an Evolutionary Political Economy

Political economy provides a more encompassing and fruitful framework. It embraces two core assumptions ... The first is that political and economic processes, though analytically distinct under capitalism, are interlinked and should be studied as a complex and interrelated whole. The second is that the economy, the sphere of ‘material provisioning’, has a special weight in explaining and properly understanding the polity and politics. Governments are not perceived as neutral umpires correcting malfunctions in the market economy, but as central institutions both reflecting and shaping the distribution of power and resources in society.⁶¹

⁶⁰ John Dewey, *The Quest for Certainty*, 169-70.

⁶¹ Ian Gough, *Heat, Need and Human Greed: Climate Change, Capitalism and Sustainable Wellbeing*, (Cheltenham, UK and Northampton, MA, USA: Edward Elgar Publishing, 2017), 6.

Evolutionary Political Economy draws on elements of systems theory, generalized Darwinism and institutionalism. Culture is a complex adaptive system composed of numerous interdependent and coevolving subsystems; social, political and economic. Understanding coevolution is critical. Due to interdependencies a change in one subsystem may impact other subsystems; creating tensions and triggering change in a process of adaptation within a constantly evolving cultural environment. Complex adaptive systems are characterized by non-linear and emergent behavior. As such, from an ontological perspective evolutionary systems are never in equilibrium; they may experience long periods of relative stability (stasis), punctuated by periods of rapid change.⁶²

Generalized Darwinism understands evolutionary processes within complex adaptive systems as being characterized by: variation, selection and reproduction. Variation, selection and reproduction occur at both the individual and the group level.⁶³ A perspective where, “multi-level selection processes with the novel feature that both individual-level behaviors and group-level institutional characteristics are subject to selection and intergroup conflicts play a decisive role.”⁶⁴

Institutionalism builds on the notion discussed earlier that biological evolution has created in humans well-ingrained cognitive schemes for intergenerational cultural learning. Thus, recognizing that cultures are composed of institutions:

There is now quite a wide consensus that this term refers

⁶² Orion A. Lewis and Sven Steinmo, “How Institutions Evolve: Evolutionary Theory and Institutional Change,” *Polity*, Volume 44, Number 3, (July 2012), 320.

⁶³ David Sloan Wilson, *This View of Life: Completing the Darwinian Revolution*, (New York: Pantheon Books, 2019), 121.

⁶⁴ Samuel Bowles and Astrid Hopfensitz, “The Co-evolution of Individual Behaviors and Social Institutions,” *Santa Fe Institute Working Paper: 2000-12-073*.

broadly to systems of rules that structure social interactions. These rules include norms of behavior and social conventions as well as legal or formal rules. Accordingly, systems of language, money, law, weights and measures, traffic conventions, table manners, and all organizations are institutions. But not all institutions are organizations.⁶⁵

Institutions are culturally acquired mental rules and routines that structure behavior in specific environmental contexts. As such, institutions can be viewed as belief systems. Beliefs can be conceived of as similar to genes in biological evolution, elements subject to variation, selection and reproduction within cultural environments. Imperfectly replicating beliefs provide us insights into institutional evolution and change. Copying errors and human imaginative modification of behavior schemes and social rules generate variations in beliefs within cultural institutions, creating contention and conflict. These variations and conflicts are what become the grist for selection and replication, thus generating path dependent evolutionary change. But evolution *does not* imply progressive optimization in a linear fashion.⁶⁶

With this understanding it is clear that evolutionary political economy is not a predictive science. The evolutionary biologist Ernst Mayr stated:

Although evolutionary phenomena are subject to universal laws ... the explanation of a particular evolutionary phenomenon can be given only a 'historical narrative.' Consequently, when one attempts to explain the features of

⁶⁵ Geoffrey M. Hodgson and Thorbjorn Knudsen, *Darwin's Conjecture: The Search for General Principles of Social and Economic Evolution*, (Chicago and London: The University of Chicago Press, 2010), 170.

⁶⁶ Lewis and Steinmo, "How Institutions Evolve," 319.

something that is the product of evolution, one must attempt to reconstruct the evolutionary history of this feature.⁶⁷

Evolutionary political economy can be conceptualized as a branch of Culture Science,⁶⁸ focused on comparative historical institutional evolution.⁶⁹ Hodgson in a recent work outlined his vision of economics as comparative historical institutional analysis:

I believe that economics must rely much more on (historical and geographical) comparative analyses of real-world institutions and policies. At the policy level it should engage in cautious experimentation. It should be driven much less by the unrealistic utopias of full-blooded socialists or ultra-individualistic marketeers. Such a pragmatic vision of economics is not free of ideology—far from it—but it is a much more pragmatic and empirically-oriented science than many practitioners currently exemplify.⁷⁰

Through comparative historical institutional analysis we can evaluate the success or failure of various institutional arrangements within specific environments that can become the basis for trial-and-error experimentation.

Critically the process of inquiry and trial-and-error experimentation depend upon an innovative cultural milieu, a culture imbued with the scientific attitude of inquiry, experimentation and growth.

⁶⁷ Ernst Mayr, *Towards a new philosophy of biology: Observations of an evolutionist*, (Cambridge: Belknap Press of Harvard University), 149

⁶⁸ John Hartley and Jason Potts, *Culture Science: A Natural History of Stories, Demes, Knowledge and Innovation*, (New York: Bloomsbury Academic, 2016).

⁶⁹ Sven Steinmo, *The Evolution of Modern States: Sweden, Japan, and the United States*, (Cambridge: Cambridge University Press, 2011).

⁷⁰ Hodgson, *Is There a Future for Heterodox Economics?* vii.

Demic or cultural evolution enables the *reproduction of knowledge* ... But knowledge cannot simply be reproduced unchanged (that way extinction lies). It has to be reproduced with growth: added newness. The continuous productivity of that process over the extreme long term can hardly be overstated.⁷¹

⁷¹ Hartley and Potts, *Culture Science*, 214.

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