# Charles Peirce and the origins of North American pragmatism

Charles Peirce e as origens do pragmatismo norte-americano

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**Abstract**: The early American pragmatists are often taken in separation with a focus on their differences. This introductory essay is meant simply as a reminder that they thought highly of each other's work and they shared a variety of outlooks in their respective world views. Most importantly, they believed that we are always on the hunt for new knowledge by way of experience, thought, and experiment. They took their own world views to be hypotheses about the realities of the world we experience. And they each believed that the extremes of dogma and skepticism are the outlooks that will prevent us from learning more. In what follows, I merely remind readers of some of their shared thought.

Keywords: Abduction. Creativity. Meliorism. Peirce. Synechism.

**Resumo**: Os primeiros pragmatistas americanos são, muitas vezes, abordados separadamente com foco em suas diferenças. Este ensaio introdutório destina-se simplesmente a lembrar o quanto eles tinham em estima os trabalhos uns dos outros e compartilhavam entre si uma variedade de perspectivas em suas respectivas visões de mundo. Sobretudo, eles acreditavam que estamos sempre em busca de novos conhecimentos por meio da experiência, do pensamento e do experimento. Eles consideravam suas próprias visões de mundo serem hipóteses sobre as realidades do mundo que experimentamos. E cada um deles acreditava que os extremos de dogmatismo e ceticismo são perspectivas que nos impedirão de aprendermos mais. No que se segue, apenas recordo aos leitores alguns de seus pensamentos em comum.

Palavras-chave: Abdução. Criatividade. Meliorismo. Peirce. Sinequismo.

Data de recebimento: 10/10/2019 Data de aceite: 07/11/2019 DOI: 10.23925/2316-5278.2019v20i2p230-243

# **1** Introduction

The re-invented "pragmatism" of Richard Rorty has led to a great deal of confusion. No one owns the word "pragmatism," but it is nevertheless important to keep in mind what we mean when we use it. Charles Peirce notably renamed his version of pragmatism "pragmaticism" to "keep it safe from kidnappers." His remark was in part tongue in cheek, meant to provoke his fellow pragmatists, including F. C. S. Schiller, William James, and John Dewey. But it is important to remember that he thought of these friends as constituting a movement called pragmatism; he also included Josiah Royce as a member of the movement. In a letter to Schiller, Peirce suggested to define pragmatism in a loose naturalistic way: "I would let it grow and then say it is what a certain group of thinkers who seem to understand one another think, and thus make it the name of a natural class in the Natural History fashion" (MS L390:3). I think he would have found the recent "kidnapping" by neo-pragmatists more egregious, and I believe he would have had difficulty finding family resemblances between their work and his. The philosophies of Rorty and Robert Brandom may be called "pragmatism" but they are radically different philosophies than the one created by Peirce in the late nineteenth and early twentieth centuries. Every philosophy is influenced, at least in part, by its time, its place, and its culture. Despite the modern and twentieth century habit of considering philosophical articulations as eternal and a-historical, the fact is that philosophical outlooks develop in response both to the history of philosophy and to the cultural situations in which they occur. Peirce, who was well familiar with the history of western thought, understood this.

Peirce and William James grew up together and attended Harvard University in the midst of the industrial revolution and witnessed as some cultures passed from a religious to a scientific understanding of the world. They taught at Johns Hopkins and Harvard respectively just as these institutions were inventing what we now call a "research university." James and Peirce both studied sciences in school—chemistry for Peirce and physiology for James. Neither was trained as a philosopher. As young men, they both engaged in scientific studies and worked as scientists—Peirce at the Harvard Observatory and the U.S. Geodetic Survey and James as a biologist in Brazil, as a teacher of physiology at Harvard, and as author of the seminal text in psychology in North America. It is important to understand the genesis of pragmatism in this context.

In the early nineteenth century philosophical thought in the U.S. was under the influence of two competing traditions: the post-Kantian idealisms of Hegel and Schelling and the empirically-minded Scottish common-sensism of Thomas Reid, Dugald Stewart, and Thomas Brown and British utilitarianism as presented by John Stuart Mill and Jeremy Bentham. New England transcendentalism constituted the intellectual milieu in which James and Peirce were raised. Peirce's father, Benjamin Peirce, was a well-known mathematician at Harvard and also a friend of Ralph Waldo Emerson and Margaret Fuller. James's father, Henry Sr., was a Swedenborgian and an intellectual companion of Emerson and his friends. This movement was, on the one hand, heavily influenced by Hegel, Schelling, and Goethe and was, in that much, what Emerson called "idealism in 1848." At the same time, because of the German focus on historical development and the budding fascination with biological evolution, the transcendentalists began to think of the world as an evolving organism. The eighteenth century enlightenment focus on mechanism, in which thinkers such as Julien La Mettrie described humans as "machines," was thoroughly resisted by these New England thinkers.

From the mid-nineteenth century to the early twentieth century, the special sciences were clearly on the ascent in western cultures. There were developments in the historical understandings of Christianity with German higher criticism; there were significant changes in geology and its understanding of the history of the Earth; chemistry and physics enabled numerous technological innovations; and in 1859 Charles Darwin published his Origin of Species. In his essay The influence of Darwin on philosophy, John Dewey articulated the importance of evolutionary theory for pragmatic philosophies: philosophy had to shift its way of thinking away from "[...] inquiry after absolute origins and absolute finalities in order to explore specific values and the specific conditions that generate them" (DEWEY, 1998, p. 43). To understand the origins of pragmatism, it is important to keep in mind the range of intellectual changes that were afoot in the late nineteenth century. The pragmatists were especially caught up in the culture wars between science and religion, and each in his own way sought to find room for religious experience even as they rejected traditional religious institutions and theologies and championed scientific inquiry.

Finally, we should recall that transcendentalism was also a movement of social reform in schooling, labor laws, women's rights, and the abolition of slavery. The original pragmatists were young men during the U.S. Civil War. Awareness of this leads us to consider the absence of direct attention to the war in the work of James and Peirce, and it enables us to see why social reform became central for later pragmatists like Dewey and Jane Addams. It was precisely to help readers understand this range of foci in pragmatism that James described it as "a corridor in a hotel" in which "innumerable chambers open out of it" (JAMES, 2010, p. 42). Moreover, as noted in Peirce's letter to Schiller, pragmatism was itself an evolving and developing intellectual movement.

In this much, the tendency to focus on the differences among the ideas of James, Peirce, Dewey and the others overlooks the depth of their agreements about how philosophy should be practiced. The fracturing of pragmatism into schools of Peirceans, Jamesians, and Deweyans has always seemed to me fundamentally mistaken. In what I have to say here, I will focus specifically on the work of Peirce and his own development of a pragmatic worldview. But I will keep in mind that the features of Peirce's pragmatism I present here were also important for James, Dewey, and Addams, and that the family of philosophical views they collectively developed are radically distinct from the new pragmatism of the late twentieth and early twenty-first centuries.

# 2 Deductivism

Modern philosophy took its cue from geometry to the extent that Spinoza wrote his *Ethics* in the mode of a geometrical deduction or proof. In his early essay *The fixation of belief*, Peirce identified such thinkers as *a priorists*. They began by adopting an intellectually comfortable premise and then deduced their account of the universe from it. For Spinoza, the initial premise was the identity of God as *causa sui*; for Descartes, it was his description of *res cogitans* in conjunction with his conception of "clear and distinct" ideas; and for Leibniz, it was the image of a monad. Peirce respected these thinkers, but following Descartes' own *Discourse on method* he argued that their philosophical method was flawed. Ironically, even the modern empiricists such as David Hume, who resisted a priori rationalism, were at bottom deductivists. Hume's reduction of empirical inquiry to failure was based on its inability to achieve the kind of intellectual certainty demanded by geometrical rationalism. It was for this reason that Peirce identified Hume as a deductivist. In a letter to Lady Welby in 1911, Peirce made his point as follows: "I show that all the old metaphysicians such as Hume support their skepticism by virtually assuming [...] that the only kind of valid inference is deductive" (SS 142). In contrast, Peirce countenanced different modes of validity for both induction and abduction, his two other modes of inference.

In "Fixation" Peirce turned to what he took to be the only method that could lead human thought in the direction of truth—the method of scientific inquiry. At the outset, however, I want to be cautious in how we construe "scientific"— Peirce did *not* mean that physics and chemistry should replace or dominate philosophy. Rather, he aimed to show that a specific mode of inquiry (one adopted by practitioners of the special sciences) should be used for every kind of inquiry dealing with an actual experience and world. The logic of abduction and induction was, for the pragmatists, not restricted to science narrowly construed, but was a feature of general human experience; it was self-correcting but never intended as a model of absolute knowledge. The pragmatists, like Socrates, were seekers of human wisdom, not divine wisdom. And, for them, humans were finite and fallible animals with an ability for successful inquiry.

Ironically, in both philosophy and the special sciences, the quest for certainty remained intact for another century. For some, it remains a part of our cultural legacy to the present moment. Peirce argued as early as the 1860s that we would have to learn to live with probable knowledge in an ongoing historical inquiry by those interested in pursuing truth. Human finitude led Peirce to rely on an indefinite community of inquirers to carry out the task of learning. He maintained that we humans can know things but "[...] we can never be absolutely certain of doing so in any special case" (EP 1:52). Finitude and fallibility were also the motives for the pragmatists to rethink the nature and meaning of truth. This is the feature of their thought that has been most widely misunderstood. As a relation between ideas and experiential actualities, truth was, on the one hand, a regulative ideal of all inquiry—a "would be" in the indefinite future. James called this "big T" truth. On the other hand, historical "truth" was a feature of situated beliefs-beliefs that were always in transition. This is why Peirce asserted in "Fixation" that, given our historical situatedness, "[t]he most that can be maintained is, that we seek for belief that we shall *think* to be true" (EP 1:115). William James noted the two truths in 1908 in conversation with his students:

> It is unfortunate that truth should be used, now for the temporary belief of men and now for a purely abstract thing that nobody may, perhaps, ever be in possession of. The pragmatist definition of truth applies to both. Since the word, however, is

the same, I wish someone here present might invent distinct words for ultimate truth and for temporary belief.—Schiller says 'truth as claimed' and 'truth as validated' (JAMES, 1988, p. 433).

For the passing historical truths, Peirce relied on the historical community of inquirers, and for the "ultimate truth," he relied on that community idealized to some "would be" future.

In turning toward probability in inquiry and away from absolute certainty, Peirce's pragmatism placed us *in medias res*; for him, this is always where philosophy occurs—in the midst of habitual beliefs, actual doubts, and the hope of finding new answers. Human beliefs are no longer fixed and final but are contingent, evolving, and under the control of our own practices. Knowing things is always up to us. For Peirce, our ability to attain working answers concerning the cosmos depended on the self-correcting method of experimental inquiry and our willingness to admit to and to learn from our failures. But as evolutionary theory developed, it occurred to Peirce to ask whether the contingency of our knowing was simply a feature of human reason or whether it was also reflected in the actual conditions of the natural universe.

Peirce's father was a translator of La Place's seminal work on statistics and probability, which was based on the notion of a deterministic, closed world such that probability was a function of human ignorance and fallibility. La Place was an inheritor of deductivism. For him, if we could only see the world from a divine perspective, we could know the world's ways with absolute certainty. Peirce, working from the idea of an evolving universe, saw probability in a very different light. He noted that all human knowing is inherently vague and general, and susceptible to failure. But he added that our historical learning occurred in a world that was not a fixed, closed system but an evolving, growing universe. This universe, in both its physicality and its laws, is shot through with actual chance. It is an open and changing universe with the possibility that laws of nature may be "violated in some infinitesimal degree" (EP 1:219). Even if our knowledge could be "certain," it would still have to be probabilistic in light of the universe's own chance changes. This focus on the presence of an element of chance, which Peirce named "tychism," was a central feature of his thought but also that of James and Dewey. Both of them focused on the fact that humans live in a precarious and risk-filled environment. This is clearly one feature of pragmatism that was underwritten by the serious attention given to biological evolution.

In sum, deductive reasoning had to find its place and role within the context of a much broader probabilistic abductive/inductive method of inquiry. For Peirce, that role was to provide explication of hypotheses and background beliefs in order to make predictions that might be tested in experience. Abduction—plausible reasoning—provides us with hypotheses. Then, deductive inference is employed to establish likely predictions. As Peirce puts it: "Induction consists in starting from a theory, deducing from it predictions of phenomena, and observing those phenomena in order to see *how nearly* they agree with the theory" (EP 2:216). For him, deduction is not synthetic or creative and "does not lead to any positive knowledge at all, but only traces out the ideal consequences of hypotheses" (EP 2:97). For creative thought, Peirce relied on abduction and for tracing consequences in the actual, not the ideal, world, he relied on inductive reasoning. In this regard, pragmatism was clearly an early "post-modern" philosophy.

# 3 Synechism

Peirce's thought was post-modern in a variety of ways. As he noted many times, modern British and European philosophies, following the lead of William of Ockham, tended to be nominalistic and thus atomistic. The world became an aggregate of discrete "things," events, impressions, atoms, and so forth. Peirce's rethinking of inquiry and evolution led him to a different conclusion. Though for Peirce tychism was a central feature of his pragmatism, he warned James that it was not the dominating or leading feature—that honor went to his philosophy of continuity—his synechism. In the tradition of Parmenides, though for different reasons, Peirce maintained that "everything clings to everything." Synechism answered a number of questions for Peirce, most notably his conceptions of cosmic and biological evolution. In his defense of continuity he was ultimately joined by both James and Dewey. Perhaps more importantly, though Peirce was never fully aware of it, his synechism squared with the basic philosophical premises of both Henri Bergson and A. N. Whitehead, two of the more radical transformers of philosophy in the early twentieth century.

Peirce's synechism began with his implicit rejection of atomism and his explicit rejections of nominalism. As he saw it, nominalism could not make sense of the actual practices of science. The nominalist, Peirce argued, "[...] would persuade us that the mind—that is to say our opinions,—are filled with notions wholly unlike anything in the real world" (EP 2:223). Scientists do collect and gather particular facts, but always in the interest of generality whether identifying species in classification or discovering natural laws. At bottom, Peirce's synechism confronts the philosophical tendency to operate around dichotomies and dualisms. In 1893, Peirce described his view and added some implications:

Synechism, even in its less stalwart forms, can never abide dualism, properly so called. It does not wish to exterminate the conception of twoness, nor can any of these philosophic cranks who preach crusades against this or that fundamental conception find the slightest comfort in this doctrine. But dualism in its broadest legitimate meaning as the philosophy which performs its analyses with an axe, leaving, as the ultimate elements, unrelated chunks of being, this is most hostile to synechism. In particular, the synechist will not admit that physical and psychical phenomena are entirely distinct,whether as belonging to different categories of substance, or as entirely separate sides of one shield,-but will insist that all phenomena are of one character, though some are more mental and spontaneous, others more material and regular. Still, all alike present that mixture of freedom and constraint, which allows them to be, nay, makes them to be teleological, or purposive. (EP 2:2).

Peirce found the implications of his synechism to be far reaching. His pragmatism was an early relational philosophy—one that on occasion would outflank the laws of excluded middle and non-contradiction. Personal identities are never singular for him but are evolving continua located in social and physical environments. For Peirce, "[...] personality, like any general idea, is not a thing to be apprehended in an instant. It has to be lived in time; nor can any finite time embrace it in all its fullness" (EP 1:331). Moreover, "all communication from mind to mind is through continuity of being" (EP 2:3). Histories, genres, living ideas, all depend on the continuity of being. Moreover, synechism, as I will develop later, rejects the discreteness of borders, boundaries, and classifications. The border between red and orange in a spectrum is never a precise location of either/or but always a site of vagueness and both/and—the border is both red and orange.

Thus, for Peirce, nominalism was simply a lingering disease inherited from the modern world. Anyone actually engaged in scientific inquiry, he believed, should see almost immediately the incompatibility of nominalism and nineteenth century science. Laws, for Peirce, are not merely human inventions but are the actual, general habits of the cosmos. They are real generals that are outlawed by every version of nominalism. And continuity, as Peirce often noted, is just universalized generality—it is the fundamental law of being. It is the tendency to grow, evolve, and be relational. As we will see, such a view has important implications for the role of language, signs, and semiosis in human experience.

In thinking of laws as the habits of the universe, Peirce believed that laws themselves could evolve in slow and usually imperceptible ways. The very being of species and genera is lawful. "Dogness" is a real general. And the evolution of any species into another species requires continuity between them. There is a bordercrossing at work in every moment of biological evolution. This is, we might say, the creative feature of the living cosmos. As we noted in discussing tychism, Peirce did not limit evolution to the biological dimensions of the world. His study of astronomy and chemistry led him to think of the universe itself as growing, as evolutionary. The laws governing the material world are never exact and are always open to deviation and change. The very idea of growth, from Peirce's perspective, demands the continuity of being. Our fundamental distinctions among things are matters of emphasis, not matters of sheer difference.

Empedocles described a world that was kaleidoscopic in nature; it was continuous but not fully evolutionary. His universe was a closed system of material driven to change by the forces of strife and love—it could change, but it could not grow as a universe. For Peirce this left open the question of what might occur at the borders of time and extension. Given what we could know of the universe in 1890, it seemed not to be simply re-mixing itself but to have directionality as a feature of its evolving. In short, Peirce reconceived the universe as open and not closed, and the development of this open system required his synechism as a condition for its possibility. And the evolving universe, as he described in his essay "Evolutionary Love," is neither pure chance nor pure necessity. It is, as he noted, loaded with both contingencies (chance) and necessities (lawful habits); it is, again, both freedom and constraint. His was a universe of creation and cosmos—it was a universe that did not fit well with traditional mechanics, traditional theologies, nor the various forms of absolute idealism or reductive materialism. The science of the last hundred years

has, I think, done more to support than to refute Peirce's hypothesis of an evolving, continuous universe. Of course, for now, the evidence is not all in, but as a working hypothesis, Peirce's world makes sense of what we know. And, as we will see, it has significant upshots for our individual, social, scientific, and artistic lives. The pragmatic meaning of Peirce's synechism is far-reaching.

# 4 Language and Semeiotic

Peirce was not among those philosophers who followed what Rorty came to call "the linguistic turn." From a Peircean perspective, it was a very wrong turn, one tied to the nominalism inherited from Ockham and his tradition. Interestingly, Peirce was a much better student of both the history and the structure of languages than were most of the philosophers of the linguistic turn. Language broadly construed became the basis for his general theory of signs or "semeiotic"—and semeiosis was for him the life of signs in their work of communicating.

Semeiotic became a central feature of Peirce's logic and of his overall architectonic. For him, signs were the key to our understanding the universe and each other. Even as he was developing his elaborate theory of sign activity, others began to argue that language was all that philosophers could legitimately discuss. Roy Wood Sellars, among others, argued that humans were fenced in by their language: we are unable to get back to the empirical world because our language essentially separates us from the world itself. For Sellars and others, languages are internalized wholes: closed systems of vocabulary and rules of use that have no direct access to empirical facts. Thus, language was a barrier to genuine knowledge, and philosophers were left with the task of analyzing how languages work. This is precisely the kind of thinking that informed Rorty's so-called neo-pragmatism. Wilfrid Sellars, son of Roy Wood, followed his father's lead and could find no way, despite his clever logical efforts, to reconnect language with experience or an independent world. Rorty followed suit, arguing that we humans are stuck with our vocabularies and that we are limited simply to revising our vocabularies to bring change to our lives. This meant that, for Rorty, nature or the world "does not speak."

Peirce understood language quite differently. From his point of view, language—and semeiosis—was a mediator between humans and the rest of nature. As a mediator, language, rather than veiling us off from the world, reached into nature and gave us an avenue for actually understanding things. As Dewey later stated: "Experience is not a veil that shuts man off from nature; it is a means of penetrating continually further into the heart of nature" (DEWEY, 1958, p. x). Thus, for Peirce, science and all inquiry remained significant for every aspect of human life, and especially for ameliorating whatever our present conditions were. James and Dewey agreed and focused on the need for improving our modes of learning and communicating. For the pragmatists, language was an escape route from solipsism, not the sort of intellectual prison described by Sellars and Rorty. Moreover, for Peirce, language was living and evolving and was never a closed system of the sort others described. Language, sign activity, was co-evolving with the cosmos.

Once again, Peirce was thinking of the actual practices of scientific inquiry the self-correction, the growth of ideas, the grasping of nature's laws and ways. If for Rorty Nature "did not speak," for Peirce it spoke all the time. The history of science was precisely the history of listening to and reading the signs of nature. Rorty, given his narrow understanding of language, was forced to describe science as myth—as simply another narrative akin to theology and literature. For Peirce, reading the movement of continents led to our understanding of plate tectonics. Grasping the idea of and effects of bacteria led to the possibility of addressing their effects on the human body. Scientific inquiry is precisely the ongoing interpretation of the signs of nature. There is much more to say about Peirce and his semeiotic. For example, it mitigates human exceptionalism and leaves the door open to transspecies communication. Peirce noticed this with his own pets—his horse, his dog, and his bird. It also means that we can learn from the leaning of a sunflower the direction of the sun in relation to the flower. In Peirce's own words, the world is "perfused" with signs. I will pursue this further later.

# 5 Pragmatism, creativity, and meliorism

Peirce's focus on abduction, synechism, and semeiosis underwrite what is perhaps the most important characteristic of all the early pragmatisms: creativity. An evolving and growing world develops hyperbolically; as Peirce maintained, our universe at once grows in both regularity and variety. For Peirce, the central element of this creativity was spontaneity; for James it was novelty; and for Dewey it was experiment. Abduction is the ground of both discovery and creativity in reasoning about the world. Peirce, as a scientist, usually focused on abductive reasoning in the sciences. But his descriptions of this reasoning are equally appropriate for engineering, for artistic creation, for moral judgment, and so on. This is perhaps the one place where Rorty seems somewhat like a traditional pragmatist—he argued that "strong poets" were the creators of new visions. The difference is that Rorty's poets were completely unconstrained by the world and nature. For the traditional pragmatists, creativity and discovery always occurred against a background of old beliefs and the facticity of the world. Creativity, for them, is not sheer contingency; it is the struggle to find and create novelty in light of what has happened in the past. It is the creativity of possibility, not mere accident. And it is an experience that is governed by love in the seeking of "beauty" broadly construed. I will discuss these features in later lectures.

What ultimately distinguishes pragmatism in its origin is its Greek-like close attention to human experience—including experiences of creativity. The nineteenth century idealists with whom Peirce, James, and Dewey were familiar sought to explain our experiences by making them derivative features of an absolute and fixed universe. Critical realism and its descendant analytic tradition in the U. S., as we noted, divorced language from experience and, finally, except for a few folks still interested in ethics, spent its time analyzing language and its use. Most recently, Robert Brandom has bragged that he wrote a large volume without using the word "experience" once. I wonder why someone would be proud of that, but it clearly marks a difference in the ways that philosophies called "pragmatic" operate. I think that Dewey was right when he claimed that "no philosopher can get away from experience even if he wants to" (DEWEY, 1958, p. 32). For the originary pragmatists, philosophy is inevitably tied to human experience, its meaning, its place in the cosmos, and its import for the future of things.

Peirce, James, and Dewey agree that the world we find ourselves in is shot through with possibility and risk—and its future is always in some part "up to us." As Dewey put it: "The world is a scene of risk; it is uncertain, unstable, uncannily unstable" (DEWEY, 1958, p. 41). And, perhaps more importantly, this scene of risk cannot be eliminated by asserting the presence of a perfectly orderly and determinate ideal cosmos; nor can it be handled by ignoring the instability and the risk. For the pragmatists, the very aim of human thinking is ultimately to understand how to ameliorate our world to the extent possible, given our finitude and fallibility. I quote Dewey at length here to make this point:

> Our magical safeguard against the uncertain character of the world is to deny the existence of chance, to mumble universal and necessary law, the ubiquity of cause and effect, the uniformity of nature, universal progress, and the inherent rationality of the universe. These magic formulae borrow their potency from conditions that are not magical. Through science we have secured a degree of power of prediction and control; through tools, machinery and an accompanying technique we have made the world more comfortable to our needs, a more secure abode. We have heaped up riches and means of comfort between ourselves and the risks of the world. We have professionalized amusement as an agency of escape and forgetfulness. But when all is said and done, the fundamentally hazardous character of the world is not seriously modified, much less eliminated (DEWEY, 1958, p. 44).

There are three crucial points here. First, it is precisely the tychistic feature of the pragmatists' cosmos that opens room for human creativity. Our role in the universe is significant; we cannot just wait for everything to come out well at the end of time. Second, we should not be self-deceptive. By the 1940s, we had made life in the U.S. reasonably comfortable with science and technology; but problems of every kind remain and we should not be blind to them. We cannot *stop* thinking creatively. And, finally, human meaning is not answered simply by comforts and amusements—we must strive to find meanings in a variety of ways—in beauty as well as in amusement, in truth as well as in technological success, and in caring as well as in competing. Human creativity and the amelioration of our conditions are not limited to technique and acquisition.

If we consider our own moment in history, we may begin by acknowledging all the goods we have from sufficient food for many to global transportation for some. But think also of the probability that the recent increase in the number and intensity of storms such as hurricanes Harvey and Maria is related to global climate change, abetted in part by human activity. Many people also believed that major genocide might go away after the lesson of Germany's national socialism and the holocaust. But we have already had subsequent genocides in Rwanda and elsewhere, and nationalist movements driven by hate and exclusion are on the rise around the globe. Consider trying to live life in Syria during the last decade. The amelioration of such situations remains up to us—it is an ongoing task that challenges human agency. Our apathy comes with a price. This is, for the pragmatists, the world that we still find ourselves in. A cosmos that is organic and evolving involves risk in a different way than does a cosmos that is fixed and determinate. In the latter, the solutions to risk and error are already present in the machinery at hand; in such a world the idea of "solving all human problems" seems theoretically plausible. This is perhaps one reason the enlightenment was so upbeat and proud of itself. But in a world where chance and lawfulness work in concert, the stakes are higher. As James suggested, there are real losses and real losers. This is the world of North American pragmatism: tychistic, synechistic, semeiotic, and creative. It is not necessarily a dark world, for where there is risk, there is also possibility. As Peirce put it: "Indeed, it is the reality of some possibilities that pragmaticism is most concerned to insist on" (EP 1:354). And such a world calls for an openness to these possibilities; it calls for creative thinking. Peirce's introduction and defense of abduction as the only kind of inference generative of novelty was intended to identify the kind of thinking his chance-ridden world would require.

As a logician, he focused on the pursuit of truth and how the history of human thought reveals the self-correcting possibilities for inquiry properly conducted. What we find is that the road toward truth through a process of scientific inquiry, rather than solving all problems, continually opens up new questions and confronts new problems. Our scientific "results" are never fixed or final. The chemistry of 1800 was not the chemistry of 1900; the physics of my generation is not the physics of the present generation. Penicillin likely saved my life in 1967, but we now know that indiscriminate use of antibiotics creates a range of new issues to be addressed. Pursuit of truth, for Peirce, required creative thought; as he put it, abduction is "[...] the only kind of reasoning which supplies new ideas" (CP 2.777). Moreover, such creative reasoning, Peirce noted, required an artist's ability to perceive clearly, to be attentive to the world of percepts. The upshot of Peircean abductive reasoning is to "improve" our 'truths"—in essence inquiry is the process of ameliorating the "truth" of our beliefs.

What James and Dewey did was to take this same mode of creative reasoning into the development of our moral, political, and social beliefs. For James, "ethical science is just like physical science, and instead of being deducible all at once from abstract principles, must simply bide its time, and be ready to revise its conclusions from day to day" (JAMES, 1898, p. 208). It was for this reason that Dewey identified his version of pragmatism as "experimentalism." Every aspect of our lives is ultimately constituted experimentally. Social contract theory did not come born into the world as divine law; it was historically developed by original thinkers and remains to this day under experimental test in a variety of different modes. It is not the last possible way of thinking about the social and political arrangements of living organisms.

Pragmatism is thus melioristic—it aims to make things better in the absence of any a priori certainty of "the best." This requires both a carefully attentive perceptual awareness and an openness to inventive and creative ways of thinking. Human experience comes without training wheels or guarantees. Much of what happens in the world falls to our human devices and to forget that is to welcome disaster, meaninglessness, and self-deception. And the disasters we invite will in part be delivered to us by the hands of dogmatic absolutists whose "truths" and "moral rules" are unchanging and inviolable. Pragmatic experimentalism is not dogmatic, but it is also not a random and arbitrary assertion of beliefs. It is not, as some like to characterize it, naively relativistic. We find ourselves in the world *in medias res.* We take what we are given and use our human abilities to make it better. We live in the midst of all kinds of natural and social constraints, and these will resist our best efforts to change the world by *fiat.* Like every creative scientist, every social and moral reformer must, as James says, "wait on the facts" (JAMES, 1898, p. 208). If truth and moral goodness are both the aims of creative abductive reasoning, we ought not to forget the pursuit of beauty, broadly construed. Of course we are used to thinking of the arts as creative, but it will be important to consider them as something more than a philosophical afterthought—this will be the focus of one of my subsequent lectures.

## 6 Ontologies and attitudes

Let me bring this essay to a close with a reminder of the philosophical continuity found among the pragmatists. Peirce wrote on everything from linguistics to math to chemistry to religion; James talked of psychology, physiology, teaching, and what he called "radical empiricism." Dewey openly discussed education, art, politics, and metaphysics. Philosophy was not a narrow and closed game, but a kind of thinking that must consider all aspects and features of human experience in the world. So, for them, ontology was never separated from the rest of their thinking. The very nature of the universe they encountered-tychistic, synechistic, and evolutionaryrequired a philosophy of imagination, creativity, and amelioration. It is the best we can do with our fallibility and finitude. What something is makes a difference as to how we treat it. This is as true in the moral realm as it is in the physical realm. For pragmatists, there is no ethics without ontology. One must handle liquid nitrogen very carefully because of "what it is." But notice also that persons who refrain systematically from eating their pets for dinner will happily dine on cows and pigs they have never met. And when we ask why women, African Americans, and American Indians could not vote in the U.S. in the nineteenth century, it was because they were considered to be ontologically "less" than Caucasian males in some way. The pragmatists, for this reason, will not let us "get over" metaphysics and ontology. We should pursue them through experimental inquiry not by a priori dogma, but we should pursue them. Our ideas, our beliefs, our habits make a difference in the world. Our ontologies, our moral values, and our aesthetic interests are always in transition; the pragmatists simply want us to attend to these transitions and not find ourselves, as Herbert Marcuse suggested we were, merely at the mercy of them. And this "pragmatic" creative reasoning requires a "pragmatic" attitude.

That attitude is one of openness to new possibilities but also of attentiveness to actual constraints. It cannot be cynical, as John McDermott has spent his career insisting. It also should not be naively optimistic—our world *does* involve genuine losses. We do not get "do-overs" very often and "salvation" from our mistakes and evils is at best a not-well-evidenced hypothesis. We must be willing to be self-aversive, to admit our finitude, and to be willing to fail. Failure, from a pragmatic point of view, is one of experience's best teachers. The pragmatic attitude also cannot countenance arrogance and egotism because these invariably blind us to what is truer, better, or more beautiful. As Peirce put it, "No man can be logical who reckons his personal well-being as a matter of overwhelming moment" (MS L, WJ, 3-13-87).

Such an attitude is *a difficult one to achieve*, and it does not come naturally for most persons. It is equally difficult to maintain. It is neither dogmatic nor skeptical but lives in between these extremes, working with hope, an attentiveness to constraints, and a wary optimism that motivates us to create better ways of knowing ourselves and the world, of living together, and of giving meaning to our existence.

I leave you, then, with three brief thoughts for reflection and conversation.

- Peirce: "A religious organization is a somewhat idle affair unless it be sworn in as a regiment of that great army that takes life in hand, with all its delights, in grimmest fight to put down the principle of self-seeking, and to make the principle of love triumphant" (CP 6.448).
- James: "Because we will never have all the evidence needed to make perfect decisions in the world, we must live with the evidence at hand together with some working 'faiths'. Faith thus remains as one of the inalienable birthrights of our mind. Of course it must remain practical, and not a dogmatic attitude. It must go with toleration of other faiths, with the search for the most probable, and with the full consciousness of responsibilities and risks" (JAMES, 1898, p. 225).
- Dewey: "An empirical philosophy [such as his pragmatism] is in any case a kind of intellectual disrobing. We cannot permanently divest ourselves of the intellectual habits we take on and wear when we assimilate culture to our time and place. But intellectual furthering of our culture demands that we take some of them off, that we inspect them critically to see what they are made of and what wearing them does to us. We cannot achieve recovery of primitive naïveté. But there is attainable a cultivated naïveté of eye, ear and thought, one that can be acquired only through the discipline of severe thought" (DEWEY, 1958, p. 37).

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