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PRAGMATIST PERSPECTIVES ON SCIENCE AND TECHNOLOGY AND CONTEMPORARY DEWEY STUDIES

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John Dewey (1859-1952), who had a taste for hyphenated concepts that aim at bridging rooted dualisms, could well have been the originator of the nowadays so fashionable term "techno-science". The idea that we must not separate between science, as a logically prioritized epistemological enterprise and technology as a downstream application finds itself all over his work, especially in his later "Logic: Theory of Inquiry" (Dewey, LW12). Dewey finds faults with this separation on two fronts: science is itself a form of technological production, in-so-far as inquiry is for a pragmatist, in general, a situated form of problems solving and problem engagement. Technology, on the other hand, is, at least in its inventive and explorative phase indistinguishable from experimental inquiry and learning adaptation.

This issue pursues several overlapping aims. It gives voice to a number of promising new strands of Dewey-scholarship with particular attention to the critical role Dewey played, conceptualizing technology and preparing contemporary debates in science and technology studies. Moreover, it concerns with contemporary pragmatist scholarship, starting from Dewey and going beyond, in exploring philosophical problems surrounding progressive feats in science and technology.

The pragmatist tradition has always been an important source and inspiration of Science & Technology Studies (STS). However, the rich and fertile output of STS scholarship has received less attention than it deserved from pragmatist philosophers, albeit with a growing number exceptions.

A few concepts seem crucial when approaching science and technology from a pragmatist vantage point that also find expression in this special issue. E.g. the revolution of the concept of "agency" in STS debates was well prepared by Dewey's "transaction" perspective, which sees human agency as an emergent property, a product of environmental and instrumental conditions. Actions are always the co-authored products of agents and their natural, social (and technological) contexts. This perspective finds many correspondents in STS, e.g. in Latour's actor-network theory.

For pragmatists and STS scholars knowledge is a process that involves aspects of technological production and social negotiation. Knowledge is never a representation of independent facts, but always a product or artifact. Facts and observations are manufactured and designed to the same extent, as experiments and technological equipment is necessary for their production and mediation. Pragmatists go so far as to include our biological constitution (hands, brains, and eyes) among these instrumental conditions.

Most pragmatists share a broadly naturalistic metaphysical platform, yet pragmatist naturalism includes constructivist elements: reality is at least co-produced by human technological interventions. STS asks whether technology remakes reality in a way controllable by planning human agents or whether technology creates dynamics and spin-offs that are as ungovernable as brute natural forces. The metaphysical implications of these questions interlace with pragmatist thinking about the co-authorship of agents and instrument users in producing reality.

Also, both traditions grapple with the sources and determinants of value and aesthetic value and have developed a great sensitivity for the mutual dependence of values and instrumental/technological environments. The profound insight that technology does not only offer solutions to problems but also shapes the contexts in which we formulate purposes and a conception of the good life is central to pragmatists and STS thinking alike. How the coevolution of values and technological conditions affects individual conceptions of the good, social norms and cultural ways of life is a field of shared interest.

For pragmatists, the use of tools and instruments is not only a defining trait of our species that has shaped our natural environment, it is also that trait which makes us proactive participants in our own evolutionary story. Pragmatists understand tools not merely as a means of achieving desired outcomes with given resources. Tool-use is rather a creative form of mediation between problem-situations and problem-solutions, in which both sides are transformed. For pragmatists after Dewey, the instrumental action is not a mechanical exercise but a creative and aesthetic mode of human functioning, and it is fundamental to aesthetic dimensions of our experience.

Reducing technology to an aesthetically mute instrument, a mere conduit between resources and external ends is a caricature that nevertheless captures a growing tendency arriving from the industrial revolution. The reduction of the technological to the mechanical and consequently the emptying of instrumental activity of aesthetic quality and meaning beyond the achievement of an external end is Fesmire's topic. Fesmire traces the critique of technology that Dewey developed at the beginning of the industrial age and demonstrates how it centers on the aesthetic-experiential aspect of the instrumental action. Dewey's embrace of science and technological action had gained him disdain from critics who suspected him of collapsing intrinsic values into mere instrumental means. Fesmire shows how these critics fail to appreciate Dewey's hope that technology could enrich and deepen our lives and in particular aesthetic dimensions of our experience.

No doubt, as techno-sceptics after Heidegger noted, the proliferation of appliances that make modern life easy, also alienate us from meaningful and deeply aesthetic experience. In pre-industrial life, instrumental struggles were more embedded in their environment and our contribution was better characterized with making in the sense of "poiesis" (from which also "poetry" arrives). Fesmire carefully demonstrates how Dewey identifies the sources of modern alienation not in technology per se, but in a mechanical understanding of technology that separates instrumental pursuits from the search for meaningful ends.

Even though Dewey's critique of modern utilitarian technocracy sometimes reverberates with the technophobia of Romantics and early preservationists, Dewey rejects any hiatus between technology and nature. The Aristotelian notion that technology is external to nature and that engineering amounts to a form of manipulative tricking of a well-ordered cosmos out of its harmonious path is anathema to his naturalism. On the contrary, since humans are in and of nature, so is technology. The question is therefore how humanity can co-evolve in a technologically advancing (still natural) environment, without becoming disenfranchised consumers and laborers in its machinery.

Shook & Giordano look at neuro-science as their starting point for investigating and critiquing our practical dispositions. They take an interest in neuroscience and neuro-technology and its increasingly articulate say on moral cognition and the study of ethics.

Shook & Giordano reject any reductionist reading of neuronal functioning in moral decision making as a hardwired determinant of moral dispositions. The brain is too much the product of a sociocultural co-evolution to allow an understanding of neuronal pathways as originators of intelligible moral decisions. A contemporary, pragmatist neuroethics has to take very seriously both the biological & neuronal foundations of our deliberative capacities, and the social, cultural determinants together with which they co-evolved.

On the question, whether neuroethics can provide answers to normative questions about how we should deliberate or how we ought to live together, Shook & Giordano give a pragmatist answer. Neuro-studies do not issue in prescriptive resolutions but as a "lens and mirror" of our socially embedded, biological and evolved nature, neuro-ethics offers an important source of

ethical orientation. We may add, that pragmatists never denied the possibility of committing a natural fallacy, meaning a deliberative short circuit by which we jump from observed conditions directly to prescriptive conclusions. Ethical judgments must involve intelligent and imaginative deliberation, which means behavioral adaptation and learning in view of actual and possible experience. This, indeed, takes place on the naturalistic grounds of appreciated experience and projection without the need for postulation of additional purely normative premises.

This knowledge of our biological and neuronal functioning will also come to pass when new ethical decisions have to be taken e.g. in view of advancing technologies of enhancement.

Thinking of human activity and deliberation, as co-authored by a natural, social and technological environment has gained much currency in the field of Science and Technology studies since Latour and other began speaking of "assemblages" and "actants". With his distinction between the viewpoints of "self-action", "interaction" and "transaction", Dewey is surely the father of this approach.

As in Fesmire's article, alienation by means of technologically and politically engineered environment is also the topic of Mark Tschaepe in "Undermining Dopamine Democracy through Education".

In our Dec 2015, Arnold Berleant argued that our sensibility is becoming instrumentalized and corrupted for industrial purposes. Food, music, movie and advertisement industries are now conglomerates of vested interests that make coordinated efforts to monopolize and condition our tastes and thereby predetermine our customer choices. Tschaepe is motivated by a similar worry. The neoliberal order has turned individuals into consumers that react to the salience of advertised stimuli rather than take responsibility in cultivating their own preferences and decisions. "Dopamine democracy" stands for the de facto annihilation of deliberative political self-control, a yielding to consumerist temptations and suggested necessities of market forces. This leads to a form of political individualism where agents (or brains) scan their environment for salient incentives, which they pursue, sometimes by entering strategic alliances with others.

Hope sees Tschaepe in Dewey's theory of education, and specifically in the notion of growth of freedom and self-control through intelligent inquiry. When we learn through inquiry in problem-solving collaboration with others we overcome the detrimental separation between mere "information" and "thoughtful action". Thereby knowledge becomes an empowering force in overcoming ideological divides and in forming new democratic communities.

In "We Deweyan Creatures" Tibor Solymosi introduces the idea of human beings as an organism so thoroughly embedded within its environment that he introduces "Œ" as a symbol for the indivisibility of human subject (organism) and environment. In his account of evolution as a continuous process of generating hypothetical solutions and testing them, "Deweyan creatures" do not see themselves merely as products of evolutionary dynamics but also as active participants in shaping the world and sharing experience.

Solymosi asks the momentous question whether a Deweyan conception of creative democracy is supported by (human) nature. Like Tschaepe, he contrasts the conception of a critical and deliberative community with a reactive "dopamine democracy" where technological appliances only prompt reactions by offering salient stimuli. Solymosi tells a narrative of human evolution that takes its environmentally embedded transactive nature serious. An instrumentalist account, he agrees with Dewey in defining language as the tool of tools. We are creatures with the ability to use tools intelligently and mediated by the use of language we project ourselves forward into transformed situations that we help to create.

As both Fesmire and Tschaepe, Solymosi too understands tools as more than mechanical

intermediaries between problems and solutions. The use of tools and technology is an imaginative activity, which means that the distance between technology, science and art diminishes. All these human endeavors capture creative enterprises of using instruments to transform situation in a meaningful way. Deweyan creatures have the unique imaginative capacity of seeing themselves as part of the evolutionary story which transforms the social and environmental transactions of our species. This position calls for a self-conception of humans as critical, socially interactive and creative co-authors of an unfolding evolutionary story, and it is this notion that is entirely incompatible with the reactive, stimulus-driven denizen of a "dopamine democracy".

All above contributions show how promising an intensified communication between pragmatist scholarship and science and technology studies may be. Many of the concepts that define contemporary STS scholarship have been philosophically anticipated and elaborated by pragmatists since Dewey.

As it is well-known, Dewey has represented and summarized the main movements of the traditional pragmatism. During his long life he wrote papers and books almost on every important question of philosophy: e. g. on social philosophical phenomena like democracy and religion, on ontological phenomena like nature, and on aesthetic phenomena like artworks and art. We could say that Dewey was almost a polymath, and due to his multidimensional philosophical activity, he has more and more followers even today. In the second chapter of this issue, we have chosen five general contemporary interpretations of his philosophy.

The first train of thought is connected to Dewey's social philosophy. Carlos Mougan uses Dewey's interpretation of democracy as "a way of life" as an Alpha and Omega of his standpoint. However, he also shows that Dworkin's "moral reading of democracy" is not in contradiction with Dewey's participatory approach, since "democracy has a commitment to the moral development of individuals, stressing continuity between ethics and politics" (PT 61). What is more, Mougan builds into his interpretation the effects of the legal system, when he emphasizes that his offer „requires politics to defend basic democratic values more strongly and sees legal and constitutional principles as weapons for the development of political and social order, favoring a deepening in the democratic way of life" (PT 65). This makes, as Mougan says, abstract tools for specific policy from the constitutional principles.

Barry E. Duff has chosen an ontological approach. Experience and Nature (E&N) is Dewey's seminal work that wanted to destroy the traditional dualism of human consciousness and Nature by the help of a radical "empirical naturalism or naturalistic empiricism, or […] naturalistic humanism" (E&N, 1929 1a). However, E&N has always caused some perplexity according to Duff even for Dewey himself, because he wanted to achieve a paradigm shift, but he has failed. "In discussion of E&N at the end of his life, he can be seen struggling again with the paradigm shift he had adumbrated but was unable to achieve." (PT 67) In Duff's opinion, the perplexity is caused by the presence of two incommensurable paradigms in E&N: the sociocentric concept of "meaning" and „and the 'individuocentric' concept of "experience" that necessarily includes only one person." (PT 76) In his paper Duff tries "to make sense of E&N by showing how it can be reformulated as a coherent whole using the sociocentric paradigm; the changes Dewey considered making to it even at the end of his life are discussed and give further support to this strategy." (PT 68)

In the next two papers give manifestation of the aesthetic approach which was one of the most important dimensions of Dewey's late philosophy. In Art as Experience (AE) which was first published in 1934, Dewey has embedded his philosophy of art into his pragmatism and has shown the continuity between our

everyday life experience and the aesthetic experience. Dario Cecchi emphasizes that Dewey goes much further than Kant in connection with the description of the mutual connections between cognition and aesthetic experience: "Aesthetic experience has the function of emphasizing the organizing process of ordinary experience – an organizing power which Dewey qualifies as an aesthetic principle of ordinary experience. As a consequence, we are not interested in aesthetic experience because it refers either to beauty or art. This is due to the fact that aesthetic experience emphasizes the primary cognitive (or aesthetic-cognitive) performance of experience." (PT 89) Barry Allen shows us on the one hand how Dewey connected nature and experience together: „Philosophy has had a tendency to oppose nature and experience. Experience was a superimposed veil, something to be transcended to find nature. Modern science no longer feels this problem. It takes for granted that experience controlled in appropriate ways is the path to facts and laws of nature. Philosophy should rethink its concept of experience accordingly." (PT 93) On the other hand, he goes further and makes it clear that if we want to understand the aesthetic experience then we have to interpret first the general process of experience, as Dewey has written about this relationship in Art as Experience. Allen represents an original pragmatist standpoint, when he says that „the value of knowledge depends on experience" (PT 94) since "knowledge is »a mode of experiencing things which facilitates control of objects for purposes of non-cognitive experiences«" (PT 92).

Last but not least we have chosen a paper in connection with pragmatism's religious dimension. Ulf Zackariasson interprets miracle and he refuses the contemporary apologetic understanding of the phenomenon which dominates the present Anglo-American philosophy of religion, which says that a miracle is an isolated event. He prefers a pragmatist solution, where "miracle" is replaced by "the miraculous," and it is understood as an organic part of the human life: "When combined, the insights sketched pragmatically entail a form of meliorism: adequate responses to life's miraculous character are those that call on us to take action against injustice, suffering, hate, cruelty and inequality, regardless of whether it is directed towards us or others." (PT 108)

In this issue, we have aimed to show how Dewey's philosophical influence is enduring and not nearly exhausted. In fact, the relevance of Dewey's thoughts seems to grow rather than decline, particularly in view of advancing technology and a rising intellectual interest in the position of humanity in an increasingly techno-morph environment. We hope that not only card-carrying pragmatist philosophers but the members of a wider academic audience, especially those interested in science and technology, will also find this project interesting.

I. PRAGMATIST PERSPECTIVES ON SCIENCE AND TECHNOLOGY

USEFUL FOR WHAT?
DEWEY'S CALL TO HUMANIZE TECHNO-INDUSTRIAL CIVILIZATION

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ABSTRACT: The heart of Dewey's call to humanize techno-industrial civilization was to conceive science and technology in the service of aesthetic consummations. Hence his philosophy suggests a way to reclaim and affirm technology on behalf of living more fulfilling lives. He remains a powerful ally today in the fight against deadening efficiency, narrow means-end calculation, "frantic exploitation," and the industrialization of everything. Nonetheless, it is common to depict him as a philosopher we should think *around* rather than *with*. The first section of this essay explores his philosophy of technology and environment in light of Bacon, Heidegger, and Borgmann. Most of the techno-industrial and vocational activities which we pretend are "instrumental," Dewey argued, actually reduce "to a very minimum the esthetic aspect of experiences had in the course of the daily occupation." It is argued that, insofar as cooperative intelligence can guide the direction of technological development, it does not honor contemplative life if we abdicate or downgrade that responsibility. The second section of this essay explores Dewey's instrumentalism as a critique of vicious intellectualism. It is argued that, for Dewey, genuine progress serves the aesthetic dimension of experience. This assertion contrasts with the most common interpretive error among both critics and admirers of Dewey, namely that he is mostly a champion of science. Moreover, critics of Dewey's instrumentalist theory of inquiry often mistake it as (a) an attack on any conception of intrinsic value, or (b) an attempt to collapse the value of means into the value of ends. In Dewey's view, we habitually look for progress in the wrong place because we carry around with us some big idea of a final and ultimate good for measuring it. In his view, the ameliorative expansion of significance that emerges from our dealings with perplexing situations is the only place progress can really be found.

In his 1919 lectures at Tokyo University, published in 1920 as *Reconstruction in Philosophy*, John Dewey suggested that the foremost global philosophical challenge is to reconcile East Asian contemplative–aesthetic attitudes with Euro-American scientific–experimental attitudes. During two and a half years in East Asia and in subsequent work, Dewey made early steps in the direction of a global philosophical outlook by promoting a fusion of aesthetic refinements with experimentalism.

Dewey's aim, as he made explicit in Japan, was to set forth the possibility and method by which techno-industrial civilization might be humanized. Without the methods of science, he argued, we drift at the mercy of natural forces. But without lives rich in aesthetic consummations, he portended in *Reconstruction in Philosophy*, we "might become a race of economic monsters, restlessly driving hard bargains with nature and with one another, bored with leisure or capable of putting it to use only in ostentatious display and extravagant dissipation" (MW 12:152).[1]

Dewey's Philosophy of Technology and Environment: Beyond Bacon, Beyond Heidegger

"The solution to any problem from technology isn't less technology but more technology," said a cofounder of *Wired* magazine.[2] Dewey's likely response to this bold assertion depends on the meaning of technology. Under the economic and cultural conditions in which industrial technology currently operates, this blanket endorsement is sadly misguided. Dewey remains a powerful ally today in the fight against deadening efficiency, narrow means-end calculation, "frantic exploitation" (LW 5:268), and the industrialization of everything. He was a scathing critic of blind and ill-considered "technology as it operates under existing political-economic-cultural conditions" (LW 15:190), as he wrote in *The Humanist* in 1945.[3]

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[1] Citations of John Dewey's works are for the critical edition published by Southern Illinois University Press under the editorship of Jo Ann Boydston. Citations give series abbreviation followed by volume number and page number. For example: (LW 10:12) is page 12 of *Art as Experience*, which is published as volume 10 of *The Later Works*. Series abbreviations for *The Collected Works of John Dewey*: EW *The Early Works* (1882–1898), MW *The Middle Works* (1899–1924), LW *The Later Works* (1925–1953).

[2] Kevin Kelly in "Marketplace," National Public Radio, October 19, 2010. http://www.marketplace.org/shows/marketplace/marketplace-october-19-2010 ; accessed May 17, 2016.

[3] Cf. Dewey, *Unmodern Philosophy and Modern Philosophy*, ed. Phillip Deen (Carbondale, IL: Southern Illinois University Press, 2012), 344.

Despite current narrow usage, all tool- or knowledge-based mediation of our environments is in a broad sense technological, if the term is approached along ancient Greek lines as processes that take place by means of human invention.[4] Technology in this inclusive sense, Dewey observed in "What I Believe," "signifies all the intelligent techniques by which the energies of nature and man are directed … ; it cannot be limited to a few outer and comparatively mechanical forms" (LW 5:270). This broad sense suggests a way to reclaim and affirm technology on behalf of living more fulfilling lives.

In his 1969 book *Agrarianism in American Literature*, Thomas Inge expressed a widely held view: technology corrupts while nature redeems.[5] This notion dualistically sets technology in opposition to nature. A Dewey-inspired pragmatic approach rejects this persistent tendency to pit human intelligence in an antagonistic relation to nature, asks us to get clearer about our ends and values, and reflects on which technological innovations are functional or dysfunctional means to our most valuable ends.

We are always entangled in the hazy assumptions of our own day and the uninspected doctrines of bygone days. Economist Paul Krugman has lately called such bygone doctrines "zombie ideas," creeds of the living dead.[6] The habit of conceiving technology in an antagonistic way, or as an alien visitation, is among the most disturbingly consequential of our outdated zombie ideas.

If any outdated dualism foreshortens much of the history of American environmental thought, it is the sharp separation of human actors from pristine nature. For example, until relatively recently the prevailing tendency among wilderness advocates in the United States was to speak and write as though human inventiveness and technology are alien Euro-American intruders upon the natural scene. Nature, it was long held, is exemplified in wilderness, sharply set over and against things urbane, domestic, and agricultural.

This dualistic notion was intelligible in its original context. The classic idea of harmonious nature, married to the persistent (anti-Darwinian) Aristotelian doctrine that nature does nothing in vain, fed a nineteenth-century romantic backlash against the modern Cartesian schism of values from nature. In the United States, romantic tendencies toward the revalorization of nature shone through the transcendentalists Emerson and Thoreau and found an environmental champion in John Muir's influential view of nature as a sympathetic home that ultimately requires little adaptation or transformation.

On Muir's romantic "preservationist" view—in contrast with the narrowly utilitarian "conservationist" view advanced by Gifford Pinchot, founder of the United States Forest Service in 1905—things in nature are ultimately what they ought to be. This is a pleasant thought, until we remember with Dewey that we have intellectually fashioned, reified, and idolized a harmonious and complete Nature in the image of our own greatly magnified human ideals. It is easier to serve and accommodate, without reshaping, a natural world that we believe has a final interconnected order, a single ultimate purpose, and an infinite stock of goodness. Our world, however, is dynamic and still emerging, not perfected.

We did not begin "playing God" with the advent of nuclear technology or genetic modification. If playing God means elevating humans above nature, then Western tradition has cast human minds and human knowledge in this worrisome transcendental role all

[4] Larry Hickman emphasizes technological management, not control, and he argues that for Dewey technology was a way of engaging the world through the tools of inquiry. See, for example, Hickman's "Nature as Culture: John Dewey's Pragmatic Naturalism," in *Environmental Pragmatism*, ed. Andrew Light and Eric Katz (London: Routledge, 1996).

[5] M. Thomas Inge, *Agrarianism in American Literature* (New York: Odysseus Press, 1969). In Paul Thompson, *The Agrarian Vision* (Lexington: University Press of Kentucky, 2012), 7.

[6] Paul Krugman, "Rubio and the Zombies," *The New York Times*, February 14, 2013, http://www.nytimes.com/2013/02/15/opinion/krugman-rubio-andthe-zombies.html?_r=0; accessed May 17, 2016.

along. Since the seventeenth century, philosophers have increasingly downplayed or dismissed the old supernaturalism while retaining the damaging sense of separateness from nature. They have thereby increased the antagonism that pits us against nature. These intellectual habits have outlived whatever usefulness they once had. Dewey's alternative approach was to reclaim technology as part of our cultural inhabitation of nature. He suggested a way to extol science and its technological applications, at least in the abstract, as essential to actualizing our most humane ideals. For in Dewey's view, the defensible aim of science and technology is to help make our lives together more significant and resilient.

By the 1940s Dewey even favored the word technology—if taken in his very broad sense—over instrumentalism to convey his operational view of scientific knowledge (LW 15:89). So taken, instead of calling a referendum on technology, we should strive to alter the current conditions in family, education, government, and industry in which our technologies are currently developed and deployed.

It is common to cherry-pick statements that depict Dewey as an excessive technocrat, a philosopher we should think *around* rather than *with*. Dewey's circa 1920s confidence in the humanizing arts of technological control at times strains our twenty-first-century eyes fatigued by resource depletion, oil wars, climate change, and American swagger. In his historical overview of the modern mechanical worldview in *Reconstruction in Philosophy*—which along with *The Quest for Certainty* contains his best technocratic cherries to pick—Dewey celebrated technologies implicated in some of our most serious contemporary environmental problems. For example, he wrote approvingly: "When chemical fertilizers can be used in place of animal manures, when improved grain and cattle can be purposefully bred from inferior animals and grasses, when mechanical energy can be converted into heat and electricity into mechanical energy, man gains power to manipulate nature" (MW 12:120).

A twenty-first-century nose catches occasional whiffs of Francis Bacon's "empire over nature" whenever Dewey overindulges in admiration for the industrial revolution and its progressive actualization of Bacon's watchword: "knowledge is power." Bertrand Russell even presented Dewey as a "power" philosopher promoting a socialized and technologically enhanced version of Nietzsche's will-to-power.[7] Russell's pronouncements, though they remain very influential, never reflected any serious attempt to understand Dewey's positions.

Through the work of philosophical reconstruction, Dewey sought to "permit the Baconian aspirations to come to a free and unhindered expression" (MW 12:108). Bacon's active and operative inductive method of the 1620s of course heralded the empiricism of the eighteenth century and, eventually, the experimental methods that gradually took hold in the nineteenth century. It was not a mistake, Dewey wrote in *Reconstruction in Philosophy*, to banish Aristotelian final causes from nature and to shift discussion about purposes to "factors in human minds capable of reshaping existence" (MW 12:120). Dewey baldly stated that "A natural world that does not subsist for the sake of realizing a fixed set of ends is relatively malleable and plastic; it may be used for this end or that" (MW 12:120).

So, Dewey shared Bacon's commitment to advancing human welfare through scientific knowledge. But he thoroughly rejected Baconian *philosophy* as entangled in a tragically flawed view of human intelligence as "an exaggeratedly self-sufficient Ego" (MW 12:108). Bacon conceived human experience as dualistically set over and against nature, which must be subjugated. Hence Bacon valued and obeyed nature only inasmuch as this was necessary to extract secrets for humane ends. In Dewey's opposing view, as expressed in arguably his most Baconian book, experimental intelligence can

[7] Russell suggests that this is related to Dewey's Hegelian roots. On this controversy, see Tom Burke, *Dewey's New Logic: A Reply to Russell* (Chicago: University of Chicago Press, 1998), 21ff.

indeed transform the world and reshape "those phases of nature and life that obstruct social well-being" (MW 12:108). *But* we thwart our own best aims when we fail to understand that human initiative, inventiveness, and labor are themselves natural events for which we are responsible. Technology and intelligent innovation does not descend from the heavens or from a psychical inner realm separated from our bodies and cultures. Sidney Hook summed up this humane, naturalistic spirit of Dewey's philosophy: "He has shown with patient detail that intelligence is at home in the natural world and not a mysterious intruder bringing its own standards from a realm beyond the skies."[8]

Dewey's existential attitude of "natural piety" in *A Common Faith* (1934) was an attempt to reconcile what is best in Euro-American romanticism with our scientific outlooks toward nature. Any appraisal of the shortcomings of Dewey's own natural piety, such as his systematic failure to appreciate the extent to which parts of nonhuman nature are looking back at us with awareness, should also recall the deep imprint of Emerson upon his thinking (e.g., MW 3:184-192). Dewey's pragmatism was an outgrowth of the American philosophical tradition, a fact that happily complicates any caricature of him as blithely celebrating what American environmental historian Donald Worster has helpfully called a "Linnaean" model of the exploitation of nature.[9]

Heidegger, whose philosophy of technology is often cited in opposition to Dewey, contended that means–end reasoning inevitably overreaches because it puts us in a controlling and "calculative" mode that hides aspects of the world. The central lesson of Dewey's *Experience and Nature* complements Heidegger's insight: Whatever is made visible by intelligence is always situated within the invisible. Yet unlike Heidegger (on a standard reading), Dewey nowhere relegates engagement with practical human problems to second-class status. Dewey wrote, for instance:

> The visible is set in the invisible; and in the end what is unseen decides what happens in the seen; the tangible rests precariously upon the untouched and ungrasped. The contrast and the potential maladjustment of the immediate, the conspicuous and focal phase of things, with those indirect and hidden factors which determine the origin and career of what is present, are indestructible features of any and every experience. (LW 1:44)

With his rich ecological imagination, Dewey perceived that we typically fail to see the visible in light of the invisible, to intellectually map what we are focusing on so as to include the constitutive, enveloping situation or complex system. But in contrast with Heidegger, Dewey bitingly criticized all holdovers of the disengaged medieval *vita contemplativa* as aristocratic philosophies that maintain "institutionalized class interest" (LW 15:191).[10]

Albert Borgmann has developed Heidegger's insights to explore the way our lives become dominated by efficient devices.[11] For example, most of us in industrialized societies pay bills to run a furnace, replacing the seasonal rhythms that once centered on the hearth. Some devices have improved our quality of life, but we have also lost meaning-making "focal practices" that brought coherence, significance, and a sense of place. In his reconstruction of an early nineteenth-century boy's diary, *Diary of an Early American Boy*, Eric Sloane writes: "Few of us today

[8] Sidney Hook, *John Dewey: An Intellectual Portrait* (New York: John Day Co., 1939), 3.
[9] Donald Worster, ed., *Nature's Economy: A History of Ecological Ideas* (Cambridge, UK: Cambridge University Press, 1994), 53ff.
[10] For example, see Rorty's comparison of Heidegger and Dewey on the latter's treatment of "philosophies as if they were means to the enhancement of human life" (Richard Rorty, *Consequences of Pragmatism* [Minneapolis, MN: University of Minnesota Press, 1982], 50).
[11] On Borgmannn's critique, see Paul B. Thompson, *The Agrarian Vision* (Lexington, KY: University Press of Kentucky, 2010), ch. 5, "Farming as Focal Practice." For a critique of Borgmannn and Heidegger from the standpoint of Dewey's philosophy of technology, see Larry A. Hickman, *Pragmatism as Post-Postmodernism: Lessons from John Dewey* (New York: Fordham University Press, 2007), 92–111.

would think of wood splitting as anything but a tedious chore, but when one learns to do it well, there is a certain joy involved. Striking your axe in an exact spot, watching a log divide miraculously into segments and squares with single blows, or even learning to stack a simple pile of wood correctly, gives pleasure to the art of woodsmanship."[12]

We should strive to conserve practices, ideas, and things that are functioning well. If in a specific context the aesthetic richness we directly experience as fulfilling in the course of daily occupations and interactions—for example, splitting wood and building fires—is reduced by a proposed technological device, then in that context the device may be a dysfunctional means to our most valuable ends. (Of course this depends on the situation and on our overall set of ends.) Our global fixation on new and ever-more-efficient devices has on the whole been blind, ill-considered, and exclusive. Quality of life has too often been eroded and contracted rather than enhanced and secured. Insofar as we establish democratic processes to formulate and manage problems by examining means in light of ends while reexamining ends in light of proposed means, we proceed intelligently. The direction of technological development is not an inevitable forward march. Insofar as cooperative intelligence can guide it, in Dewey's view it does not honor contemplative life if we abdicate or downgrade that responsibility.

Dewey argues in the newly recovered and published "lost" book, *Unmodern Philosophy and Modern Philosophy* (2012), that most of the techno-industrial and vocational activities which we pretend are "instrumental" actually reduce "to a very minimum the esthetic aspect of experiences had in the course of the daily occupation." We enjoy the anticipation of getting paid, but the way we make our living is "isolated from direct consummation and fulfillment."[13] To respond that this is "just the nature of work" is a sign of neither practical realism nor wisdom. In *Experience and Nature*, Dewey clarified the tragic cost of an industrial imagination that idolizes efficient production and affordable consumption without taking stock of their collateral consequences:

> The existence of activities that have no immediate enjoyed intrinsic meaning is undeniable. They include much of our labors in home, factory, laboratory, and study. By no stretch of language can they be termed either artistic or esthetic. … So we optimistically call them "useful" and let it go at that. … If we were to ask useful for what? we should be obliged to examine their actual consequences, and when we once honestly and fully faced these consequences we should probably find ground for calling such activities detrimental rather than useful. (LW 1:271–72)

Our problem, then, is not instrumental intelligence, but mechanically instrumental activity. Larry Hickman helpfully engages Dewey to criticize the latter as a narrowing product of "straight-line" instrumentalism that "works toward fixed goals, heedless of the collateral problems and opportunities that arise during the thick of deliberation."[14]

[12] Eric Sloane, *Diary of an Early American Boy* (Mineola, NY: Courier Dover Publications, 2008), 31.

[13] John Dewey, *Unmodern Philosophy and Modern Philosophy*, ed. Phillip Deen (Carbondale, IL: SIU Press, 2012), 344. Dewey's robust philosophy of technology is beginning to receive a new round of scholarly attention in light of insights in this book (see especially 203–51).

[14] Hickman, "Nature as Culture: John Dewey's Pragmatic Naturalism," 50. Other relevant works by Hickman include *Philosophical Tools for Technological Culture: Putting Pragmatism to Work* (Bloomington, IN: Indiana University Press, 2001); "Dewey's Theory of Inquiry," in *Reading Dewey: Interpretations for a Postmodern Generation*, ed. Larry A. Hickman (Bloomington, IN: Indiana University Press, 1998); and his earlier defense of a pragmatic view of technology in *John Dewey's Pragmatic Technology* (Bloomington, IN: Indiana University Press, 1990), 13ff. In contrast with Hickman's reading, Robert Brandom presents Dewey as a materialist whose instrumentalism pivots on subjective satisfaction of desires. See Robert B. Brandom, *Perspectives on Pragmatism* (Cambridge, MA: Harvard University Press, 2011), 42, 51–51, 72–77. Brandom's reading differs markedly from my own.

Dewey argued that blanket criticism of means–end or technological reasoning—such as the now-popular notion in some circles that such reasoning is invariably exploitative—does little "to free experience from routine and from caprice" (MW 10:45). He sought to liberate human activities from an anesthetizing status quo, in part by advancing an educational vision of forward-looking, aesthetically funded intelligence that imaginatively projects new ends. Ends fixed in advance and quarantined from scrutiny, such the worship of efficiency, can impoverish the art of inquiry.[15] Through imaginative engagement we see extant conditions in light of novel possibilities so that we might guide the world's transformation by taking an "excursion from the actual into the possible" (LW 8:198). This is part of Dewey's picture of technological innovation and instrumental intelligence that have intrinsic worth, that is, in which means are valued for themselves and aesthetically enjoyed (MW 10:45). It is a perverse irony that what goes by the name of progress is often purchased by sacrificing the very goods this "progress" is defensibly a means toward.[16]

Dewey's Instrumentalism vs. Intellectualism: Progress Serves the Aesthetic

Perhaps the most common interpretive error among both critics and admirers of Dewey has been to read him mostly as a champion of science. This misreading marginalizes Dewey's reflections on the primacy of the qualitative in works such as *Experience and Nature*, "Qualitative Thought," and *Art as Experience*. Dewey repeatedly criticized the "intellectualist's fallacy" that reduces all experiencing to knowing. The "real" or "nature" cannot be boiled down to the distinct objects of scientific study alone; nature's emergent potential is also disclosed by artistic-aesthetic and practical experiences. The Western philosophical tradition has singled out knowing as quintessentially human, as though it is less essentially human to experience things practically or aesthetically. We have correlatively reduced nature to the distinct and explicit traits by which things are known.

This "vicious" intellectualism, as James called it, is a bad intellectual habit that we need to get over. Not only does it tend to reduce nature to inert mechanisms "out there," a tired relic of pre-ecological European philosophies, but it also obscures or excludes the primary characteristics through which things are used, enjoyed, loved, and shunned. Moreover, when we fail empirically to note that nature is charged with hidden potential, then human imagination and creativity are left to seek refuge in a private and occult subjective realm discontinuous with natural events and forces. That which is implicit and noncognitive is relegated to the private and non-natural inner space of "mind" set over and against the "real" traits of nature, as though mind and culture are not themselves natural outcroppings.

In opposition, Dewey asserted that "what is really 'in' experience extends much further than that which at any time is known" (LW 1:27). Things are dealt with, used, enjoyed, and endured (LW 1:28). A *genuinely* empirical philosophy should not ignore the primary originating context that gives urgent import and intent to what is judged and scientifically known. This qualitatively rich primary context—which Dewey in *Experience and Nature* called "primary experience"—makes scientific knowledge and technology themselves biologically explicable as ways of enriching what Dewey called human "action-undergoing" (LW 1:28–30).

When we ask which scientific questions are most worthy of investigation, and which technologies are actually worth developing, we broach questions that implicate our highest ideals. What should count as progress? Ultimately, what is our science, technology, and information most defensibly a means toward? In response, Dewey emphasized the immediately possessed meanings and enjoyments that characterize all

[15] On inquiry as art, see Jim Garrison, *Dewey and Eros: Wisdom and Desire in the Art of Thinking* (New York: Teachers College Press, 1997).

[16] I am grateful to Routledge Press for permission to draw from the manuscript of my book *Dewey* (New York: Routledge, 2015) in the Routledge Philosophers series.

experiences developed toward fulfillment (LW 10:42-50). He consistently condemned the still-dominant utilitarian-industrial outlook that narrows the affective horizon of immediate experience, to the detriment of meaningful, value-rich, and responsive lives. Science, which Dewey construed broadly to encompass all of the predominantly intellectual endeavors engaged in an experimental method of inquiry—regardless of the mother tongues of those doing the knowing—is a central art that is "auxiliary to the generation and utilization of other arts" (LW 10:33). In a footnote to *Art as Experience*, Dewey cross-referenced an earlier remark from *Experience and Nature*, doing the scholarship for us to ensure we do not mistake or subvert his meaning. In *Experience and Nature* he had written:

> The only distinction worth drawing is not between practice and theory, but between those modes of practice that are not intelligent, not inherently and immediately enjoyable, and those which are full of enjoyed meanings. When this perception dawns, it will be a commonplace that art—the mode of activity that is charged with meanings capable of immediately enjoyed possession—is the complete culmination of nature, and that "science" is properly a handmaiden that conducts natural events to this happy issue. (LW 1:269)

Hence, for Dewey, science (when taken broadly) is an operative art whose proper role is to serve the aesthetic (when taken broadly) (LW 10:33; LW 1:269). This statement hinges on Dewey's sense of the objective and revelatory aspects of the aesthetic. Both as a natural phase of ordinary life and as developed in formalized arts, the aesthetic quality of an experience "is attained only when, by some means, terms are made with the environment" (LW 10:23). As Jeffrey Petts succinctly captures Dewey's unconventional sense, "aesthetic experience is a critical, adaptive felt response, revealing value in the world."[17]

[17] Jeffrey Petts, "Aesthetic Experience and the Revelation of Value," *Journal of Aesthetics and Art Criticism* 58, no. 1 (2000): 61–71.

Critics of Dewey's "instrumentalist" theory of inquiry nonetheless often mistake it as (a) an attack on any conception of intrinsic value, or (b) an attempt to collapse the value of means into the value of ends. The latter misreading has long baffled careful readers of Dewey's ethical and political works, which pivot on the idea that we must state our objectives—for example, political ends such as justice, equality, and liberty—in terms of the social means we plan to use to attain them. Then we must dramatically rehearse the whole set of resulting consequences (see *Theory of Valuation*, LW 13:226-236). In contrast with 1930s Marxists, Dewey's pragmatist political theory, as expressed in works such as *Liberalism and Social Action* (1935), was accordingly a radicalism for grown-ups—those with the courage and patience to secure the "democratic means to achieve our democratic ends" (LW 11:332), as he wrote in his 1937 critique of Soviet exile Leo Trotsky.

The former popular misreading, namely that Dewey's instrumentalism was somehow an attack on intrinsic value, has led imperceptive critics to write as though Deweyans might at any moment grab Yo-Yo Ma by the collar and demand to know "What are you doing that for?" There is indeed a purpose to playing the cello. It is to enhance this immediate (often shared) experience. The cello is "instrumental" to just that, the playing and listening, whatever other value it may have by way of showcasing talent or garnering a livelihood. Contrary to attributions by influential critics like Brand Blanshard, Dewey did not reject the idea of immediate enjoyments such as growth, joyfulness, learning, love, or listening to a cello being valued without conscious reference to further purposes. He rejected the notion of intrinsic value only (1) in the Kantian sense in which the end is valued unconditionally and hence is beyond appraisal, good without qualification, or (2) in the sense in which there are goods that *in no way* enrich future experience, which is hard to imagine.

In *Art as Experience*, Dewey clarified his instrumentalism in light of this lifelong emphasis on the felt significance of immediate experience:

> What is intimated to my mind, is, that in both production and enjoyed perception of works of art, knowledge is transformed; it becomes something more than knowledge because it is merged with non-intellectual elements to form an experience worthwhile as an experience. I have from time to time set forth a conception of knowledge as being "instrumental." Strange meanings have been imputed by critics to this conception. Its actual content is simple: Knowledge is instrumental to the enrichment of immediate experience through the control over action that it exercises. (LW 10:294)

Instruments invariably imply purposes, and hence some conception of progress toward those purposes. Perhaps Dewey's clearest discussion of progress was in the concluding section of *Human Nature and Conduct*. The gist of his view is that we habitually look for progress in the wrong place because we carry around with us some big idea of a final and ultimate good (see MW 14:198). This struck Dewey as analogous to a physician who seeks to heal patients in light of some static, complete, and universal ideal of perfect health, instead of experimentally aiding living processes of recovering (MW 14:196).

Witness, for example, the quest today by well-meaning economists for a single, predetermined metric that we should always follow to optimize policy outcomes. The unexamined assumption is that policy experts just set the facts in front of their minds' eyes, apply the right principles, rules, or metrics, and reach an optimized outcome that is ready-to-implement. This would be fine if, from the start, there had been only one legitimate direction in which to be tugged; or if the problem eliciting investigation had been merely psychological, or simply intellectual, not inextricably folded into the existential situation at hand. However, situational conflicts are not merely specious, and there is seldom a single correct rational judgment that will sweep the path to progress clear. Situational conflicts are rarely so superficial as to evaporate upon analysis.

Most widely shared problems today are "wicked" rather than benign, in the contemporary sense that (1) there is no single definitive solution and (2) the way we formulate a problem and appraise success in dealing with it are themselves at issue. Dewey's experimental approach, as Bryan Norton wisely emphasizes in *Sustainable Values, Sustainable Change* (2015), was always more improvisational, pluralistic, adaptive, social, and nimble-footed.[18] Dewey sought a practical footing informed by conflicting, legitimate claims in complicated situations. These forces, which inhere in the situation and not just in our vexed psyches, tug us in incompatible directions. We must deal with them if we are to learn our ways together—locally, regionally, nationally, and globally—toward our best ideals. Indeed, Dewey implied that the need to manage such divergent forces is what gives practical decision making its richness and vitality (see "Three Independent Factors in Morals," LW 5:280-281).

Achievements and progressive innovations in our dealings with intrinsically messy problems are real, and they are to be celebrated. But they are not measurable by any rigid "general formula of progress" (MW 14:196). Dewey rejected the two most influential variations of the misguided quest for an absolute standard by which to measure progress: 1) the juvenile notion that progress toward our ideals "means a definite sum of accomplishment which will forever stay done, and which by an exact amount lessens the amount still to be done… on our road to a final stable and unperplexed goal," and (2) the popular though foolishly pessimistic notion that all achievements are negligible in comparison to ultimate and perfect goods (MW 14:197-198).

Even a Deweyan aesthetic imperative to act so as "to increase the meaning of present experience" (MW 14:196) may, he argued, become a rigid standard that distracts people's moral imaginations from "the concrete elements entering into the situations in which they have

[18] Bryan Norton, *Sustainable Values, Sustainable Change* (Chicago: University of Chicago Press, 2015). On "wicked problems," see especially Norton, ch. 2. On Dewey and improvisational intelligence, cf. Steven Fesmire, *John Dewey and Moral Imagination: Pragmatism in Ethics* (Indiana University Press, 2003).

to act" (LW 5:288). Yet the ameliorative expansion of situations is the only place progress can really be found. Our best twenty-first century ideals—such as living healthier, more just, and more sustainable lives—make a positive difference only when we are inspired and stimulated to "study the needs and alternative possibilities" within a particular situation (MW 14:196). Meanwhile, every achievement complicates things and launches us upon a new experiment in living, a new "experimental adventure." Hence, Dewey concludes: "From the side of what has gone before achievement settles something. From the side of what comes after, it complicates, introducing new problems, unsettling factors" (MW 14:197).

In sum, Dewey conceived science and technology in the service of the revelatory significance of achieving something, that is, in the service of aesthetic consummations. This was the heart of his call to humanize techno-industrial civilization.

WILL BRAIN SCIENCE UNDERSTAND AND MODIFY MORALITY? A NEUROPRAGMATIC AND NEURO-ECOLOGICAL APPROACH TO NEUROETHICS

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ABSTRACT: We elaborate a pragmatic and contextualized outlook for comprehending the tasks and methods of the new interdisciplinary field of neuroethics. Within that outlook, we specifically highlight crucial features to the current understanding of brain processes responsible for moral cognition and moral judgment. Neuroethics will also foster speculations about the wider implications of revolutionary paradigms and novel technosciences able to affect and modify moral cognition. We recommend that neuroethics should stay pragmatically integrated so that better-informed approaches, utilizing all relevant interdisciplinary input, can consider what could possibly count as genuinely "moral" enhancements. Neuroethical deliberation should rise above local conventionality and a single social ethos, to instead survey the dynamic scope of human cognitive capacities, and the rich cultural diversity of human self-understandings. In its appreciation for the human as a bio-psychosocial organism, neuroethics engenders an interdisciplinary approach (conjoining anthropology, sociology, economics, and political science) to depict and address ethical issues within the contexts in which human activities are conducted. Neuroethics as a discipline – and in its methods, approaches, and practices – should embody and enable greater human self-understanding, and improve public deliberations over the many dimensions of life that we treasure.

The term "neuroethics" was first coined to point to ethical issues arising in clinical neurology and research in the brain sciences. Subsequently, the discipline and practices of neuroethics have developed a broader purview. According to neuroscientist and philosopher Adina Roskies, in its two foci, or so-called "traditions," the field addresses both the "neuroscience of ethics" and the "ethics of neuroscience."[1] The first focus points to expanding attempts to engage neuroscientific tools and techniques to explain how people can be ethical: how and why individuals process information relevant to morality and form their own moral judgments in response. The second focus points to urgent concerns about whether neuroscientific research and technoscience can be ethical: whether the research programs and applications of neuroscience can satisfy ethical values and principles.[2] In this article we advocate the position that views taken on the "neuroscience of ethics" must also look at matters through the lens of neuroethics' second focus, "the ethics of neuroscience," and in so doing, be scrutinized for the validity, viability and ultimate meaning and value of any and all approaches used. In light of this, we judge that the task of developing a "neuroscience of ethics" was originally given a simplistic description and unclear assignment.

We posit that neuroscientific inquiries into morality are better described as studies of those brain structures and functions that are involved in the ways that moral thoughts (including emotions) are processed and engaged in various actions in environmental circumstances. We would not deny or refute the importance of this approach; there is utility and appeal to a pragmatically neuroscientific understanding of moral cognition. But we go further in our assertion that because moral cognition itself plays only a coordinating and not a commanding role over human conduct, any attempt to study the coordination of conduct for managing social contexts calls for an ecological understanding of morality's proper role in human lives.

We regard this broader viewpoint upon neuroscience's investigations into morality both as an application of "neuro-pragmatism," and also as a paradigmatic example of "neuro-ecology." Although such terms throw more neologisms into the fray, we find that they accurately describe how neuroscientific inquiries should be conducted and what neuroscience is revealing about the nature of moral cognition and actions.[3] After

[1] Adina Roskies. "Neuroethics for the new millennium," *Neuron* 35 (2002): 21-23. Also consult N. B. Kohls and Roland Benedikter, "The origins of the modern concept of 'neuroscience'," in *Scientific and Philosophical Perspectives in Neuroethics*, ed. James Giordano and Bert Gordijn (Cambridge, UK: Cambridge University Press, 2010), pp. 37–65.

[2] See Judy Illes, and Stephanie Bird, "Neuroethics: A modern context for ethics in neuroscience," *Trends in Neuroscience* 29 (2006): 511–517.

[3] On pragmatic approaches, see the following works: James Giordano, "Neuroethics: Traditions, Tasks and Values," *The Human Prospect* 1.1 (2011): 2–8; John R.

setting out the current state of research in the neuroscience of moral cognition, we transition to a discussion of the realistic possibilities for manipulating the neurological processes putatively responsible for moral thought and behavior. Could the manipulation of neural mechanisms of moral judgment give rise to a new technoscience of and for morality? The standpoints of neuropragmatism and neuro-ecology afford severe reservations that deflate optimistic hopes for improving people's morality using novel technosciences. Neither the neuroscientific study of human morality nor the role of morality within society could support or encourage such hopes.

(Attempts at) Mapping the "Moral Brain"

Studies have employed a variety of neurotechnologically-based assessments in attempts to depict what brain structures and functions are involved in particular types of moral and ethical thoughts and behaviors.[4] Such neurotechnologies currently used include the following:

> Quantitative electroencephalography (qEEG) and/or magnetoencephalography (MEG) - to evaluate electrical and magneto-electrical activity in cortical layers and pathways.
>
> Functional magnetic resonance imaging (fMRI) - to obtain proxy depiction of active regions/sites in brain through determinations of blood oxygen level demand (BOLD) signals evoked by differential engagement of neural tissues.
>
> Diffusion tensor and kurtotic imaging (DTI/DKI) - to depict white matter tracts and directional network activity through magnetic detection of anisotropic signals of water molecules within the axonal processes of neurons.

Current evidence reveals that a number of brain structures can be involved in what are construed to be moral decisions.[5] These structures include:

> Hippocampus: Involved in memory functions, and in relating memory to understanding the emotions of others.
>
> Parts of the amygdala: Engaged in the regulation of emotional arousal.
>
> Ventromedial/ dorsolateral prefrontal cortex (vmPFC and DLPFC): Subserve discriminations of the emotional salience of various environmental stimuli and interpreting behaviors and emotional states of others.
>
> Posterior cingulate cortex (PCC) and precuneus: Involved in the interpretation of bodily sensations, what has been termed "self-referential cognition.
>
> Temporo-parietal junction (TPJ): Functions as a key network component of regulating social emotions and behaviors.

Shook and Tibor Solymosi, "Neuropragmatism: A Neurophilosophical Manifesto," *European Journal of Pragmatism and American Philosophy* 5 (2013): 212–233; and John R. Shook and Tibor Solymosi, eds., *Pragmatist Neurophilosophy: American Philosophy and the Brain* (London: Bloomsbury, 2014). Relating to neuro-ecology, consult: James Giordano and Roland Benedikter, "An Early - and Necessary - Flight of the Owl of Minerva: Neuroscience, Neurotechnology, Human Socio-cultural Boundaries, and the Importance of Neuroethics," *Journal of Evolution and Technology* 22.1 (2012): 14–25; and James Giordano, Roland Benedikter, and N. B. Kohls, "Neuroscience and the Importance of a Neurobioethics: A Reflection upon Fritz Jahr," in *Fritz Jahr and the Foundations of Integrative Bioethics*, ed. A. Muzur and H.-M. Sass (Münster and Berlin: LIT Verlag, 2012), pp. 267–280.

[4] Matt Carter and Jennifer C. Shieh, *Guide to Research Techniques in Neuroscience*, 2nd edition (New York: Academic Press, 2015).

[5] J. S. Borg, C. Hynes, J. Van Horn, S. Grafton, and W. Sinnott-Armstrong, "Consequences, action and interaction as factors in moral Judgments: An fMRI investigation," *Journal of Cognitive Neuroscience* 18 (2006): 803–817. Liane Young, Marc Hauser, et al., "Disruption of the right temporoparietal junction with transcranial magnetic stimulation reduces the role of beliefs in moral judgments," *Proceedings of the National Academy of Sciences* 107.15 (2010): 6753–6758. F. A. Cushman, L. Young, and J. Greene, "Multi-system moral psychology," in *The Oxford Handbook of Moral Psychology*, ed. J. Doris et al. (Oxford: Oxford University Press, 2010), pp. 46–69. G. Berns et al., "The price of your soul: neural evidence for non-utilitarian representation of sacred values," *Philosophical Transactions of the Royal Society–Biology* 367 (2012): 754–762.

However, what is becoming clear is that moral cognition, and decision-making about moral matters do not seem to be much different from any other kind of higher-level cognition, at least on a neurological level.[6] Like other forms of judgments and actions, moral decisions and behaviors involve memories, relating to others, reinforcements, anticipation of and response to reward and punishment, and emotions of pleasure, discomfort, and pain.

Indeed, the aforementioned neuroanatomical areas are only some prominent sites within the networked activity of the brain, which is engaged in many kinds of cognitive and behavioral processes in addition to those involved with morality. As far as cognitive neuroscience can reveal, the idea of a "moral center" somewhere in the brain is simply untrue. There is no "*nucleus moralis*," a dedicated "moral pathway," or even a specific "moral network" anywhere in the brain. So, at most, researchers can investigate and define diverse and diffuse arrays of neural systems, functioning in yoked and/or parallel ways, which contribute to moral performances. Current evidence demonstrates that those brain areas are not uniformly activated when engaging in morally-relevant thoughts, or deciding upon moral judgments and actions.[7]

Still, there are mechanisms and processes that are common to all. Every decision and action – whether considered to be moral or otherwise – involves a perception of the circumstances and actors involved, some orientation to a prior event that was similar or referential to the present situation, recall of actions (of one's self and others) – and their consequences, and recollection of the emotions that the actions and outcomes evoked. These functions are developed as a result of interactions and experiences throughout the life span.[8]

Morality in Context

While humans are not "born moral," we do appear to possess a degree of sensitivity and capability to respond to interpersonal cues, and to learn from others and the social environment. Infants and small children speedily establish a proto-moral psychological foundation, and acquire a sense of "good," "bad" "right," and "wrong" from an increasing circle of others (including family, friends, strangers, and the not-so-friendly). That proto-moral sense expands during childhood through more complex interactions with social environs; the communities in which we live, the formal and informal institutions encountered, and the local mores and norms that we learn to respect and emulate.

Functional patterns of brain activity involved in moral-type thoughts, and resulting decisions and behaviors, appear to differ based on a number of individual factors from one's age and gender to inter-personal perspective and social status.[9] Although

[6] K. Wunderlich, A. Rangel, and J. O'Doherty, "Neural computations underlying action-based decision making in the human brain," *Proceedings of the National Academy of Sciences* 106 (2009): 17199–17204. J. Verplaetse, V. DeSchrijver, and J. Braeckman, eds., *The Moral Brain: Essays on the Evolutionary and Neuroscientific Aspects of Morality* (New York: Springer; 2009). J. Greene, "The cognitive neuroscience of moral judgment and decision-making," in *The Moral Brain: A Multidisciplinary Perspective*, ed. J. Decety and T. Wheatley (Cambridge, MA: MIT Press, 2015), pp. 197–220.

[7] K. Wunderlich, A. Rangel, and J. O'Doherty, "Neural computations underlying action-based decision making in the human brain," *Proceedings of the National Academy of Sciences* 106 (2009): 17199–17204. J. Verplaetse, V. DeSchrijver, and J. Braeckman, eds., *The Moral Brain: Essays on the Evolutionary and Neuroscientific Aspects of Morality* (New York: Springer; 2009). J. Greene, "The cognitive neuroscience of moral judgment and decision-making," in *The Moral Brain: A Multidisciplinary Perspective*, ed. J. Decety and T. Wheatley (Cambridge, MA: MIT Press, 2015), pp. 197–220.

[8] V. Dubljević and E. Racine, "The ADC of moral judgment: Opening the black box of moral intuitions with heuristics about agents, deeds, and consequences," *AJOB Neuroscience* 5.4 (2014): 3–20. M. Avram and J. Giordano, "Neuroethics: Some things old, some things new, some things borrowed...and to do," *AJOB-Neuroscience* 5.4 (2014): 1–3.

[9] S. Blakemore, "The social brain in adolescence," *Nature Reviews Neuroscience* 9 (2008): 267–277. M. Fumagalli

"preferred" or learned cognitive patterns and beliefs are used in developing intuitions, rationalizations, and judgments, it appears that each of us actually employs a range of cognitive reasoning functions and abilities when faced with a problem or decision that we hold to be "moral" in its value and effect. In short, moral cognition involves reasoning and justification processes that are more of an admixture of ethical precepts.

To summarize thus far, current behavioral psychology and cognitive neuroscience have provided crucial insights into brain structures and functions that appear to be involved in moral decisions and actions. Each person's brain uses multiple ways to judge moral matters. Any brain capable of moral judgment is already able to make different, and sometimes contradictory, moral judgments, depending on other information that is available at the time.[10] In short, context matters, and any attempt at a neuro-cognitive science of ethics must therefore be concerned both with what is occurring within a brain and what is happening around a person. We can disagree among each other about morality because each brain can generate contradictory cognitions. That is why we all have experienced conflicting moral intuitions, hesitant moral judgments, and tough moral puzzles. Our brains do their best with the information available, and often such information won't be sufficient to dictate one obvious answer. Thus, any exploration into the possibilities for moral enhancement must be deeply grounded in the cognitive limitations inherent to all neurological processes.

This standpoint upon the discoveries of the "neuroscience of ethics" takes a philosophical stance labeled as "neuropragmatism." Among the core views of neuropragmatism, two theses state what serves as a basic approach to moral cognition:

> Complex cognitive processes engage and reflect neural mechanisms that function to effectively coordinate behaviors necessary for reliably achieving variable goals in changing environments.
>
> Human cognition is so deeply embedded in, affected by and oriented to many cultural features for facilitating cooperative aims that it should primarily be studied and evaluated largely in terms of its service for social goals.

A further thesis about sophisticated social cognition applies most directly to moral cognition:

> The most sophisticated modes of human cognition are developments and assemblages of lower-level cognitive processes. These complex modes of thought, seemingly far from mere matter or biology, remain embodied and functional for practical success. Higher self-conscious cognitive processes (reflection, inference, hypothesis testing) are socially invented and taught capacities to attentively focus on ways to generalize practical habits for flexible use. These higher social capacities serve to coordinate group cooperative practices where some creativity is needed to maintain efficiency in the face of unstable conditions.[11]

Hence, we opine that it is crucial to recognize how all specific types of moral cognition are varieties of broader categories of systemic cognitive processes that allow humans to be responsible and reliable members of societies. Morality, like everything human, did evolve, but the emerging hominid brain didn't simply grow new areas to accomplish moral thinking. Neural systems that evolved for other cognitive and behavioral tasks became linked and selectively recruited to work together for

et al., "Gender-related differences in moral judgments," *Cognitive Processes* 11.3 (2010): 219–226. E. C. Finger et al., "Caught in the act: The impact of audience on the neural response to morally and socially inappropriate behaviors," Neuroimage 33.1 (2006): 414–421. M. Avram, J. Giordano, et al., "Neural correlates of moral judgments in first- and third-person perspectives: implications for neuroethics and beyond," *BMC Neuroscience* 15 (2014): article 39.

[10] W. Sinnott-Armstrong and T. Wheatley, "Are moral judgments unified?" *Philosophical Psychology* 27 (2014): 451–474.

[11] John R. Shook and Tibor Solymosi, "Neuropragmatism and the Reconstruction of Scientific and Humanistic Worldviews," in *Neuroscience, Neurophilosophy, and Pragmatism: Understanding Brains at Work in the World*, ed. John R. Shook and Tibor Solymosi (London: Palgrave Macmillan, 2014), pp. 3–35, at 7 and 11.

responsibly acting in what human societies defined to be moral ways.

Adjusting Morality in the Brain

The heavily systemic nature to the ways that the brain processes moral thoughts and behaviors in those dynamic contexts poses a number of implications for any attempts to alter moral cognition and actions. While systemic, those processes are by no means structurally rigid. Flexibility is also a pervasive feature of the brain. There has been a growing theoretical view – coinciding with our own pragmatic approach – that neural functions operate as 'systems embodied and embedded within systems'. The isolation of neural systems from their dynamic interactions and effects only reduces their explanatory power when research seeks to account for behaviors.[12] Three crucial implications strike us as crucial here.

First, the systematicity involved with moral cognition relieves any need to keep seeking a precise site (or set of sites) at which to make adjustments. There's no need to go looking for the needle in the haystack – that singular neurological module that does the "moral thinking." Instead, powerful changes to one's moral cognition can be accomplished by altering kinds of cognitive functioning that wouldn't seem at first glance to be needed for morality. Neuroscientific studies have already described how ordinary moral cognition is affected by non-moral (neurological) modulators at any moment.[13] Moral judgments are sensitive to overall moods, ongoing emotional states, reactions to stress and anxiety, positive or negative responses to people around us, and many more contextual matters that keep the brain busy. On the one hand, this makes sense on a neurological level, since a "moral guidance system" is driven by whatever persons should be caring about and valuing from moment to moment. Unfortunately, this also means that no matter how well the neural networks responsible for moral sense are working, they can easily be diverted, distorted, or overridden by whatever some other regions of the brain become focused upon. Indeed, it is sometimes hard to be moral. However, modifications to rival neural systems that reduce ways that they detract from morally relevant cognition could improve moral sensitivity and moral judgment. We believe that research into the proper functioning of moral cognition will become ever more centered on those cognitive systems and processes that both support, and compete with moral cognition.

Second, the systemic nature of moral cognition is a corollary to moral judgment's abiding dependency upon cultural context. The neural systems that have been shown to be operative in capacities for morality are more generally involved in assessing interpersonal and social relationships. These types of assessments include monitoring how one's goals and values are being fulfilled, how potential consequences of various courses of action should be weighed, and how one's conformity to cultural expectations and social reputations can be managed. Moral cognition is heavily affective and emotional, moderated by the cognitive capacity for foresight, prediction, and course correction, and rapidly modulated for managing ongoing social situations.[14] Any neurological intervention aiming at modifying moral cognition and judgment must take these contextual factors of morality into account.

Third, how one handles moral matters can depend greatly on the surrounding situation one happens to be in. Notoriously, what a person regards as morally acceptable is not consistent across and within similar

[12] For an overview, see J. A. Scott Kelso, *Dynamic Patterns: The Self-organization of Brain and Behavior* (Cambridge, MA: MIT Press, 1995).

[13] M. Crockett and R. Rini, "Neuromodulators and the (in)stability of moral cognition," in *The Moral Brain: A Multidisciplinary Perspective*, ed. J. Decety (Cambridge, MA: MIT Press, 2015), pp. 221–236.

[14] Eric Racine, *Pragmatic Neuroethics: Improving Treatment and Understanding of the Mind-Brain* (Cambridge, MA: MIT Press, 2010).

situations, and a person will often display inconsistencies in moral judgements across variable situations. We take ourselves to be the same moral person through constantly changing scenarios, but we are not. We tell ourselves that we are only altering our moral stance because we pay attention to morally relevant details to each situation, but behavioral studies show we can't even do that consistently. What this implies is that even if a neurological alteration to moral cognition were accomplished, a person's conduct isn't automatically going to conform to some rigid pattern of predictable behavior. Results will vary, and vary widely, because many of the person's higher cognitive functions are creatively developing a response that is deemed to be appropriate to each encountered situation.[15]

To estimate the opportunities for adjusting anyone's morality, it must be continually kept in mind that there are numerous ecological factors that contribute to morality, from local social conditions to longstanding cultural traditions. If this science-based injunction is overlooked or ignored, one might easily presume that neuroscience can proceed in search of "the moral brain". That mistaken presumption, if promulgated by a devotion to finding some holy-grail-like "neuroscience of ethics" will only result in theoretical confusion and misguided recommendations. All the same, neuroethical inquiry may be tempted in that direction. That temptation is somewhat understandable and foreseeable. Neuroscience, like any scientific field, offers data, metrics, classifications, and objective descriptions. Why study just a few brains, when so many await? Is there truly a "normally functioning brain" to chart and consult, so we are not doomed to forever disagree about moral matters? Great hope, if not faith might be invested in scientific objectivity. Can enough research and the promise of big data offer the means and weight the averages so as to specify what constitutes "normal" functions of moral cognition and actions?

The brain sciences are making no such promises. Brain research surely should inform concepts and constructs of modifications to neurological structures and functions and the multiple implications that any such modifications may evoke. Brain research should also inform conceptions of values as being psychologically based and socially historical. Neither neurons nor norms exist and operate apart from wider contexts. Thoughtful entryways to neuroethics open up as such contexts receive closer consideration. Both values and facts have contexts, permitting them to be what they are. Value standards may seem as fixed as anything factual, but they have a cultural provenance and social significance. Modifications for improvement can seem as objective as anything measurable, yet any approach to neurological modification must acknowledge that brain structures and functions can and often do vary within and between individual subjects.

Attention to the ecological status and functioning of morality of individuals only further highlights the cultural stage upon which morality plays its role. It should not be presumed that every person, no matter their enculturation and/or the group socialization they embody, will classify a cognitive alteration in the same way. This crucial point is not simply a matter of stating what is already quite obvious: that different cultures have somewhat different moral codes. Our point goes deeper. Neuroscience won't be objectively categorizing moral judgment for "typical" human brains in any universalistic fashion, even if neuroscience and moral psychology can reveal precisely how human brains generically perform moral cognition. Knowing how all human brains perform moral cognition and produce moral judgments is not the same accomplishment as determining what sort of alteration to moral cognition will always produce a "more moral" person. What is classified as one sort of cognitive alteration may be differently classified in another culture, or possibly

[15] John R. Shook, "Neuroethics and the possible types of moral enhancement," *AJOB Neuroethics* 3.4 (2012): 3–14. Darcia Narvaez, *Neurobiology and the Development of Human Morality: Evolution, Culture, and Wisdom* (New York: W.W. Norton, 2014).

considered different by subgroups within the same culture.[16]

To reiterate, context matters. Prior to judging whether any alteration represents a "good" or a "moral" enhancement, its status as a specific cognitive alteration, and as a value-neutral alteration, must be considered, and not be taken for granted. This is no less true for any neuro-cognitive manipulation which is expected to result in some sort of "moral" enhancement.

Neuroethics Divided?

To this point, we have sketched our neuropragmatist and neuro-ecological perspective on the inquiries of neuroscience into moral cognition. We now return to the question of whether neuroethics as a whole is well-prepared to evaluate the potential of technosciences in yielding future opportunities to modify moral cognition in directions deemed to be more ethical.

The scientific foundations of neuroethics are advances in the brain and behavioral sciences, along with the development and use of novel technologies (whether surgical, pharmacological, genetic, nanotechnic, or cybernetic) that permit brain/mind modification. The philosophical foundations of neuroethics are also gradually becoming more organized. Neuroethics will be an essential part of speculations about the wider implications of revolutionary paradigms and novel technosciences. As originally defined, neuroethics embraces two questions of immense philosophical significance. First, how will increasing knowledge of brain function potentially impact wider understandings of self, society, and/or culture? Second, how will self-socio-cultural understandings impact potential modifications of brain function? These two questions are not independent. The first impacts the second, especially if self-understandings are called into question and compelled to change; and insights to the second must supervise the first, if brain science is to be held to any ethical standards.

Until the two questions – and the tasks they obtain and entail – are pragmatically integrated, a divided neuroethics will allow and even encourage stand-offs between opposing neuroethical positions to develop and harden. One camp conservatively rejects using some new neurotechnology by appeal to a selected aspect of stable social traditions, while another camp progressively recommends changing some selected aspect of social tradition by using some new brain technology. For any argument that favors the use of a neurotechnology by appeal to progressive ideals, there is a counter-argument that will reject such use of technology by appeal to conservative ideals. Only in some cases, where there is wide agreement on priorities among social norms, would we expect to see convergence on if and how to accept some novel neurotechnology.

Each society will use neurotechnologies most compliantly in those situations and ways that the society is already highly committed to some important goals, such as life extension or mitigation of violence. The justifications for using neurotechnologies to enhance desired conduct will take a "socially conventional" form, as a society appeals to what it considers to be universally valid and binding norms. Even in those "easier" cases of what may be called "social enhancers," opposition to neurotechnologies will still urge caution in light of potential longer-range problems and wider-range ethical principles. Societies tend to make short-run decisions on public policy concerns, so balance from longer-range wisdom is needed when making rules that relate to and influence far future consequences of technoscience. Societies tend to justify invasive practices by appeal to what are taken to be universally valid norms, so additional balance is needed to develop a more cosmopolitan, culturally sensitive and responsive

[16] John R. Shook, James Giordano, and Lucia Galvagni, "Cognitive enhancement kept within contexts: Neuroethics and informed public policy," *Frontiers in Systems Neuroscience* 8 (5 December 2014): article 228.

stance.[17] Doing so will require wider-ranging attention to what societies around the world regard as universally obligatory.

Past the "easy" but rare social convention justifications for the use of neurotechnologies, lurk many neuroethics stalemates on the rest of the controversies. However, there is a special feature of neuroethics that we believe enables it to transcend those stand-offs. By taking the brain and behavioral sciences most seriously, neuroethics has access to knowledge about how humans cognize the world and execute their actions. Neuroethical studies and deliberations can apply scientific knowledge about how humans engage and sustain social relationships to structure and manage the social world. In short, there is nothing about morality, moral habits, and ethical judgments that is theoretically off-limits or beyond the purview of neuroethics. As a discipline, neuroethics has informational and practical access to how humans actually do ethics that is not enjoyed to the same degree by any other field of practical ethics.[18] As an example, recall here the simple argumentative mode of holding one side of the formula steady and demanding what must be done (or not done) on the other to maintain coherence. In practice an approach to neuroethics can effectively control both the cognitive and the self-socio-cultural parts of the formula simultaneously: either by (1) eliminating the moral relevance of both parts at one stroke; (2) denying the moral relevance of one part to the other; or (3) discovering how to adjust both parts simultaneously for synergistic ethical effect.

The first scenario depicts the mutual elimination of the relevance of cognitive and the self-socio-cultural. Neuroethical perspectives could eliminate human morality and all ethics simultaneously. Ethics asks humans to behave in accord with justifiable moral principles. Neuroscience works to discover how the brain functions. What if neuroscience demonstrates that brains don't obey anything like moral rules, or that brains lack the sort of freedom required for moral responsibility? If so, then asking brains to be moral is unreasonable. Prominent interpretations of neuroscientific findings are already claiming that grounds for assigning any degree of moral responsibility to a person may be refuted as non-existent.[19] But we believe that it is unwise to prematurely credit this elimination scenario. Ethics deals with norms prevailing on social relationships, not just on single brains or brain regions. Granted, if brains aren't participating in morality, then individuals and societies aren't doing morality. Morality can't be done without brains participating. However, morality is a systemic matter, like language, with brains doing things in concert. Of course, there are things that societies do without all brains doing them too. For example, a society can become democratic without all the brains becoming individually "democratic." As neuropragmatism urges, crude reductionism, part-whole fallacies, and category mistakes must be avoided. A claim to the effect that there are no brain processes doing morality implies that no individual and/or society is doing morality; this viewpoint hides both a truth and an untruth. The tacit truth is that human brains must be involved in human morality. The tacit error is to seek moral agency only at the level of interacting neurological processes.

The first scenario needn't be taken too seriously. Still, it serves as a warning that neuroethics must maintain internal consistency. When neuroethical discourse speaks of brains doing morality and then offers judgments on what society *should* morally do, there had better be the same meaning of "morality" all along the way. For example, neuroethics cannot continue to

[17] E. Lanzilao, J. R. Shook, R. Benedikter, and J. Giordano, "Advancing neuroscience on the 21st century world stage: The need for – and proposed structure of – an internationally relevant neuroethics," *Ethics in Biology, Engineering and Medicine* 4.3 (2014): 211–229.

[18] James Giordano, "Neuroethics: two interacting traditions as a viable meta-ethics?" *AJOB-Neuroscience* 3.1 (2011): 23–25.

[19] Consult Stephen G. Morris, *Science and the End of Ethics* (New York: Palgrave Macmillan, 2015).

appeal to folk psychology notions of moral responsibility, because neuroscience demands modifications to those very notions. Still, we feel that the complete collapse of neuroethics into inconsistency won't happen anytime soon. All the same, a lesson has been learned. Arguments that start from how the brain does morality to how society should be, or the reverse, can only makes sense so long as "morality," "responsibility," and the like mean the same thing in both the antecedent and the consequent. But this consistency rule is violated all the time. For instance, too much amateurish philosophizing announces that criminal responsibility is unreal since no brains exhibit contra-causal free will. Really? Do legal systems first forensically confirm the presence of contra-causal free will in the accused before taking up the assignment of responsibility? However, many legal systems do consider the presence and efficacy of conscious volitional control when assigning degrees of responsibility, and fine-tuned neuroscience will likely play an increasing role in confirming those carefully defined matters.[20] Neuroethics must take great care that any links forged between what neuroscience has to say about morality and what society says about morality are links between the same refined and carefully defined subject matter. Failure to sustain that conversational clarity results in what some view as the proliferation of "neurotalk" in popular media that yields exciting headlines while causing widening gaps between science and culture.[21]

At this point, the second scenario looms as a real challenge for practical neuroethics. Even if it turns out that neuroethics can avoid the collapse of ethics altogether, and can further ensure that neuroethical arguments apply the same meaning of "morality" and other normative terms on both sides of the cognitive/self-socio-cultural formula, neuroethics might prove to be sterile. Could neuroethical arguments all turn out to be fallacious? What if there is no rational way to argumentatively reason that a modification to one side of the cognitive/self-socio-cultural formula requires a change to the other side? There should at least be a skeptical pause when considering a typical neuroethical argument. Why should some information about how the brain functions make any difference to how a society should function? Conversely, why should any information about how society functions make any difference to how a brain should function? The "Is-Ought" fallacy awaits any neuroethical prescribing about how brains should function better based on knowledge of how many brains currently do function.[22] In the absence of a bridge across that fallacious gap in reasoning, neuroethics could resort to a strict compartmentalization and deepen the divide between its essential tasks. Principles could – and arguably should - be applied by the ethics of neuroscience to provide guidelines and guardrails for the conduct of brain research and the application of brain-related technosciences. Those ethical principles are already available from the surrounding cultural traditions and philosophical theories that offer their wise counsel. Undeterred by any news from the frontiers of the neuroscience of ethics, applied neuroethics proceeds as any other area of applied ethics. Social convention and philosophical consultation can sustain neuroethics as a normative discipline, albeit one without its own normative foundations, at least in the short term.

Yet, a neuro-ecological approach dictates dissatisfaction with a divided and divisive neuroethics

[20] Consult Nicole A Vincent, ed., *Neuroscience and Legal Responsibility* (Oxford: Oxford University Press, 2013).

[21] See M. B. Crawford, "The limits of neuro-talk," in *Scientific and Philosophical Perspectives in Neuroethics*, ed. James Giordano and Bert Gordijn (Cambridge, UK: Cambridge University Press, 2010), pp. 355–369.

[22] Compare the article by S. Berker, "The normative insignificance of neuroscience," *Philosophy & Public Affairs* 37 (2009): 293–329, with the article by V. Kumar and R. Campbell, "On the normative significance of experimental moral psychology," *Philosophical Psychology* 25.3 (2012): 311–330. See also J. Greene, "Beyond point-and-shoot morality: Why cognitive (neuro)science matters for ethics," *Ethics* 124 (2014): 695–726.

unable to take advantage of its own insights into the psycho-social grounds of moral cognition. Thus, the third scenario remains open. In this light, we urge neuroethical utilization of both components at its disposal – the cognitive and the self-socio-cultural aspects – simultaneously. Insight into neurological processes of moral cognition can be of use to developing improved ways of teaching, reinforcing, and guiding moral, ethical, and legal thinking and conduct. Neuroethics needn't be a field looking at a given set of brain processes on one hand and a received set of ethical norms on the other. Of course, neuroethical discourse could suggest its preferred moral technosciences or its ethical values on an uncertain and unready society. But it doesn't have to, and it shouldn't do so. Moral conformity and ethical propriety needn't be enforced in any heavy-handed manner.

Herein lies the interaction with – and need for – the "second tradition" of neuroethics. While considering this ethics of neuroscience, it is crucial to address the ways that various techniques and tools are used in brain research, and how the results and products of brain science are used in larger contexts of medicine, public life, international relations, and national security and defense. It's important to remember that any ethical analysis begins with some appreciation for the factual situation. As neuro-ecology addresses the neuroscience of ethics, it demands a high level of ethical probity and prudence in the ways that the brain is studied, the ways that neuroscientific information is interpreted, and acknowledgement of what is not yet known about the brain and its functions. It especially demands attention to deliberations about the use, or misuse, of such information and neurotechnological capabilities to assess and affect thought, emotions, and behaviors.

More Morality through Science?

Can neuroscience and the ethics of neuroscience definitively inform what is "good" and how individuals and societies should live? No, not really; but neuroscience *can* define how brains function for developing and processing moral cognitions, emotions, judgments, and conduct. Neuroscience can provide insights to how various circumstances, actions, and effects influence the brain, and how and what brain functions are involved in various thoughts, emotions and behaviors. That's still important – and powerful – information.

In this light, the "second tradition" of neuroethics provides an especially valuable resource, as a discipline and set of practices. Its primary task can remain unified: to examine how the brain is studied with operational guidance over those investigations and the ways that neuroscientific information is put to work in the social sphere. Neuroethics can serve as both a lens to peer into the workings of the brain that are involved in cognitive processes of morality and ethics, and a mirror to reflect upon and foster a deeper understanding of human ecology, how humans think morally, and how neuroscience can be applied in ethically sound ways. A technoscientific approach to morality won't prove impossible, but it will prove to be far more about modifying society than about modifying brains. The risks and benefits of neural modifiers must be understood in order to guide their ethical use for improving neural function. We advocate that any alterations of neurological processes should represent genuine improvements, with minimized side effects, and we want those alterations to meet well-defined ethical standards.

What could more beneficial, and ethical, than "moral" enhancement? The approval is seemingly axiomatic to the name. Morality is regarded as good and beneficial for humanity, and moral improvement is widely viewed as something anyone should seek. One might think that moral enhancement couldn't be

unethical, since it must be consistent with morality, or else it wouldn't be called "moral" enhancement. Like "cognitive" enhancement, "moral" enhancement has a label that lends itself to approval, and to exaggerated expectations. However, even moral enhancement must be carefully studied to determine its effectiveness in real-world settings. The actual results may not be indicated by the label. To embark on experimentation with the ways that brains allow the capacity for moral behavior, it must never be forgotten that moral enhancement is only an experiment, not a foregone conclusion. Full responsibility must be taken for anything that brains will be able to think about morality. The brain sciences alone cannot shoulder that responsibility. Improvements to moral functioning should be consistent with autonomy, self-empowerment, and the development of personal responsibility. Trying to put some morality in a pill, pattern of magnetic pulse, or brain implant won't automatically achieve those social goals, and ethical concerns about risky procedures affecting moral cognition will be amply justified.

Surveying the literature about the neuroenhancement of morality brings into view disputes over 'morality', how 'morality' could be improved via neuroscientific means, and how it should be improved. The objectivity offered by the brain sciences cannot axiomatically lift discussions of moral enhancement to humanity-wide application. To be scientific, neuroscientists and neuroethicists must avoid narrow pre-definitions of morality that are ahead of the evidence. That is why many varieties or kinds of morality are now discerned. Separate sciences, and different theoretical stances within a science, can discriminate distinct human behaviors and apply the labels of "moral" or "non-moral" in divergent ways. Furthermore, what may be "moral" in a practical sense may not be moral in an ethical sense. It must never be unreflectively presumed that anything that seems to make a person more moral in some specific way is also generally conducive to the good life, or broadly ethical and wise. Even if it were to exist, a specific "moral enhancer" could detract from the autonomous pursuit of the good life, or it might prevent a person from even contemplating alternative forms of the good life. The good life may need to escape conformity to whatever society has already deemed to be strictly moral. Thus we nest the neuroscience – and neuroethics – of moral performance enhancement squarely within the socio-cultural realm. Societies will have a (if not the last) say on any implementation of what constitutes practical moral enhancement.

Conclusion

This discussion has been animated by a contextualized neuroethical outlook that allows for better-informed approaches, utilizing all relevant interdisciplinary input, for considering what could possibly be moral enhancements. It permits neuroethical deliberation to rise above local conventionality and a single social ethos, to instead survey the dynamic scope of human cognitive capacities, and the rich cultural diversity of human self-understandings. In its appreciation for the human as a bio-psychosocial organism, neuroethics engenders an interdisciplinary approach (conjoining anthropology, sociology, economics, and political science) to depict and address ethical issues within the contexts in which human activities are conducted. Thus, in the spirit of cognitive enhancement itself, neuroethics as a discipline – and in its methods, approaches, and practices – should embody and enable greater human self-understanding, and improve public deliberations over the many dimensions of life that we treasure.[23]

We predict that the brain sciences will discover and develop ways to alter how people conduct themselves in accordance with moral expectations. Moral

[23] John R. Shook and James Giordano, "A principled and cosmopolitan neuroethics: Considerations for international relevance," *Philosophy, Ethics, and Humanities in Medicine* 9.1 (2014): article 1.

performance, in short, can and will be adjusted, in directions which are already deemed to be moral. But make no mistake: prior judgments about what shall count as genuinely moral behavior are driving this experimental process. It is we together, and not any single "moral" brains on their own, who must take ultimate responsibility for deciding where moral enhancement may lead. The brain sciences by themselves won't find morality nestled among the neural networks. The only moral pathways to be discovered are the step-by-step journeys that we are already taking together as a society and as a species.

UNDERMINING DOPAMINE DEMOCRACY THROUGH EDUCATION: SYNTHETIC SITUATIONS, SOCIAL MEDIA, AND INCENTIVE SALIENCE

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ABSTRACT: Engagement with electronically mediated information, such as participation with social media, often provides the illusion of democratic freedom. In actuality, social media, as it exists within a neoliberal context, provides what I refer to as *dopamine democracy*, which entails the appearance of democratic choice that is actually uncritical choice brought about through incentive salience. In order to combat dopamine democracy and neoliberalism, I argue that Dewey's conception of education should be used as a tool by which to utilize technological innovation in order to foster democracy.

> *"The spread of literacy, the immense extension of the influence of the press in books, newspapers, periodicals, make the issue peculiarly urgent for a democracy. The very agencies that a century and a half ago were looked upon as those that were sure to advance the cause of democratic freedom, are those which now make it possible to create pseudo-public opinion and to undermine democracy from within."*
>
> (Dewey 1916, 168)

In her presentation to the annual meeting of the *Society for the Study of Symbolic Interactionism* in 2008, Karin Knorr Cetina proposed the concept, *synthetic situation*, to describe "electronically transmitted on-screen projections that add informational depth and new response requirements to the "ecological huddle"" (Knorr Cetina 2009, 61). Her presentation provided a useful terminology for understanding types of situations mediated through on-screen projections and their phenomenological significance. The synthetic situations that she described have provided tools for understanding engagement with electronic media, especially those media that are highly interactive. The general tools Knorr Cetina presented are useful for critically assessing the significant effects pertaining to electronic media, neurochemistry, and socio-economics. In particular, synthetic situations are useful for understanding and critically assessing the effects of neoliberalism upon conceptions of autonomy, moral responsibility, and freedom within the ecological huddle that has become dominated by interactions with and through electronic media.

I use the phrase *dopamine democracy* in order to capture the combination of neoliberalism and electronic media as it affects, *inter alia*, the dopaminergic systems of individuals. Dopamine democracy refers to a general system or pattern of behavior in which persons are generally of the belief that they make free choices that directly contribute to governance, even though choices are actually directed by *incentive salience*, or the immediacy of wanting and seeking, without critical reflection or deliberation. This system or pattern is facilitated in large part by synthetic situations that fit within a larger neoliberal system. The interplay between the synthetic situation and neoliberal ideology reciprocally reinforces a guiding belief that persons are atomistic individuals who act independently from one another. The illusion of free choice within dopamine democracy is facilitated by a market of options that increases via electronic media and the synthetic situations provided by such media. The effect of this illusion is corresponding reinforcement of atomistic individualism that undermines possibilities for community that might otherwise be fostered through synthetic situations.

John Dewey was prescient regarding technological and socio-economic transformations and their effects upon systems of value, which include conceptions of autonomy, moral responsibility, and freedom. In the following, I argue that Dewey's conception of education is useful for addressing synthetic situations as liberating and constructive for community-building, and that it replaces atomistic individualism and market-thinking of neoliberalism that has contributed to dopamine democracy with actual democratic habits. Dewey's analysis of technology and socio-economics provides a remedy for the increasing atomistic individualism that is concomitant with a loss of freedom obfuscated by dopamine democracy. I argue for a critical assessment of dopamine democracy, especially as it pertains to synthetic situations, which implements concepts of education as

proffered by Dewey. First, I describe neoliberalism and its connection to dopamine democracy. Second, I explain Knorr Cetina's concept of synthetic situations, expanding upon it as it provides insight regarding dopamine democracy and atomistic individualism. As an example of synthetic situations and their role in dopamine democracy, I use the example of social media. Third, I apply criticisms that Dewey provided pertaining to autonomy, individualism, and socio-economics, as well as technological changes and how these changes relate to information and conceptions of personhood. Finally, I suggest reconsidering the ontology of personhood in accordance with Dewey's conception of education, which entails utilizing synthetic situations to undermine atomistic individualism and neoliberal thinking.

Neoliberalism and Dopamine Democracy

Neoliberalism generally refers to an ideology associated with politics that is guided primarily by economic considerations. According to David Harvey, "It holds that the social good will be maximized by maximizing the reach and frequency of market transactions, and it seeks to bring all human action into the domain of the market" (Harvey 2005, 3). An arbitrarily free market subordinates political and social considerations so that economic value precedes all other values. *Homo oeconomicus* replaces *homo politicus* (Foucault 2004/2008). Capitalism and democracy are wed within neoliberalism in such a way that capital dominates all aspects of life as consumerism and personal choice are presented as *democratic* choice. Driven by enterprise, neoliberal systems operate as complex, multidimensional markets. Individuals occupy these multiple dimensions. Their personal interactions within markets provide the appearance of democratic choice, as well as the presumption that each individual is an atomistic free agent, bound only by monetary constraints, which are considered primarily determined by the wants and efforts of each individual alone.

Participation in the market-driven environment perpetuates and reinforces the belief that persons are atomistic entities who only form communities through some form of aggregation. The myth of the individual that is fostered by market thinking helps sustain the appearance of democracy and democratic choice that obfuscates the driving force of capital that subsumes individuals and communities. A seemingly endless array of consumer choices, including products, feelings of anticipation and temporary fulfillment, and the assumption of self-value connected to the processes of wanting and seeking, all fuel dopamine democracy. Synthetic situations within a neoliberal system – a system that gives precedence to economy over all other considerations – magnifies and strengthens dopamine democracy at the expense of educated citizenry and community participation.

Synthetic Situations and Individualism

According to Knorr Cetina, synthetic situations are environments "augmented (and temporalized) by fully or partially scoped components – in which we find ourselves in one another's and the scopic components' response presence, without needing to be in one another's physical presence" (Knorr Cetina 2009, 69). Scopic systems, which comprise synthetic situations, are arrangements "of hardware, software, and human feeds that together function like a scope: like a mechanism of observations and projection, here collecting, augmenting, and transmitting the reality of the markets" (64). Synthetic situations multiply experiences of market choice beyond those that are only *local*, which Knorr Cetina defines as "witnessable" through the senses, "as opposed to imputation or inference" (63). Participants in synthetic situations are required to transition between scopic electronic contexts and non-electronically mediated local situations. Unlike local situations, synthetic situations allow for global activity that transcends provisional limitations of space and what

might be considered traditional time sequences. Alterations and variations of temporal and spatial considerations are evident in market transactions and with regard to conveyance of information. "Streams run at different speeds: prices may change within split seconds, analysis and headline news trickles in more slowly and is reiterated repeatedly, transaction records nearly match the speed of transactions" (71). Knorr Cetina divides synthetic situations into four types that are defined by the relation between scoped reality and what she refers to as the "physical world" or "physical elements" (67).

The first type of synthetic situation is that of market traders who occupy the same physical space, but are primarily engaged with information on screens. Their interaction with the representation of market information scrolling down the screen is primary, while interaction with other traders within the same office space is secondary. This is similar to engagement with other forms of online markets, such as retail sites. The second type of synthetic situation is one in which persons interact face-to-face, but their surroundings are synthetic. The effect of the second type is similar to that of using a blue screen behind actors in order to place them into various situations that are not part of their local physical world. The third type is one in which synthetic components feature in the situation, but are not primary. An example of this situation is one in which people interact within a physical space (such as an office or library) while periodically referencing information on a screen (such as a handheld device or laptop computer). The fourth type of synthetic situation is one in which persons interact through a "telepresence," such as through a video conference (68). All four of these types of synthetic situations expand the scope of interaction beyond the local. Within the context of neoliberalism, all four types of synthetic situation are driven primarily by economic considerations and function as parts of markets.

By providing interactions beyond the local physical world, synthetic situations within a neoliberal context multiply sources for market choices, anticipations, momentary fulfillments, and arbitrary freedoms that are associated with dopamine democracy. This is especially true in the first type of synthetic situation, which includes most social media interactions. Synthetic situations are not inherently connected to dopamine democracy, but because of the dominance of neoliberal ideology that drives the context in which they are used, persons tend toward atomistic individualism and corresponding false conceptions of autonomy. In his work on freedom, education, and politics, Dewey provides useful criticisms of this type of individualism perpetuated by the marriage of a particular type of socioeconomic ideology with technological innovation. Before applying these criticisms, reviewing what technology is and how certain synthetic situations pertain to particular instances of dopamine democracy is helpful for understanding problems within the current neoliberal context.

Technology is here to be understood in accordance with the pragmatic definition Larry Hickman supplies. "Technology […] involves the invention, development, and cognitive deployment of tools and other artifacts, brought to bear on raw materials and intermediate stock parts, with a view to the resolution of perceived problems" (Hickman 2001, 12). This definition is important for understanding synthetic situations as having value only within the context of use. There are no synthetic situations *in-and-of-themselves*. As Hickman goes on to state, "Technology in this sense is what establishes and maintains the stable technical platforms – the habitualized tools, artifacts, and skills – that allow us to continue to function and flourish" (12). Synthetic situations consist of habitualized tools, artifacts, and skills that enhance the ability to function within an environment. When that environment is a neoliberal one, flourishing is undermined by the precedence given to market values. Synthetic situations then tend to

undermine the ability of persons to flourish, as they are used to solve problems of markets, not problems of persons.

Personhood is considered atomistic within a market-driven environment. Persons are defined as individual biological entities (human bodies), desiring entities (consumer bodies), and individual enterprises (corporate bodies). Value is determined by that which increases capital within markets; all else, including flourishing, is subsumed under the values determined within markets. Individual atomism is presumed and perpetuated within dopamine democracy as the guiding ontology of personhood. The myth of the individual provides support to the veil of dopamine-driven democracy that thinly obfuscates corrosion of personhood and community in the wake of capital's primacy.

Synthetic situations increase the power of capital over that of persons within dopamine democracy by increasing the availability of products, the opportunities to seek those products, the appearance of increased choices, the barrage of feelings of anticipation, and the fleeing fulfillment concomitant with consumption. The expanse of the local into the global within a neoliberal system entails an increase of markets and the subsumption of persons within those markets. All becomes part of a larger network of markets. Even within social media contexts that are not explicitly market-driven, markets still dominate and foster a dopamine democracy within a neoliberal environment.

Social media, such as Facebook and Twitter, are exemplary as synthetic situations that, within a neoliberal context, perpetuate dopamine democracy despite not being overtly designed for the purpose of monetary exchange for goods or services. Social media is primarily a platform designed to facilitate communication of information between parties through the first, third, and fourth types of synthetic situations. Because the synthetic situations are within a neoliberal context, they do not merely provide means for communication. Rather, social media becomes a multi-faceted market that intersects with other markets. Facebook, for instance, becomes a marketplace of likes, comments, and shares. Twitter becomes a marketplace of likes and retweets. Communication of information is absorbed by quantification of symbolic capital – the number of likes, for instance, or the status of the person retweeting another's information – and becomes secondary as feelings of wanting, anticipation, and temporary reward become reciprocally connected to the value of activity and self. Just as neoliberalism entails the economization of the political, it also entails the economization of the social, wherein market principles are applied within nonmarket fields (cf. Brown 2015, 158). Within the synthetic situations of social media, this is where dopamine combines with what takes on the guise of democratic choice.

There are multiple neurochemical systems implicated in the processes of liking, commenting, and sharing within social media activity. For instance, the opioid, endocannabinoid, and GABA-benzodiazepine neurotransmitter systems are all involved in the pleasure associated with making choices. According to Berridge et al. these three systems are specifically connected to 'hedonic hotspots' that "are capable of generating increases in 'liking' reactions, and by inference, pleasure" (2008). The mesolimbic dopaminergic system has greater influence on motivation, especially with regard to wanting and reward, embodied in the seeking activities. Seeking is directly influential to attention, wanting, and anticipation (Alcaro et al. 2007). The type of wanting specific to the dopaminergic system does not require awareness – cognitive expectation – or particular long-term goal-seeking, but is rather *incentive salience*, which is focused on the immediacy of reward-related stimuli or objects of gratification. Incentive salience has been linked with the irrational wanting associated with addiction, wherein the desire is not for something cognitively wanted (what Harry Frankfurt calls *second-order volitions*), but is desired regardless of a cognitive want (Berridge et al. 2008; Frankfurt 1971). Synthetic

situations within social media, such as liking, sharing, and commenting on Facebook, are linked to both pleasure and to incentive salience, but it is the dopaminergic activity – the reinforced feelings of focused attention, incentive salience, and anticipation of pleasure – that are especially surreptitious within a neoliberal context in terms of democratic choice. What appear to be choices brought about by cognitive want are in fact irrational choices motivated by incentive salience.

Reinforced dopaminergic activity that is increasingly focused on wanting and seeking immediate gratification resembles the same addictive behavior associated with substance abuse and other forms of addiction. Although synthetic situations within social media might otherwise be utilized for community-building through increased, global communication afforded by the expanse from the local environment, social media within a neoliberal environment breeds atomism in which individuals are further separated from one another as they are subsumed by markets. Addiction to wanting and seeking associated with markets of social media comprises what Henry Giroux has described as "a narcissistic hyper-individualism that radiates a near sociopathic lack of interest in – or compassion and responsibility for – others" (Giroux 2014, 9-10). Despite being connected globally through synthetic situations, individuals are largely disallowed from forming communities. In fact, synthetic situations that perpetuate dopamine democracy foster the contrary of communitarianism. Individual choice that is meant to fulfill wanting and seeking overrides all else in a market of incentive salience and consumption. This activity is driven by incentive salience more than that which is cognitively wanted, i.e. wanted in a deliberative, critically reflective manner, yet parades as a form of democratic choice. The addictive cycle of likes, sharing, retweeting, and commenting appears as a process of individual, free, and informed choice that occurs within a democratic arena provided by synthetic situations, but the arena is a marketplace in which the participants are led by anticipation – the endless seeking for fulfillment. The *demos* does not direct, but is rather directed by its dopamine addiction masked as a form of freedom.

Technology and dopamine democracy

Synthetic situations are by no means the sole source of dopamine democracy as it is perpetuated via social media. Technological innovation is benign until put to use within a specific context or environment. Dewey is apt in his analysis of technological information and its interplay with concepts of freedom, autonomy, and community. He indicates that experience is always transactional, taking place between those who are part of a specific environment and that which constitutes the environment of which those persons are a part (LW 13, 25). For Dewey, that which is technological is part of the environments of which persons engage. Technology is part of what Dewey refers to as *the state of culture*. The state of culture includes the interactions of many factors, not simply the technological, "the chief of which are law and politics, industry and commerce, science and technology, the arts of expression and communication, and of morals, or the values men prize and the ways in which they evaluate them; and finally, though indirectly, the system of general ideas used by men to justify and to criticize the fundamental conditions under which they live, their social philosophy" (LW 13, 79). The technological is not a phase or set of artifacts or practices that is in isolation from politics or socioeconomic factors, but rather interacts with them as part of the state of culture. According to Dewey, technological innovations, especially those that are media for communication, shape the sentiments of those who utilize such media, often through the interplay of emotions and imagination more than information and reason (LW 13, 70). Tools that provide greater availability of information also provide greater influence of the political and socioeconomic values that

are part of the same state of culture. Dewey foreshadows synthetic situations provided by current tools of communication when he states, "Today the influences that affect the actions performed by individuals are so remote as to be unknown" (LW 13, 94).

Because synthetic situations are within a state of culture that includes neoliberal values as primary, the economization and atomization of individuals comes to dominate most synthetic situations. Individualism, as Dewey points out, is a product of a particular type of state of culture (LW 13, 77). Neoliberalism is an extreme form of cultural condition that perpetuates extreme atomization of individuals from one another as if such differentiation was the natural state of the world. Not only is atomization of personhood emphasized through synthetic situations within a neoliberal state of culture, but there is overemphasis upon activity – specifically the incentive salience activity of wanting and seeking – as an end. Such overemphasis, especially in contrast to critically reflective, i.e. intelligent, activity, identifies "freedom with immediate execution of impulses and desires" (LW 13, 45). Within a neoliberal environment, the immediacy afforded by synthetic situations is mistaken for intelligent free choice. Individualism is concomitantly presumed to be the ontology of personhood that captures the natural state of being.

Dewey's criticisms of individualism presumed as the natural state of being indicate that an implicit ontology of personhood is contingent upon surrounding beliefs and practices. One of the greatest dangers of the atomization perpetuated by synthetic situations within a neoliberal environment is that the resulting conception of personhood is contradictory to actual democracy, to which dopamine democracy pays lip service, but undermines. Dopamine democracy undermines the possibility of persons actually engaging in democracy because atomization disallows communities of persons, which sustain and perpetuate democracy through educative processes. Education is stifled, in part, by the prevention of community formation fostered by the atomization of individuals via synthetic situations. In order to preserve and foster communities and education that facilitate democracy, sacrificing synthetic situations is unnecessary. Rather, synthetic situations may be reconfigured in tandem with reconsidering and reconstructing the contexts in which synthetic situations exist. One way to do this is to undermine neoliberalism and its concomitant ontology of personhood.

Education, democracy, and personhood

The philosophy of education as proposed by Dewey is a useful tool for undermining dopamine democracy because, *inter alia*, it provides an ontology of personhood that supplies individuals with the means by which to engage in critically reflective democratic action rather than merely engaging in incentive salience parading as democratic choice. His philosophy of education also provides guidance for how to utilize synthetic situations as tools to facilitate democracy instead of perpetuating neoliberal conceptions of persons as primarily economic and atomistic agents. Dewey's conception of education is rooted in the idea of freedom as intelligent observation and judgment that contributes to self-control (LW 13, 46). Education focused on intelligent observation and judgment contributes to the development of individuals as free persons through facilitating intelligent habits of desire and imagination, and cooperative character contributes to the development of persons as free within a society. Dewey states that individualistic, competitive economic systems, such as neoliberalism, undermine education and the formation of character (LW 9, 186-191). In order to overcome the antagonism inherent to neoliberalism, education must aim toward developing persons as cooperative within a community. According to Dewey, "A society that is largely held together by the aim of many individuals to get on as individuals is not really held together at all. Changes occur with breathless

rapidity, but they have little organization and next to no centre and unified tendency" (LW 9, 179). Personhood may be possible in such an individualistic system, but it remains fragmentary at best. By making freedom and community engagement through cooperation the aims of education, persons can flourish as democratic rather than as mere agents of incentive salience.

Dewey defines education as "reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience" (Dewey 1916, 77). Education is a process by which persons are developed as critical thinkers capable of engaging in reconstruction and reorganization, cognitive deliberative activities that contribute to democratic action. As Dewey states, "democracy is more than a form of government; it is primarily a mode of associated living, of conjoint communicated experience" (87). Part of democracy, according to Dewey, is that each individual considers others when deliberating and acting upon deliberations. The type of education necessary for democracy is one that provides individuals with personal interest in community, not merely in competition and material gain (99). Education that develops social sympathies facilitates widening the arenas of choice beyond wanting and seeking to include reflective decision-making and consideration (148). Democracy undermines neoliberalism through education that includes considerations of social responsibility, not merely training concerning individualistic or strictly economic gain. Education for democracy includes issues concerning persons living together in communities, "where observation and information are calculated to develop social insight and interest" (192). By educating so as to facilitate free and socially responsible thought, neoliberalism may be supplanted in order to replace dopamine democracy with actual democracy. Actual democracy is based in intelligence, imagination, and community, whilst dopamine democracy is rooted in incentive salience. Synthetic situations, which perpetuate dopamine democracy within a neoliberal environment, may be utilized to perpetuate free and socially responsible thought within a democratic context, or they may be utilized in such a way so as to undermine neoliberalism and pave the way for democracy.

Synthetic situations may facilitate global communication rather than incentive salience if they are reconstructed to perpetuate democracy through education rather than neoliberal values through dopamine democracy. Communication facilitates community and personhood. By removing those aspects of synthetic situations that perpetuate neoliberalism, such as elements that give primacy to capital over personhood and place economic activity over and above intelligent and imaginative activity, i.e. above those activities facilitated by education, synthetic situations may help undermine dopamine democracy. Removing elements of synthetic situations that foster divisions based upon consumerism and incentive salience provides a means by which to increase the *social efficiency* of persons. Focus on communication, over and above economics, facilitates "breaking down the barriers of social stratification which make individuals impervious to the interests of others" (Dewey 1916, 120-121). Just as synthetic situations within a neoliberal context contribute to individualism and ethical atomism, they may also be useful, when aimed at facilitating education that helps form and sustain democratic communities and persons, for providing means by which to build communities on a global level. Democratic habits, such as critical reflection and social sympathy, may come to replace bad habits – those "habits so severed from reason that they are opposed to the conclusions of conscious deliberation and decision" (1916, 49). The habits of synthetic situations of dopamine democracy are "habits that possess us instead of our possessing them, are habits which put an end to plasticity. They mark the close of the power to vary" (1916, 49). Synthetic situations are better utilized to contribute to what Dewey calls "general education" by which

possibilities for interaction are broad and flexible; social relationships are truly fostered and diverse (1916, 67). This is contrary to the echo chamber effect of dopamine democracy through which individuals only seek out interactions that are already agreeable to their incentive salience. Such incentive salience only breeds more wanting and seeking of immediate satisfaction without critical reflection. Keith W. Campbell and Jean M. Twenge have referred to this isolation with regard to beliefs, especially in connection with esteem and status, as a *narcissistic cocoon* (2015, 366). This leads to one of the most dangerous sides of dopamine democracy: the thoughtless polarization of socio-political ideology that is perpetuated by the dominance of incentive salience within synthetic situations. Completely removing the mechanisms within synthetic situations that facilitate and perpetuate incentive salience is likely an impossible task, especially given the rapidity by which information is made readily available. Iterative steps that incorporate critical assessment and reconstruction of synthetic situations are necessary to move beyond incentive salience and toward democracy.

Conclusion

The next step in replacing dopamine democracy through educative means is to analyze the interaction of synthetic situations, socio-political decision-making and neurobiological bases of behavior. I suggest implementing a strategy of neuropragmatism as advocated by Tibor Solymosi. Neuropragmatism takes "seriously the insights, tools, and techniques developed by the neurosciences as achievements in a living context of growth" (Solymosi 2011, 356). Neuropragmatism provides a fallibilist stance from which to assess information concerning synthetic situations, especially with regard to how these situations affect and are affected by neuroscientific considerations. In order to alter synthetic situations and the way in which they are engaged, I propose using neuroscientific analyses, such as those provided in *The Wiley Handbook of Psychology, Technology, and Society* (e.g. "Narcissism, Emerging Media, and Society") (2015), and applying the findings to education, especially as pertaining to synthetic situations and the development of democracy. Within neoliberalism, synthetic situations have provided access to information in such a way that there is little connection to critical assessment or fallibilism. Incentive salience is thoughtless. As Dewey states, "And information severed from thoughtful action is dead, a mind crushing load. Since it simulates knowledge and thereby develops the poison of conceit, it is a most powerful obstacle to further growth in the grace of intelligence" (1916, 153). Combining neuroscientific studies with Dewey's conception of education provides a set of tools by which synthetic situations may be transformed from perpetuating dopamine democracy, reinforcing neoliberalism and individualism, to fostering democracy and community through providing education that forms critically reflective, intelligent, and imaginative persons.

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WE DEWEYAN CREATURES

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ABSTRACT: I introduce a new form of human being, the Deweyan creature, to situate philosophical activity within our contemporary context. The Deweyan creature recognizes that it is not only a product of evolution but also an active and creative participant in the evolutionary process. Through this recognition, the Deweyan creature consciously and deliberately takes imaginative efforts toward reconstructing the old ways of tradition in light of the new ideas coming out of scientific activity. Such reconstruction is always toward a democratic ideal as John Dewey described it. In short, the Deweyan creature is the first form of life to recognize its ability to control its future evolution, provided that it is able to keep its ethical and moral progress at pace with the progress of science and technology. Dewey saw this challenge as crucial for democratic life in his day; it remains so in ours.

> There has been, roughly speaking, a coincidence in the development of modern experimental science and of democracy. Philosophy has no more important question than a consideration of how far this may be mere coincidence, and how far it marks a genuine correspondence. Is democracy a comparatively superficial human expedient, a device of petty manipulation, or does nature itself, as that is uncovered and understood by our best contemporaneous knowledge, sustain and support our democratic hopes and aspirations? Or… if to construct democratic institutions is our aim, how then shall we construe and interpret the natural environment and natural history of humanity in order to get an intellectual warrant for our endeavors, a reasonable persuasion that our undertaking is not contradicted by what science authorizes us to say about the structure of the world? … Is the world as an object of knowledge at odds with our purposes and efforts? … Does it lend itself equally to all our social ideals, which means that it gives itself to none, but stays aloof, ridiculing as it were the ardor and earnestness with which we take our trivial and transitory hopes and plans? Or is its nature such that it is at least willing to cooperate, that it not only does not say us nay, but gives us an encouraging nod?
>
> – John Dewey (MW11: 48)

An introduction

For roughly the last century, a new form of life — a new way of being human — has been evolving. It is a rare form of life, more likely to go extinct than to propagate the Earth. I call it the Deweyan creature. This creature takes seriously the integration of what many see as disparate activities: science, art, and democracy. Indeed, we Deweyan creatures take *creativity* as the hallmark of human being in the world. This creativity seeks to ameliorate the problems of life for all sentient living creatures through the experimental methods of science and art. Such amelioration seeks not only edification but also consummation in the experience of others. Through these ameliorative efforts, we Deweyan creatures produce greater freedom through our conscious and deliberate transactions with our environments. For we Deweyan creatures not only recognize but also aim to fully embrace our nature as evolved and still evolving beings in transaction with nature. Central to these transactions is education — not any education but an education for an experimental and democratic global culture. That this culture is global is not to say that it is homogenous. Quite the contrary, insofar as it is democratic, the Deweyan creature recognizes this global culture's great diversity and celebrates its healthy and vital aspects, taking great effort to inculcate in the young a friendly democratic ethos with and for which to celebrate. That is, in order to maintain a global culture that is largely in a state of dynamic equilibrium — not a state of stasis but one cultivating growth — we Deweyan creatures cannot tolerate any bigotry or hatred or any similar activity that undercuts the democratic ethos: such attitudes and acts are treachery — the active embodiment of treason to democracy (Dewey 1939b/LW14). Moreover, insofar as this global culture is also experimental, the diversity of peoples throughout the world serve as living experiments for human flourishing from which all peoples can draw and benefit. For the environments in and with which humans and other organisms interact are not homogenous but radically different (even if the same physical regularities

and principles are operative, the variables and parameters differ wildly); and so we offer to one another a plurality of ways of being human. What we Deweyan creatures promise is not only the recognition of such plurality but also the intent to utilize the differences and the similarities between peoples to effect richer experience overall.

The phrase, *we Deweyan creatures*, is motivated by Richard Rorty — who regularly spoke of *we pragmatists* or *we liberal ironists*, etc. — and by Daniel Dennett — whose imaginative heuristic for thinking about the evolution of mind and inquiry, the Tower of Generate-and-Test, has its levels named after influential thinkers (Dennett 1995 and 1996). So I propose to add a new level to Dennett's Tower, in honor of John Dewey's insights about the integration — actual and possible — of science, art, and democracy toward a culture of creative freedom. Proposing is easy — having just done so — but further characterizing the need for a new level as well as further description about the novelty of that level is a greater challenge. With the development of Deweyan creatures, the Tower of Generate-and-Test must be modified — reconstructed — in order to eradicate the residual creeping Cartesianism that remains in Dennett's philosophy. My characterization of the Deweyan creature begins with Dewey's own thoughts on the office of philosophy as reconstructing our ethical or moral ideals in light of our best knowledge so far. The project for philosophy — reconstruction — is not guaranteed to succeed. It is the difference between Dewey's time and ours that not only illustrates the need for more Deweyan creatures but also the immense difficulty in creating them.

The argument proceeds from Dewey's articulation of the philosophical project of reconstruction and its relevance for us today to a reconstruction of Dennett's Tower of Generate-and-Test. As insightful as Dennett's heuristic is, there is a limitation to it, largely the result of a creeping Cartesianism that has infected his thinking. Through reconstructing the Tower, I hope to exterminate any residual Cartesianism. This reconstruction draws on Hickman's Deweyan philosophy of technology by integrating it with Dennett's Tower through their shared use of the computer science expression, *generate and test*. With this evolutionary and technological perspective established, I turn to a further elaboration of the Deweyan creature and the import of integrating science, art, and democracy. I close with a discussion of what Mark Tschaepe calls *dopamine democracy*, contra Richard Bernstein's renewed call for creative democracy as a task that remains before us.

Facts and values: reconstruction in philosophy

The central concern for philosophy is navigating intelligently the innovative developments coming out of the sciences — in other words, the production of new knowledge — with the conservative beliefs held sacred by tradition (Solymosi 2016). For John Dewey, this tension was rooted in lived experience and demanded not only philosophical reflection but also philosophical reconstruction. Reconstruction, as I have argued, is opposed to the more common project of finding reconciliation between the scientific and the humanistic (Solymosi 2012b, 2014; Solymosi and Shook 2013). Be it in the terms of Wilfrid Sellars or in his intellectual descendants like Paul and Patricia Churchland, Daniel Dennett, or Owen Flanagan, the trouble with reconciliation is that it continues the dualism at the heart of modern philosophy by forcing an unwarranted either/or upon us instead of encouraging us to face the demands our knowledge puts on us to reconstruct what it means to live meaningfully in a natural and evolving world. This dualism, as Dewey articulated, comes in myriad varieties. Building from my previous reflections on how the problem of rapprochement between the scientific and the humanistic is based on two competing conceptions of experience, I extend my transactional view of experience to reconstruct the evolutionary relationship — one of continuity, not opposition — between the natural world and the cultural world. Doing so requires a reconsideration of the nature of inquiry to

address one of Dewey's key concerns about our current situation. Dewey was concerned that our moral lives have failed to keep up with our scientific advances and that this failure will undermine our lived experience, creating a less free, less liberating, and less meaningful way of life. The failure of philosophers to reconstruct our experience — moral, personal, and social — in light of scientific advance has resulted in our inquiries and the further application of new knowledge to serve old aims set forth prior to the advance of modern scientific inquiry.

The science of experience is particularly salient for the core problem of philosophy, the ameliorative navigation between the old ways of tradition and the new ones of science. These two authorities Dewey saw as in conflict, yet not necessarily so. He argued that philosophers not only could but also should do their part in resolving the conflict. This conflict, however, is the result of the dualisms that have preoccupied philosophy since Plato. Elsewhere, I have articulated this problem of rapprochement by describing two alternative solutions that correspond to two conceptions of experience. The philosophically more popular conception of experience is the one advocated by Hume, in what has since been described as the Cartesian Theater (Dennett 1991; Solymosi 2011a and 2013a). Dewey described it as sensationalistic and as the spectator theory (Dewey 1917). In short, it holds that the mind and the world are ontologically separate and thus epistemologically inaccessible to each other. Despite attempts to find indubitable or absolute foundations for scientific knowledge, the philosophical problems continued to creep forward, be it in the epistemology industry's problem of knowledge tout court or in descendants of pragmatism via Wilfrid Sellars, who seek a synoptic vision of how the scientific image and the manifest or humanist image "hold together in the broadest possible sense" (Sellars 1960, 1). This synoptic vision is emblematic of the project of reconciliation as the solution to the problem of rapprochement between the old (the manifest) and the new (the scientific).[1]

For the transactional conception of experience that Dewey and I advocate, these two common beliefs about the authoritative do not come into necessary conflict, as they must for the Cartesian/Humean conception of experience as a sensational spectator. I have upgraded Dewey's view of experience as the interaction or transaction of organism and environment by situating it within contemporary complexity and chaos theories of evolution and dynamical systems. I discuss this in more detail in the following section. This upgraded conception of experience evades the problem inherent in the project of reconciliation's view.

Yet problems are not evaded entirely. The problems faced by the pragmatist approach are still problems of finding rapprochement between the old and the new. Instead of reconciling oneself to the difficulties therein, the evolutionary pragmatist view I proffer is a project of reconstructing the old to meet the demands of the new. This project is by no means guaranteed to succeed. For it is unclear whether there is a theoretical resolution of the tensions between cultural practices and scientific advances; but more importantly there is no guarantee that any theoretical developments will succeed in practice. As I argue at the end of this essay, our current situation illustrates a failure of action due in part to the neglect of philosophers in their responsibilities to reconstruct culture in light of science *in an ameliorative fashion*.

[1] The Sellarsian pragmatists have descended into two varieties, the eliminative materialist and the eliminative idealist. The former are scientific realists who advocate for the supremacy of the scientific image, claiming that the manifest image is entailed or will be shown to be entailed by the scientific. The eliminative idealist is a linguistic idealist or scientific anti-realist who sees the scientific image as just another story among the rest, useful for some problems but not for others — and, as is the case with the other stories, science has no special authority, especially with regard to the nature of reality. And so the idealist strikes against the common belief that science has authority, whereas the materialist strikes against the common belief that tradition has authority. I have described this genealogy at length in Solymosi 2014.

The problem for reconstruction is the problem for philosophy: the ameliorative navigation of old beliefs in light of new knowledge. As I have argued, following Dewey's lead, reconstruction is the philosophical method of identifying and utilizing the data, methods, and other products of scientific activity as means for achieving our ideals or ends-in-view. An effect of this reconstructive perspective is to no longer treat as scientific questions like "is free will real?" or "is consciousness real?" Rather, we are better off asking of science questions like, "how does free will work?" or "how does conscious activity work?"[2] In understanding the dynamic conditions for achieving these activities, we are better able to understand not only the value of such achievements but also the value of other activities that may inhibit or further promote these achievements.

To further situate my understanding of reconstruction in Dewey's terms, consider the following passages from Dewey's writings. The first is from his 1916 book, *Democracy and Education*:

> Philosophy is thinking what the known demands of us – what responsive attitude it exacts. It is an idea of what is possible, not a record of accomplished fact. Hence it is hypothetical, like all thinking. It presents an assignment of something to be done – something to be tried. Its value lies not in furnishing solutions (which can be achieved only in action) but in defining difficulties and suggesting methods for dealing with them. Philosophy might almost be described as thinking which has become conscious of itself – which has generalized its place, function, and value in experience. (MW9: 336)

Dewey articulated what the known demands of us in 1931, in an essay, "Science and Society." He describes science as "operat[ing]…through its undesigned effects rather than as a transforming influence of men's thoughts and purposes. This contrast between outer and inner operation is the great contradiction in our lives. Habits of thought and desire remain in substance what they were before the rise of science, while the conditions under which they take effect have been radically altered by science" (1931, 363a). He elaborates that "Till now we have employed science absent-mindedly as far as its effects upon human beings are concerned. The present situation with its extraordinary control of natural energies and its totally unplanned and haphazard social economy is a dire demonstration of the folly of continuing this course" (365b). Dewey then concludes with a statement of the contradiction of everyday life:

> Thus the statement with which we began, namely, that we are living in a world of change extraordinary in range and speed, is only half true. It holds of the outward applications of science. It does not hold of our intellectual and moral attitudes. About physical conditions and energies we think scientifically; at least, some men do, and the results of their thinking enter into the experiences of all of us. But the entrenched and stubborn institutions of the past stand in the way of our thinking scientifically about human relations and social issues. Our mental habits in these respects are dominated by institutions of family, state, church, and business that were formed long before men had an effective technique of inquiry and validation. It is this contradiction from which we suffer to-day. (368a)

This contradiction requires reconstruction. Reconstruction is the philosophical method of taking the products of scientific activity — its data, theories, and methods — as means for achieving our ideals, such as freedom or conscious awareness or democracy — ideals which are themselves re-evaluated in light of the science.[3] What these passages from 1931 illustrate is Dewey's recognition of a bifurcation between the products of science and our ideals. As I discuss later, our democratic ideals are under direct threat from our ill-ordered technological products. Before turning to technology and science, I close this section with a critical consideration of Kitcher's well-ordered science as he situates it within Dewey's philosophical project.

[2] See Solymosi 2011b and 2013c.

[3] See Tschaepe 2015 on the nature of reconstruction in terms of primary and secondary experience as applied to a special case of neuroeconomics.

In "Philosophy Inside Out," Kitcher reads Dewey's philosophical project as navigating two axes, one dealing with value, the other with factual knowledge (2012b: 214–216). In endorsing this view of philosophy, Kitcher also, in "The Importance of Dewey for Philosophy (and for Much Else Besides)," emphasizes an interdisciplinary approach to philosophy, writing that Dewey "takes the philosophical attitude to consist in analysis of a broad swatch of inquiries, and the synthesis of ideas from diverse disciplines in a way that no specialized practitioner of any of those investigations could attain" (2012a: 19). Elaborating further, Kitcher writes:

> Philosophy, so understood, is a synthetic discipline, one that reflects on and responds to the state of inquiry, to the state of a variety of human social practices, and to the felt needs of individual people to make sense of the world and their place in it. Philosophers are people whose broad engagement with the condition of their age enables them to facilitate individual reflection and social conversation. (2012b: 216)

This reflection and conversation, for both Dewey and Kitcher, are guided by a democratic ideal of inquiry. That is, it is not just willy-nilly and absent-minded gossiping that counts for reflection and conversation.

Indeed, Kitcher notes, "Dewey's account of philosophical significance is embedded within a standard for well-ordered inquiry, one that is thoroughly democratic and egalitarian." It is this standard, I contend, that deserves special attention and criticism. Kitcher "elaborate[s] the standard as follows.

> Well-ordered inquiry would pursue just those lines of investigation, to the extent and in proportion to their evaluation as significant by a group of deliberators representing all human circumstances and points of view, all thoroughly informed as to the existing state of human knowledge and to the foreseeable prospects for developing it further, and all fully committed to mutual engagement with one another.

Such an ideal, as democratic as it is, risks too great a degree of abstraction from the lived experiences and circumstances of actual human beings' meeting this ideal in practice. Of course, failure to live up to one's ends-in-view does not make those ends any less worthy. But we must not mistake this standard of well-ordered inquiry to take a Kantian or Habermasian attitude to democratic deliberation. As Kitcher continues:

> The conditions that figure in this account are intended to rule out the various ways in which, from a thoroughly democratic point of view, inquiry can go astray. Most evidently, as Dewey recognizes so clearly, investigations can give priority to the wishes or to the whimsical interests of the few, at cost to the many: biomedical research can focus, as it so strikingly has in recent decades, on projects that might enhance the lives of an affluent minority, while leaving the life-threatening and incapacitating diseases that afflict vast numbers of poor people, most especially children, radically understudied; most abstract disciplines, like philosophy, can pursue issues that fascinate specialists, while paying scant attention to questions that touch on the lives of many people.

To put Kitcher's point in terms proffered by Dewey, the concern is that new products of science are produced by and for a small group of people with vested and private interests. These products all too often come at a cost to other groups of people who receive no benefit from these new tools. Such conflict produces publics that must then contend with each other in order to live up to larger social ideals, like democracy. Insofar as those publics are able to unite and compromise can a democratic ethos flourish; insofar as these competing groups are unwilling or incapable of resolving differences, democracy fails (LW2). This, I take it, is the key contrast between Kitcher's well-ordered science and ill-ordered science, respectively.[4]

> To demand all human circumstances and points of view be represented is a first step towards avoiding this predicament. Genuine democracy, however, cannot be content with an expression

[4] I cannot help but wonder what more could be said along these lines of well and ill in comparison to the distinction Socrates makes in book II of the *Republic* between his healthy city (what Glaucon calls a city of sows) and the feverish city, the *Kallipolis*, whose development is the focus of the next two books.

> of the raw wishes of all individuals, uninformed about the actual state of human inquiry and about how it might be developed. For you to make a decision about how inquiry would promote your interests, you need not only the ability to convey your own perspective, to report on things about which you are the best expert, your own needs and aspirations, but also an understanding of the ways in which your goals could be promoted, given what is already known and what might now be probed and pursued.

Kitcher fails here to remember one of the key insights of pragmatism, especially Dewey's emphasis on the provinciality and the fallibility of knowledge. It is one thing to be open to and mindful of other voices as they appear and thus be willing to revise beliefs in response to these new experiences. It is quite another to require not only the openness and fallibility but also the full knowledge of all voices and full knowledge of the state of knowledge prior to dealing with new problems that result from private interests conflicting with public ideals. For all his efforts to persuade contemporary Anglo-American philosophy to take up Dewey's philosophic attitude, Kitcher nevertheless succumbs to the Cartesian dream of a lone and all-knowing knower: he runs the risk of advocating democratic philosopher-kings. He continues:

> Democracy thrives on the combination of expertise, in which the individual's own intimate knowledge of context and preference is shaped by the collective corpus of knowledge. Hence, well-ordered inquiry insists that the research agenda can be that chosen by well-informed representatives of all points of view. The final condition is needed to overcome a familiar obstacle of actual deliberations, partial insistence on individual points of view, even when it is clear that they bring problematic consequences for others. By requiring that the deliberators be mutually engaged, the constraints on well-ordered inquiry insist that no group's interests can be sacrificed.

The difficulties at play here indicate both the need and possibility for the Deweyan creature as well as its very improbability of bringing about a Deweyan world. The research agenda that Kitcher mentions, as it is currently practiced, is not one set agenda but a plethora of research programs aimed at a myriad of interests, many, if not most, of which have no consideration for the other agendas, nor for the larger effects on the world and lives of people beyond the agenda-holders. Furthermore, expressing the conversation in terms of a single research agenda itself runs the risk of becoming anti-democratic. One agenda to rule them all does indeed infringe on the freedom of local groups to handle their problems in their own way. How the Chinese, for example, decide to deal with food production in light of climate change is going to be very different from the way Canadians do, given their different climates, demographics, and natural resources. Of course, this is not to say that different publics should operate in ignorance of the other. Quite the contrary, as important as expertise is for democracy, so is open and friendly communication between parties of different backgrounds. Nevertheless, Kitcher brings attention to three tyrannies that all parties, regardless of background, face:

> The three conditions can be viewed as combating three forms of tyranny: the tyranny of wealth and power, the tyranny of ignorance, and the tyranny of the majority. (2012a: 8–9)

Despite his mis-steps, Kitcher manages to point to many of the key characteristics of the Deweyan creature. The democratic emphasis is throughout as is an emphasis on intelligent inquiry. How inquiry gets going in the first place is integral to understanding the revolutionary nature of the Deweyan creature. So with this first pass at Kitcher's ideal of well-ordered science in contrast to Dewey's assessment of ill-ordered science — a condition still with us today — I turn to the evolution of intelligence and inquiry via Hickman's technoscience as integrated with Dennett's Tower of Generate-and-Test.

The evolution of inquiry: from just having experiences to deliberately producing them

> …technology was for Dewey an active method of generating and testing new skills, as well as reconstructing old ones.
>
> – Larry Hickman (1990:19)

Dennett (1995) provides a useful heuristic for thinking about how experience, inquiry, and science co-evolve out of evolutionary processes. He calls it the Tower of Generate and Test, drawing from terms in computer science that signify the algorithmic nature of natural selection. At each level of the tower, an evolutionary strategy is generated and subsequently tested in the world. Those that are more successful tend not to go extinct as quickly. Given what Flanagan has described as Darwinism-by-analogy (as opposed to strict Darwinism, see Flanagan 2009, and Solymosi 2012a), each level of the Tower describes a general set of patterns with specific capacities or traits. As evolution carries forth, new levels emerge that indicate new skills or traits. As Dennett puts it, "as each new floor of the Tower gets constructed, it empowers the organisms at that level to find better and better moves, and find them more efficiently" (Dennett 1995, 373). With the increase in complexity of organization that each new level illustrates, the ability of those creatures to anticipate similarly increases. The ability to recognize ever more complex patterns and to respond appropriately is indicative of mentation. This emphasis on action in the world is in direct contrast with the older conception of experience of Descartes and Hume that is at the heart of the project of reconciliation.

The project of reconciliation is fundamentally flawed in its sensationalistic conception. This creeping Cartesianism is hard to evade (Solymosi and Shook 2013). As we will shortly see, even the staunch anti-Cartesian Dennett succumbs in the end to a Cartesian conception of the mind as representational and largely (but not clearly consistently) cranium bound.[5] To combat this creeping Cartesianism, pragmatists like Dewey and Dennett appeal to evolution. They both argue for a deep continuity between the physical, the organic, and the mental.[6] The details of this continuity do not concern us here but are operative in the following discussion in three ways.[7] First, there is historical continuity between less complex and more complex organisms. Second, there is developmental continuity between less complex processes or skills and more complex ones — found both

[5] While the purpose of this paper is to introduce Deweyan creatures, some readers may nevertheless wonder where Dennett is situated in this sketch, especially since it may come across that Dennett is arguing against Dennett. From my perspective, Dennett is a transitional figure who has one foot in the old Cartesian ways and another foot in the new Darwinian ways. It may be useful to think of Dewey as a pioneer, who went into new terrain with limited tools (i.e. the science of his day) and covered a lot of ground, whereas Dennett (and others like Paul and Patricia Churchland or Owen Flanagan) are bridges (or bridge builders) to this new terrain initially explored by Dewey. Unlike Dewey, Dennett et al. are coming from an American philosophical landscape influenced by analytic philosophy and have at their disposal approximately fifty years of scientific advancements to draw upon. As is the case with any transition or evolution, there will be elements and vestiges of the old – some still useful, some to be discarded – among the new developments. And so there is a creeping Cartesianism that requires not only excision but also vigilance. I thank an anonymous reviewer for raising the concern about Dennett's position in my thought. I also thank Mark Tschaepe for many conversations over the years about this very issue: the bridge metaphor may well be his.

[6] Dewey calls the differences *plateaus*, specifically the physical, the psycho-physical, and the mental (LW1). Dennett describes these differences in terms of patterns, the physical, the design, and the intentional (1987). To understand these patterns, Dennett suggests, we take up attitudes or stances to their respective patterns. The continuity between these patterns is developed into what Dennett calls *cascading cranes* (1995). In a similar fashion, Hickman speaks of *platforms* (2001). These engineering metaphors are appropriate and useful; but it is equally important to remember that there is no grand designer. So I also suggest here that Terrence Deacon's nomenclature also be considered (2011): the physical corresponds with Deacon's thermodynamics; life or design or the psycho-physical with morphodynamics; and complex life, intentionality or mentation with teleodynamics. Further work is important here but goes beyond my present purposes. However, see Dennett's review of Deacon (2013), and my 2015.

[7] See Dewey 1938/LW12, Johnson 2007, Solymosi 2011a, and Sullivan 2015. Sullivan is especially poignant with regard to the latest research on our microflora.

ontogenetically and phylogenetically. Finally, there is continuity between what is traditionally taken to be the inner and the outer. Prior to Darwin, the distinction between inner and outer came in the form of mind/body dualism or mind/world dualism. After Darwin, the dualism became materialism — but nevertheless remained Cartesian. That is, the problem of explaining how a brain represents its body and/or its world remains a central problem for philosophy and cognitive science, insofar as a Cartesian materialism sets the conditions. For the pragmatic naturalist, trying to locate mentation within the organism or the brain is a fool's errand that simply recapitulates the problems of Cartesian dualism in materialist terms. In casting experience as organism-environment transaction, the boundary between inside the organism and outside of it is itself blurred. The boundaries we inquirers draw for what goes on between or across the skin barrier is arbitrary, if often useful. The difficulty is the presumption that one boundary serves all the needs of inquiry absolutely. Indeed, the creeping Cartesianism that drives this presumption is so strong that this third point requires emphasis that there is continuity not only between body and world but also between brain and body: just as the skin is an artificial barrier so is the cranium.

With this caveat on continuity, I now turn to integrating Dennett's Tower of Generate-and-Test with Hickman's Deweyan conception of technology and science. To do so, I take up my Deweyan conception of experience as the transaction between organism and environment, symbolized as *Œ*. To be clear, I will use the symbol *Œ* to signify experience so conceived as organism-environment transaction. For brevity's sake, Œ is understood to be dynamic and non-linear (Solymosi 2013). This process is also taken to be evolutionary.[8] On this Œ transactional view, the ontological separation of mind and world or mind and body is simply evaded. Œ is a product of and participant in evolutionary processes, initially only in a biological sense but also now culturally. There is no unbridgeable separation between mind/body, mind/world, or nature/culture. There are only changes or phases in the natural process.[9] The changes that come from adaptation are changes that can be described in terms of regulatory mechanisms of Œ (Solymosi and Shook 2013). *Homeostasis* is commonly treated as the only regulatory mechanism that matters or even exists. Undoubtedly, it is integral to maintaining a fixed set point in Œ. The easiest example is body temperature: sweat when hot, shiver when cold. But homeostasis goes only so far; it does not account for novel needs, for the possibility of new set points. *Allostasis* is the regulatory mechanism that affords such anticipation. Its classic example is the physiological changes of higher levels of cortisol, adrenaline and/or testosterone prior to battle or sex. The body prepares for changes yet to come in the environment. So new set points are aimed at. With greater complexity in Œ, both homeostatic and allostatic mechanisms are capable of doing new things with old ways.[10]

Consider the first floor of Dennett's Tower of Generate-and-Test (1995, 374ff), the self-replicating organism, the Darwinian creature. It is barely homeostatic: it keeps its pattern going long enough to make a copy of itself. That's it. There's no anticipation, no capacity for learning. But some Darwinian patterns evolve sufficient phenotypic plasticity for operant conditioning. Through Œ, these Skinnerian creatures learn what behaviors bring about what outcomes. So new ways of Œ are generated and thus tested in the world. Not every Œ is pleasurable, survivable, or replicable. If an organism were capable of anticipating what novelties are likely to occur next, then this

[8] This symbol illustrates the complete entanglement of organism and environment, not only as the proper evolutionary unit as Griffins and Gray have argued (2001; Solymosi 2013; and Solymosi and Shook 2013) but also has an ontological whole the parts of which (the O and the E) are only discerned according to specific methodologies for designated research problems.

[9] Cf. the earlier discussion in note 6 of Dewey's plateaus, also called phases by Dewey and by Hickman, Dennett's patterns, stances, and cranes, and Deacon's dynamics.

[10] For more on homeostasis and allostasis, from a pragmatist perspective, see Schulkin 2003, 2011a, and 2011b.

organism's transactions with its environment are not only more likely to increase the chances of survival but of replication and pleasure too.

Thanks to the operant conditioning characteristic of the Skinnerian creature, the organism becomes capable of anticipating previously engaged environments: what was once novel becomes routine and expected. The advantage is clear over the Darwinian creature, but it is lacking from our perspective. Learning only happens post hoc for the Skinnerian. The next step in this evolutionary sketch is to take what's already operative in Œ and put it toward what could be the case but is not yet. In the terms of regulatory mechanisms, we see the shift from merely homeostatic processes to allostatic ones that are made possible by the older homeostatic processes. This shift or development becomes particularly potent when the anticipations take on a greater degree of foresight. One way to increase foresight is to increase the degree of immediate detail: there is a world of difference between distinguishing whether or not a small dark speck moves across a visual field and whether what is moving across the visual field is a fly or a lead pellet. The frog lacks the finer grade of detail and is all the worse for it in the scientist's laboratory.[11] Another way to increase foresight is to extend it spatiotemporally. The farther ahead an organism can anticipate what will happen at a spatiotemporal distance in its environment the better its odds at navigating Œ.

The evolutionary achievement that affords such Œ is the emergence of nervous systems. These dynamical systems are governors of the multi-system processes of body and world. Prior to nervous systems, Œ was only immediately had. After and thus with nervous systems, Œ became controllable as well. What nervous systems make possible is the advanced anticipatory capacity of imagination: the taking of what has happened and happening to adjust to what could happen in the future, in the distance. Dennett distinguishes this advancement in the Tower of Generate and Test by appealing to Karl Popper's famous quip that such a skill "permits our hypotheses to die in our stead" (Dennett 1995, 375). Long before Popper's pithy phrase, pragmatists like Peirce and Dewey recognized the critical contribution of imagination and the dramatic rehearsal for Œ (cf. LW1: 221). The benefits of imagination for navigating future Œ are obvious and numerous. An organism no longer needs to have the direct and immediate transaction with a specific environment in order to adjust to it. Now, based on past Œ it has had, it can anticipate and adjust accordingly, thereby increasing its odds at successfully regulating dynamic patterns.

As Œ continues, for both the environment and the organism — ontogenetically and phylogenetically — the imaginative capacity improves in both immediate detail and spatiotemporally. It is important to remember that on Dewey's account of Œ, it is both a doing — what the organism does to the environment, sometimes in an effort to alter it for the better — and an undergoing — what the environment does to the organism, often in return to the organism's doings, to which the organism must adapt (Dewey 1917). In short, the point is that through dynamic feedback loops and subsequently feedforward loops, both the organism and its environment are transformed. This point is a subtle one, at once obvious yet unappreciated. Among social animals, some things they do are indicative of the situation at hand: a present need or a problem on the horizon. Gestures and calls communicate the needs and the on-coming difficulties. But gestures and calls are immediate and impermanent, lasting only as long as the memory of the communication does. If such information is solely or primarily kept strictly within the organism, then its longer-term spatiotemporal consequences are limited not only to that organism but also to the idiosyncrasies of that life. To make that information more readily available to other organisms, who share an environment further enhances that population's abilities to anticipate.[12]

[11] See Dennett 1987 and Akins 2002.

[12] One way to do this is to transform parts of the environment into affordances. Natural affordances are those opportunities for action that just happen to become available when an organism relates to an environment serendipitously. Artificial affordances are opportunities for action that organisms bring about to

The evolutionary step from immediately sharing ideas via communication (calls and gestures) to altering environments to better afford informative symbols for imagination marks the final level for Dennett and his description of the Tower of Generate-and-Test. Gregorian creatures are the next level. They are named after the psychologist Richard Gregory in honor of his work on the role of information in tools and artifacts. In the externalization of information about the environment back into the environment in the forms of tools and artifacts, Gregorian creatures mark the arrival of a new medium for evolution: *culture*. Where the previous levels of the Tower evolved through genetic selection, the externalization of intentionality into the environment enables a newer, faster medium of evolution. This externalization is found, for example, in social animals that gesture to one another, whether it is by repeating vocalizations, or making faces, or in sharing tools, or in the use of words.

So powerful is the effect of language on an organism that Dennett sees words as "mind-tools" that radically alter an organism's inner environment through the cultural interaction within its exterior environment that is now full of "words, words, words" (1995, 417). In more words, as intentional consciousness first emerges with the development of nervous systems, full-blown language, above and beyond mere communication, evolves among the interactions of the nervous systems of social organisms. The intelligence that such mind-tools bestow on a cultural organism through what we could call enculturation but already do call education is so empowering that the information an organism can process about the environment becomes staggering in comparison with non-linguistic Popperian creatures. For this very reason, Dewey refers to language as "the tool of tools" (Dewey 1925/LW1: 134).

Within the Gregorian level of the Tower of Generate-and-Test, there is one last achievement that is a real game-changer: "it is the one that gives our minds their greatest power," writes Dennett, "once we have language – a bountiful kit of mind-tools – we can use these tools in the structure of deliberate, foresightful generate-and-test known as science. All the other varieties of generate-and-test are willy-nilly" (Dennett 1995, 380).

What makes science a particularly potent form of generate-and-test is not simply that it makes mistakes, which all other forms do as well, but that it makes them publicly in such a way that allows science to be self-corrective in ways that all other forms of fixing belief are not. Prior to science, all the generating-and-testing of ideas and actions were done as a matter of survival necessity. Where there was foresight, it was short-term and quickly tested. Its results were never quite clear on what went wrong or why. Science, however, has gone above and beyond by setting up a sensitive social structure that is open to and indeed thrives upon self-criticism through the comparison of ideas, methods, activities, etc. – all of which is made possible by language.

The predominant tools used by Gregorian creatures are words (Dennett 1995, p. 378). This "tool of tools" allows for a plethora of reminders and cues for sustaining long-term thinking and planning. Such a tool goes well beyond the skin of the organism and well into the environment. While Gregorian creatures make significant use of tools to anticipate the future (thus allowing for greater options for action, thus greater degrees of freedom), it is a particular breed of Gregorian creature which has the capacity for technology as

expedite life functions. The recognition that specific trees or branches are better for climbing affords new Œ as does the recognition that specific types of stone are better for cutting. Such affordances are better utilized if shared. An immediate way of sharing is by doing together. This is reminiscent of the Skinnerian creature. Another way of doing that is distinctly Popperian is to share ideas nonverbally. The relationship between skill and idea takes us well beyond the limits of this already wide-ranging essay. Consider, however, the theory of continuity at work in this sketch. As higher levels of the Tower are constructed, they are constructed out of the achievements and possibilities of the lower levels. This marks a growth in continuity. And so the lower level skills yield higher level abstractions (see Deacon 2011). Ideas are skills of imagination; when ideas are shared, they are tools of culture.

Hickman describes it. This particular creature is unlike any other on the face of the Earth. For it not only imagines new ways of living but also foresees such possibilities through a creatively experimental and democratic attitude. Only through such a cultural attitude is there a possibility for the integration of science and art toward the end-in-view of a creatively democratic culture as described earlier.

At this stage, we can begin teasing apart the perspectives of Dewey and Dennett. The first step in doing so is to note and reject Dennett's still Cartesian way of speaking about minds as individual things that bodies have. In contrast, Dewey's rejection of the reified *mind* in preference of organism's *minding* environments is advocated, especially if we take to heart the third characteristic of continuity, discussed above. That is, the continuity between the interior/exterior of an organism's transaction with its environment is critical for understanding the reconstruction of mentation in light of science. To refer to J.J. Gibson's theory of affordances, the Deweyan conception of Œ rejects the Cartesian atomism and individualism in favor of a conception of minding that is not only embodied in the organism but also embedded and extended into the environment as a stable activity or dynamic scaffolding of meanings that enable an organism to act intelligently. As meanings are guides to action, they afford an organism various opportunities for action. Such affordances are anticipations of possible activities that may be undertaken. The stronger the minding is, the stronger the imagination is, and the better anticipations an organism can have. The symbolization of meanings that language provides brings about a new level of organic activity: culture. Just as there are physical or biological affordances, there are cultural affordances too. A cultural affordance is an artifact of human activity that may be but not necessarily is the product of deliberate inquiry. Nonetheless, cultural affordances are key to productive inquiry (Chemero 2009; Solymosi 2013b; and Johnson 2014).

On this view, a language is a cultural affordance (indeed a complex of cultural affordances, like words and idioms) that relates the organism to its environment.[13] This organism – a person – has among its environs other organisms, i.e. other people. The brains and bodies of all these persons present information, much of which is symbolic or capable of being symbolized. The vast adjustments persons make to themselves and their environments is thoroughly linguistic. This is not to say that all Œ is or has become (strictly) linguistic; rather that language affords novel Œ that may or may not be explicitly linguistic. Œ at the level of the cultural is imbued with meaning because of the empowerment of language and symbolization.

The most obvious example of this bio-cultural development is the intelligent extension of our brains and bodies into the environment in the tools and techniques produced by technology (in Hickman's sense to be discussed momentarily). Imagination is at the heart

[13] The relationship between language and culture/society is complex. Discussion of it exceeds the limits of this paper. Insofar as language is a cultural affordance, it is one that makes other affordances possible: an affordance of affordances, or, as an anonymous reviewer put it, a possibility of possibilities. As such, some may argue that language is a condition for the possibility of social or cultural affordances. To argue that would be to go too far, beyond the scope of Œ and risk an unwarranted transcendental turn. Of course, there are some cultural affordances – e.g., novels, stories, books generally – that are only possible with language, and so language is a condition for their possibility. However, not all cultural or social affordances are linguistic or made possible by language. Two examples come to mind: the Œ of non-human mammals, such as voles and primates, are social if not fully cultural, but nevertheless pre- or proto-linguistic but not fully linguistic; and the bonding relationship between a human mother and her child, particularly as developed through the act of breast-feeding. See Nöe 2015, 3ff, on human breast-feeding as an organizing activity primarily to prepare the child for social/cultural Œ, including language, in contrast to non-human breast-feeding which is strictly a matter of nutrition. Undoubtedly, there is more to be said on the nature of language as a cultural affordance (as well as the nature of a cultural affordance in general) than can be said here. To that end, not only must we avail ourselves of Dewey's ideas but also the work of George Herbert Mead. I thank an anonymous reviewer for raising this important issue.

of anticipation. The more creative our mindings or culture, the greater our ability to anticipate. The deliberate and conscious effort to set the old ways to new uses marks off Œ from just happening to cultural Œ bringing itself about in a self-conscious and deliberate manner. If we continue to discern higher levels of the Tower of Generate and Test, it should become clear that of the genus Gregorian, there is a new species emerging. Following Dennett's pattern of nomenclature, I propose naming this new level Deweyan creatures, after Dewey's vision for a technoscientific and democratic culture.

Following Dewey, Hickman sees "*technology as a cognitive activity within the evolutionary history of complex organisms*" (Hickman 2001, 21, italics in the original). If we gauge each level of the Tower of Generate and Test as a new level in awareness of action, environment, and plausible futures, the Deweyan notion of technology, as "*the invention, development, and cognitive deployment of tools and artifacts, brought to bear on raw materials and intermediate stock parts, with a view to the resolution of perceived problems*" (Ibid, 12, italics in the original), is the next step in anticipation. In other words, a technological and democratic culture affords persons a greater ability to anticipate the future because such a culture deliberately cultivates imagination and creativity with the general end-in-view of democracy.

Humans are social organisms who have evolved and deliberately developed an ecological niche in which information-conveying symbols afford individual humans and human groups greater reliability and stability in their efforts to manage their lives and environments, through the process of adjustment. Deweyan creatures grow out of Gregorian creatures because they recognize that they are not only overtly technological but that they are also inheritors and developers of technologies of imagination, i.e., science, art, and democracy.

The marking feature of the Deweyan creature is its recognition that its way of life is a product of evolution, that its way of life is self-conscious of both this fact and the fact that this awareness provides the means for guiding the future course of evolution in an ever-more deliberate fashion. This awareness, however, does not guarantee success or progress. Rather this awareness brings a further recognition of just how unique and precarious this way of life is, especially in its infancy.

Our words do not represent or correspond to the world in the naïvely realistic sense. Words do re-present the world by setting patterns into new relations. These relations produce new information; they afford us greater opportunities for action. Central to these cultural affordances is education. It is a process that recognizes that each student has his or her own recognition of difference and similarity in order to cultivate both a shared sense of belonging to a culture and community and a unique sense of becoming a responsible individual within that community. Education, then, is the process by which a child becomes an intelligent and competent inquirer.[14]

The patterns at play that are productive range from the bodily to the cultural. Among these patterns are the cultural activities we learn to perform with our bodies. The exemplar of this is speaking. Other activities include dancing, fighting, singing, writing, cooking, and inquiring in deliberately experimental ways. These skills – *techne* – are rooted in the bodily and cultivated by the use of language. Yet these cultural activities are not strictly bodily nor linguistic. The affective aspect of Œ can be expressed by art or stated by science, but such expressions or statements are not identical to the quality of the situation (Hickman 2001, 90–91). What both art and science provide are means for effecting new experiences: they are pattern-modifying patterns of activity. The pattern that is modified is Œ, specifically the human subject and its social relations (including other subjects); the pattern(s) doing the modifying are the activities of other humans, activities that we refer to as scientific or artistic. Alva Nöe, influenced by Dewey's

[14] Integral to this view of education is that inquiry begins wherever the inquirer happens to be. We are where we are, not necessarily where we would like to be. We only have the specific tools – linguistic and otherwise – at our disposal that our specific situation affords us.

aesthetic theory, puts the point this way, "Technologies organize our lives in ways that make it impossible to conceive of our lives in their absence; they make us what we are. Art, really, is an engagement with the ways our practices, techniques, and technologies organize us, and it is, finally, a way to understand our organization, and, inevitably, to recognize ourselves" (Nöe 2015, xiii).

The difference between art and science is not a difference of method or starting place but of specific purpose. Both employ the general pattern of inquiry. For example, Hickman discusses the experimental method at work for a novelist working on her next novel (2001, 33–34). The raw materials and stock parts of which she makes use are those of past experiences, whether they be items from her personal life or from stories or accounts of others whom she knows or from historical research. The problems in need of solving vary from plot structure and character development to the overarching problem of conveying to others a proposed solution for dealing with the human condition. In the end, a product is produced: a new novel. This general pattern of intelligent inquiry is no different than the approach Darwin took in the writing of *Origins*, as he helped himself to the work of Lyell and Malthus and many others. There is a difference in purpose, however, between the artist and the scientist. It amounts to this: science provides the means that art puts toward or utilizes in its (often critical) expression of our ideals.

The project of reconstruction must make use of this partnership between science and art. Central to this project are the ideals of freedom and democracy. Constitutive of these ideals – entangled as they are – is the role of criticism. From Socrates on, freedom is most likely to flourish in the proper conditions, which, as history has shown so far, are found in democratic cultures. Democracy, as Dewey saw it, is a way of life, of transforming culture, to effectively enrich experience for all. To attain this end, freedom must not only be sought and cultivated, it must also be enacted through the activity of critical reflection. In order to be free, we must be able to question all that we hold dear and be prepared to adjust according to the best results of our inquiries. In other words, to be free, we must be experimental. To be experimental is to be consciously active in one's deliberate pursuits of one's ideals, including the reflective criticism of those ideals.

Intelligent activity, then, aims, in part, to alter the environment – social, physical, and biological alike – as well as to promote the adaptation of the individual to changes in the environment. I say that alteration of the environment is social because we are *social* animals. Our environment involves other individuals, and their unique and shared values and goals. I say that alteration is also physical because we have certain values about the physical world and its use for our goals, both of which have consequences for the social and the biological, like our policies over food production from the farm to the kitchen. I say biological because we humans are social *animals*. As much as our social relations empower us through the sharing of information, our biology sets specific limits on the possibilities of both cultural and biological evolution. Understanding those limits empowers our imaginations to create new vistas. This creativity is characteristic of Deweyan creatures.

If I had to put the evolutionary difference between the Deweyan and the Gregorian into a nutshell, I would say the difference is that the Gregorian lacks the imagination for reconstruction, just as the Popperian lacks the imagination for science, while the Deweyan creature takes another step in intensifying imagination. It recognizes and embraces the instrumentality of both science and art as continuous problem-solving activities – viz., as imaginative activities – for democratic life. It is important to remember that Deweyan creatures are a variety of Gregorian creatures. At the strictly genetic level, Deweyan and non-Deweyan creatures are not only capable of copulation but of producing viable offspring as well. The difference between these creatures is cultural. In order for a Deweyan and non-Deweyan to copulate (with the exception of rape), let alone procreate, something has got to give. Either one (d)evolves into the other or becomes the cultural

equivalent of a mule.[15] Other varieties of the Gregorian have not only evolved but have gone extinct: one need only review the history of cultures, viz., of hominid groups that inquired and made use of symbolic communication.

The Deweyan creature is relatively new, only beginning to distinguish itself with the rise of both modern science and modern democracy. It is only starting to set roots and to consider blossoming in the on-going aftermath of Darwin's *Origins*. The future of the Deweyan creature remains unclear, and extinction is likely. Nevertheless, the imaginative capacities of an individual in a scientific-democratic society outweighs the capacities of any other Gregorian.

Creative democracy or dopamine democracy — the choice before us

> This notion of a species of animals gradually taking control of its own evolution by changing its environmental conditions leads Dewey to say, in good Darwinian language, that 'growth itself is the moral end' and that to 'protect, sustain and direct growth is the chief *ideal* of education'. Dewey's conservative critics denounced him for fuzziness, for not giving us a criterion of growth. But Dewey rightly saw that any such criterion would cut the future down to the size of the present. Asking for such a criterion is like asking a dinosaur to specify what would make for a good mammal or asking a fourth-century Athenian to propose forms of life for the citizens of a twentieth-century industrial democracy.
>
> – Richard Rorty (1999: 120)

Richard Bernstein shares with Rorty the import of the Darwinian turn for education, particularly education for a democratic ethos. Bernstein notes that at every turn in Dewey's thought there is an underlying democratic ethos at work. Such a personal ethos is what undergirds the political forms of democracy. Indeed, Bernstein remarks, "without a vital democratic *ethos* or culture, political democracy becomes hollow and meaningless. Democracy as a form of government is an outgrowth of, and is dependent upon, this living *ethos*" (Bernstein 2010: 74). The recognition of the possibility and need of a democratic ethos is characteristic of the Deweyan creature.

I described the Deweyan creature using Kitcher's description of well-ordered science as conducted by democratically-sensitive representatives — people who have a deep understanding of the state of affairs and how that state affects not only themselves but also all other lives involved with those affairs. Ideally, the selection of such representatives would be a wholly democratic affair insofar as those making the selection are as personally democratic as those selected. Such a world is not yet ours. And so we come to the first of two difficulties I raise and with which I conclude this brief introduction to Deweyan creatures: how do we Deweyan creatures, so few in number, bring about the democratic ethos, without becoming elitists?

Bernstein understands that "Democracy requires a robust democratic culture in which the attitudes, emotions, and habits that constitute a democratic *ethos* are embodied" (2010: 86). He emphasizes "the fragility of democracy[; that] Unless we constantly work at incorporating a democratic ethos into our everyday lives, democracy can all too easily become hollow and meaningless" (2010: 88). Indeed, democracy runs the risk of the ill-ordered science Kitcher describes as three tyrannies: of wealth and power, of ignorance, and of the majority. These tyrannies are at the heart of Plato's critique of democratic life in the *Republic*. His solution, as eloquently expressed as it is, is nevertheless problematic for Dewey. Bernstein explains:

> Throughout his career, Dewey was critical of what came to be called "democratic realism" or "democratic elitism." Democratic realists adopt a version of the aristocratic argument. They claim that in the contemporary world, in which individuals can be so effectively manipulated by mass media and the problems of society have become so complex, a viable democracy requires the "wisdom" of an intelligentsia, who, like Plato's *aristoi*, "rule not in their own interests but in that of society as a whole." But Dewey was deeply suspicious of those who advocated that a

[15] That this is easily applicable to contemporary philosophy has not escaped the attention of the author. Cf. Kitcher 2012b.

> viable democracy requires a special class of intelligentsia which has the responsibility to make "wise" democratic decisions. (2010: 74–75)

The mass media's manipulations of the masses was a concern Dewey nevertheless felt. The problem with both democratic elitism and democracy as practiced in Dewey's life is that neither is democratic enough. The elitism is no solution at all to the internal problems of democracy. Bernstein continues his diagnosis:

> Dewey sharply criticized the abuses of laissez-faire mentality, the fetish of individualism, and the "pseudo-liberalism" that had become so dominant during the last decades of the nineteenth century in America. He believed that the greatest dangers to democracy are *internal* ones, which arise when the democratic *ethos* and democratic practices are undermined. (2010: 76–77)

This undermining brings us to the second problem: if the key to democratic life is not the elimination of conflict but the recognition of contingency and the inevitability of conflict, then another characteristic of the Deweyan creature is how it *responds to conflict*. As Bernstein puts it, "this requires imagination, intelligence, and a commitment to solve concrete problems" (2010: 84; see also Bernstein 2006: 195). This characteristic of the Deweyan creature seems untenable with the view of democratic representatives put forth by Kitcher. These requirements require proper cultivation, the right sort of education. But we today live in a society whose neoliberal market mentality encourages us to be constantly distracted, most especially with our technological devices.

Mark Tschaepe (2013) argues that we must not forget Plato's central lesson: unintelligent, uneducated democracy sets a society on its way to tyranny. So long as we are free to pursue anything we want, most people will pursue the lower appetites and pleasures. As Socrates says in the *Republic*: people "aren't filled with that which is and never taste any stable or pure pleasure. Instead they always look down at the ground like cattle, and, with their heads bent over the dinner table, they feed, fatten, and fornicate" (586a–b). Tschaepe observes that reading this passage brings to mind people and their electronic devices. Indeed, the evidence is growing that dopamine loops and dopamine squirts are operating during such activity (Rosen 2012). The incessant but broken-up demands of multitasking habituates people into constantly seeking the next hit of dopamine – but without the joy of consummation (which is the work of the opioid system, not the dopaminergic). As people continue to seek more attention from diverse but narrow sources (e.g., email, text, Twitter, Vine, Snapchat, etc.), Tschaepe argues, people become less able to attend to any one task satisfactorily.

Tschaepe notes what both Plato and Dewey argued before him: democratic life requires intelligence and sustained attention. Social media mediates our interactions with one another. Yet it lacks expression: there are no gestures, no subtleties of tone, no indications of posture or facial expression, utterly lacking in tactility beyond the thumbs. It encourages distraction. Nicholas Carr observes the effects of Internet use on our cognitive load, writing "Our ability to learn suffers, and our understanding remains shallow. Because our ability to maintain our attention also depends on our working memory… a high cognitive load amplifies the distractedness of experience… as we reach the limits of our working memory, it becomes harder to distinguish relevant information from irrelevant information, signal from noise. We become mindless consumers of data…" (2010, 125). He points toward a Œ-transactional view: "Try reading a book while doing a crossword puzzle; that's the intellectual environment of the Internet" (2010, 126). This environment is part of our culture, especially with regard to our social interactions. Our use of these devices affords anti-democratic behavior in that we are able to escape those in close bodily proximity but who share a different opinion. Instead, people connect with others who are far in body but close in opinion. In other words, we can connect with those who think like us regardless of where they are on the planet while ignoring those who may think differently from us yet live nearby.

Dewey saw such a threat to democracy in 1916, writing:

> In order to have a large number of values in common, all the members of the group must have an equable opportunity to receive and to take from others. There must be a large variety of shared undertakings and experiences. Otherwise, the influences which educate some into masters, educate others into slaves. And the experience of each party loses in meaning, when the free interchange of varying modes of life-experience is arrested. A separation into a privileged and a subject-class prevents social endosmosis. The evils thereby affecting the superior class are less material and less perceptible, but equally real. Their culture tends to be sterile, to be turned back to feed on itself; their art becomes a showy display and artificial; their wealth luxurious; their knowledge over-specialized; their manners fastidious rather than humane.
>
> Lack of the free and equitable intercourse which springs from a variety of shared interests makes intellectual stimulation unbalanced. Diversity of stimulation means novelty, and novelty means challenge to thought. The more activity is restricted to a few definite lines — as it is when there are rigid class lines preventing adequate interplay of experiences — the more action tends to become routine on the part of the class as a disadvantage, and capricious, aimless, and explosive on the part of the class having the materially fortunate position. (MW9: 90)

Dewey goes on to discuss Plato's views of slavery beyond the legalistic sense. Tschaepe's concern is that we have become slaves to our devices.

More disconcerting are Henry Giroux's observations regarding the use of brain science within a neoliberal context. Writing along similar lines to Dewey's concern, Giroux describes our current situation:

> Think of the forces at work in the larger culture that work overtime to situate us within a privatized world of fantasy, spectacle, and resentment that is entirely removed from larger social problems and public concerns. For instance, corporate culture with its unrelenting commercials carpet-bombs our audio and visual fields with the message that the only viable way to define ourselves is to shop and consume in an orgy of private pursuits. Popular culture traps us in the privatized universe of celebrity culture, urging us to define ourselves through the often empty and trivialized and highly individualized interests of celebrities. Pharmaceutical companies urge us to deal with our problems, largely produced by economic and political forces out of our control, by taking a drug, one that will both chill us out and increase their profit margins. (This has now become an educational measure applied increasingly and indiscriminately to children in our schools). (2011, 85)

Giroux is pointing to the tyrannies discussed by Kitcher, of wealth and power, of ignorance, and of the majority. The majority of us are woefully ignorant of economics, technology, and, especially, neuroscience, let alone how these three are entangled with each other. This tyrannical trinity is antithetical to the democratic ethos imagined by Deweyan creatures. Our democratic culture in the West, especially in the US, is enslaving us, via our devices, to triviality. Giroux continues:

> Surely, common sense is of little help in explaining the existence of brain research that is now being used to understand and influence how people respond to diverse sales and political pitches. Nor does it explain why there is not a huge public outcry over the emergence of a field such as neuromarketing, designed by politicians and corporations who are "using MRIs, EEGs, and other brain-scan and medical technology to craft irresistible media messages designed to shift buying habits, political beliefs and voting patterns." (2011, 158)

Democracy, privately and publicly, requires informed citizens who interact with diverse ways of life, seeking a common good – that is, democracy requires Deweyan creatures. The dopamine democracy threatens such an enlightened and creative democracy. Taking up a pragmatic conception of experience as Œ-transaction affords us a creative way forward for inquiry. Failure to do so effects the dopaminergic dysevolution from democratic ideals.

What is the response to the dopamine democracy? Bernstein offers hope. The first bit of which is an emphasis on creative democracy's not only always being a task before us but also something "that can be fully grasped only when one understands the linkage between democracy and experimental science, the

meaning of experience, the claim about the continuity of means and ends, and the emphasis on communication, interaction, and sharing" (2006: 193). Indeed, Bernstein articulates what I take to be central traits of the Deweyan creature. With regard to the nature of a *creative* democracy — in direct response to the neoliberal globalization that sets the scene for Tschaepe's dopamine democracy — Bernstein writes that "It is intrinsic to the very idea of such a democracy that is always a task before us — a task the demands passionate commitment and reflective, flexible intelligence" (2006: 202).

What does this reflective faith require (2006: 193) for effecting creative democracy? Bernstein's answer is a well-ordered and concise description of the Deweyan creature. He writes:

> But let me remind you that Dewey speaks of *creative* democracy. What does "creative" add to our understanding of democracy? I think there are two central points that Dewey wants to make. First, that his understanding of democracy both presupposes and fosters creative individuals [viz., we Deweyan creatures]. Situated creativity is one of the most basic categories in Dewey's thinking. The democratic personality is one that is *flexible, fallible, experimental, and imaginative* [my emphasis]. Here again we see why Dewey placed so much emphasis on education in a democratic society. Without creative imagination and intelligence, individuals lack the resources to deal with novel situations. Ultimately this type of creativity involves a number of virtues: *the courage to experiment, to change opinions in light of experience. It also requires a genuine respect for one's fellow citizens — a respect and openness that is not simply professed but concretely exemplified in one's practices* [my emphasis]. These practices do not arise without careful cultivation of the habits, skills, and dispositions required for creative activity. "Creativity" is not something that is limited to special occasions, nor is it restricted to special aesthetic domains. It can — and indeed ought to — be manifested in all human experience and in our everyday practices.
>
> But there is an even more radical sense in which democracy must be creative. Democracy is forever confronted with the task of creating and recreating *itself*, for democracy can never anticipate the contingencies and the new situations that we confront. A creative democracy is one that always faces new, unexpected challenges. (2006: 201–202)

The task before us is the task of reconstructing our ethics and morals in light of, indeed in response to, our technological products, such as our dopamine devices. The dopamine democracy is a descendant of an older worry about democratic life. That we are able to characterize it in neural terms is evidence that we have progressed methodologically in understanding ourselves as evolved and evolving beings — something Plato simply could not imagine, let alone understand. Our task is not only diagnostic about the tyrannical trinity Kitcher describes — such tyrannies always loom in the shadows — but also prognostic: how are we to use these new tools and devices to thwart current efforts to exploit, enslave, and degenerate human beings? In using these devices as means toward an end for which they are not designed, we begin the process of reconstruction, of re-tooling these devices for our own nobler ideals. Insofar as we Deweyan creatures value freedom, inquiry, and democracy, the more conversation we generate about these very real and felt difficulties the greater the hope we have in resolving them together.[16]

[16] My thanks to John R. Shook and Mark Tschaepe for reviewing parts of earlier drafts, and, especially, to Bill Bywater for feedback on entire earlier drafts of this paper. I also thank an anonymous reviewer for helpful remarks.

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II. CONTEMPORARY DEWEY STUDIES

DEMOCRACY, CONSTITUTIONALISM AND WAY OF LIFE: A DEWEYAN READING OF R. DWORKIN

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ABSTRACT: The relationship between the Deweyan characterization of democracy as "a way of life" and constitutional democracy using the Spanish constitution of 1978 as a reference will lead this article. Such a relationship will be established via the analysis of some of the ideas developed by R. Dworkin. The connections between "a moral reading of democracy" and pragmatic attitudes, understanding legal and constitutional principles as weapons favoring a deepening in the democratic way of life, are defended. It also offers a reinterpretation of the Dworkin critics to Posner and Rorty considering the way Dewey thought the role of the principles and theory in the moral judgments and stressing the relevance of civic virtues.

Dewey defined democracy as a way of life rather than as a set of procedures, more as practice than as theory, and more like habits than rules. He understood that democracy had to do with how political systems establish conditions for the growth and development of individuality. The present study aims to consider the relationship between this characterization of democracy and constitutional democracy, using the Spanish constitution of 1978 as a reference.

This relationship will be established via the analysis of some of the ideas developed by R. Dworkin, mainly in *Sovereign Virtue* and *Is Democracy Possible Here?,* interpreting them from what I consider a pragmatic perspective.

1.

R. Dworkin distinguishes between the majority and the partnership conceptions of democracy. The first, which we could classify as strictly procedural, understands democracy as majority rule, government by the greatest number of people. "The democratic ideal lies in a match between political decision and the will of the majority."[1] This way of understanding democracy, according to Dworkin, does not include the evaluative dimension of democracy. We think, in general terms, that democracy is good and valuable, a social aspiration. And majority rule is not fair or valuable in itself, "it is fair and valuable only when some conditions are met, including requirements of equality among participants in the political process through which the majority will is determined."[2] Dworkin calls this conception the partnership conception. According to this, "government by "the people" means government *by all* the people, acting together as full and equal partners in a collective enterprise of self government".[3]

Dworkin's distinction runs parallel to that regarding the elements that characterize liberal order. He believes that liberal political order is not based on the satisfaction of what he calls "volitional interests" - what people actually want - but on achieving "critical interests", those that make people's lives better. "Critical interests" are not a question of fact, but what people should desire. "I shall from this point assume that any attempt to find ethical foundations for liberalism must concentrate on critical as distinct from volitional well-being"[4] This means there is continuity between ethical and political order, establishing that at the core of liberal order there is a normative commitment. "Political principles are normative in the way critical interests are: the former define a political community we should have; the latter, how we should live in it."[5]

The discussion so far is entirely consistent with the Deweyan perspective democracy. Then, on the one hand, the Deweyan conception of democracy shares the normative perspective with Dworkin. For Dewey, democracy has a transformative aspect so that democratic experiences imply a change in the individual, developing a certain ethos that permeates all areas of life. Furthermore, Dewey distinguished in different circumstances, paralleling Dworkin's distinction, between esteem and estimation, prizing and appraising, the latter referring to those preferences, tastes and

[1] Dworkin, R. *Sovereign Virtue. The Theory and Practice of Equality.* P. 357. Harvard University Press.

[2] Ibidem, 363.
[3] Ibidem, 358.
[4] Ibidem, 245.
[5] Ibidem, 245.

desires that have been subjected to the evaluative analysis of intelligence. (Dewey, LW 7: 264). Finally, Dworkin's definition of partnership democracy is very similar to Dewey's conception of democracy in *The Public and Its Problems:* "Regarded as an idea, democracy is not an alternative to other principles of associated life. It is the idea of community life itself. It is an ideal in the only intelligible sense of an ideal: namely, the tendency and movement of some thing which exists carried to its final limit, viewed as completed, perfected." (PP, LW 2: 328)

2.

It is particularly relevant for our purpose that, at the beginning of *The Possible Democracy*, Dworkin maintains that the principle of responsibility, in his interpretation, that individuals are responsible for leading their own lives successfully, a life of developing their own possibilities, is one of the basic pillars of democracy. "Most of us think that people who do not care what their lives are like, who are only marking time to their graves, are not just different from us but not in the unimportant way that people are who happen not to care whether the Red Sox win. We think that people who do not care about the character of their lives are defective in a particular and demeaning way: they lack dignity."[6] So much so that, for Dworkin, beyond the ideological differences that exist at the core of a democratic society, individuals living in this society must accept their own responsibility as a basic principle on which they must agree. Dworkin believes that this is not a subjective principle but an objective one, that is, something that is beyond one's personal desires. It ultimately implies that, for Dworkin, democracy is committed to the idea that individuals lead lives of self-realization of their potential and/or capabilities.

The proximity to Dewey's perspective could not be clearer at this point, given that Dewey understood that democracy should be measured by its ability to provide individuals with the possibility of their own development and growth. It is individual growth which is the true test of the quality and depth of democracy. "Democracy has many meanings, but if it has a moral meaning, it is found in resolving that the supreme test of all political institutions and industrial arrangements shall be the contribution they make to the all-around growth of every member of society." (RP, MW 12:186)

In both cases we are faced with a liberal interpretation of democracy in the sense that it is related to individuality and its development and represents a rejection of communitarian perspectives that put communities and groups at the heart of political interpretation. Both perspectives converge in maintaining that democracy has a commitment to the moral development of individuals, stressing continuity between ethics and politics.

3.

For Dworkin, this life of self-realization is interpreted in the context of the ethics of challenge. Unlike the ethics of impact that states that " impact of a person´s life is the difference his life makes to the objective value in the world,"[7], the ethics of challenge "adopts Aristotle´s view that a good life has the inherent value of a skillful performance. So it holds that events, achievements and experiences can have ethical value even when they have no impact beyond the life in which they occur. The idea that a skillful performance has an inherent value is perfectly familiar as a kind of value within lives .. The model of challenge holds that living a life is itself a performance that demands skill, that is the most comprehensive and important challenge we face, and that our critical interests consist in the achievements, events, and experiences that mean that we have met the challenge well."[8]

What I want to stress is there is not, therefore, a

[6] Dworkin, R. *Is democracy possible here? Principles for a new political debate*. P 14. 2008.

[7] Dworkin, Sovereign Virtue, 251.
[8] Ibidem, 253.

standard ethic with which to measure the value of events, lifestyles, etc. Ethical value is not related to independent events, but has to do with the development of capacities and opportunities relevant to the circumstances in each case. Contextualism and internalism are two features of Dewey's ethics. Dewey's ethics is contextual given that he believes that rules and principles are not sufficient criteria to assess and establish moral judgments. They require, in line with Aristotelian inspiration, dispositions and habits, abilities that allow ethical perception and wisdom. Dewey's ethics share with contextualist ethics and the ethics of virtue what MacDowell called the theory of uncodifiabilty.[9] Thus, following the latter suggestion, a successful life means, as Aristotle already stated, making the best of the circumstances you are in.

The challenge model assumes, like the ethics of individual growth, a rejection of rationalist conceptions of morals which seek to determine right and wrong regardless of the specific circumstances where individuals operate. The task of growth, like the ethics of challenge, implies the application of intelligence to specific circumstances in an attempt to increase their significance. Both challenge and growth are in essence ameliorative ethics.

4.

For Dewey, the adoption of contextual ethics does not mean the rejection of norms, values and rules. Dewey sought the integration of rules, duties, etc., from the perspective of the agent who has to take decisions and act. All of this is the framework the individual has to deal with and use as a starting point for creative action. The subject does not invent the rules but learns to interpret and mediate them in the situation. In morals and politics we do not ever start from zero. The values and principles that we find in a specific context delimit the field of action and moral judgment.

For Dworkin, this indicates that the ethics of challenge involves the acceptance of certain generalized intuitions such as, for example, that acquiring a state of knowledge of our age or relieving suffering in the world are ways of self-realization and/or components of a good life. From the perspective of the ethics of challenge, the circumstances of life are not limitations but parameters "that help define what a good performance of living would be for him."[10] Thus, Dworkin himself points out that being a member of a specific political community does not constitute a limitation in ones ability to lead a good life, but is a constituent element that sets out the conditions under which one can lead a good life.

5.

The conception of democracy that Dworkin calls partnership, and links with a commitment to the idea of individual self-realization, is the basis for a reading of the constitutional principles in such a way that they can be interpreted as setting the generic conditions that provide the framework for good lifestyles. It is what Dworkin himself calls "a moral conception of democracy." The idea is to interpret constitutional requirements not as limitations on what a community can do, not as formal principles far removed from the democratic way of life, but as the structural conditions that enable this way of life. As such, a moral reading of democracy is opposed to formalism and judicial positivism, or to the pure theory of law such as Kelsen's in which the legal system is a pure expression of the will of the subject of power, highlighting that constitutional principles are not only the mere expression of the will of a collective, but contain an appeal to a moral order which, although historically constituted and produced, aims to positivize values with pretensions of universality.

Dworkin's thesis is that constitutional restrictions serve to stem majoritarian mechanisms and the

[9] This thesis on Dewey's ethics was further developed by me in CEPF 2008, "Moral Virtues and Social Transformation".

[10] Sovereign Virtue , 260.

understanding of democracy as the simple imposition of the criterion of the majority. These restrictions, far from being seen as the limits of democracy, constitute part of it.

This can be interpreted, although probably going further than Dworkin himself would admit, that the "moral reading of the constitution" provides a normative pattern[11] that, in addition to stemming majority impositions and thus guaranteeing individual rights, gives guidance on individual lifestyles that should be encouraged. This moral reading of the role of the Constitution is not a conservative point of view, since, in addition, constitutions can and should be modified, but they are the constitutional mechanisms themselves which ensure that the transformations of a constitution obey the same widely-held principles, whilst also being subject to public deliberation. In my view, this is consistent with the ameliorist and transforming spirit of pragmatism that recommends basing ourselves on existing practices whilst transforming them as the product of reflexive analysis. It is not that we should think that the law is enough, or that it can generate a democratic way of life by itself. A way of life depends on habits and beliefs that only customs and practice can generate. The aim is to highlight the possibility that the Constitution, as a means of inspiring rights, is open to creating new habits, customs and beliefs that are based on intelligent social cooperation as a mechanism for solving social problems. The law, when observed, creates habits and these in turn strengthen convictions and create attitudes and beliefs which are consistent with the principles underlying those laws.

We have already noted that, for Dewey, legal and institutional mechanisms are not enough, and democratic convictions, beliefs and customs are required. Therefore, what I want to emphasize is that the propagation of such things requires the strength and support that an exemplary interpretation of constitutional values provides. The point is to stress the pedagogical mission of an appropriate interpretation of the constitution, identifying social demands and providing social norms and models of desirable behavior. The defense of democracy as a way of life cannot ignore the educational dimension of laws and constitutional interpretation. The thesis is that the commitment of democracy to the development of individuality affects constitutional practice because this development of individuality is the basis of democratic logic. This logic is a consequence of attempting to harmonize different basic values that constitute democracy. R. Dworkin calls this "normative integrity" and relates it to a holistic understanding of the constitution. Of course, constitutional principles can be and often are understood by judges and courts in a conservative manner and sometimes even in the opposite way to the moral conviction from which this position is written, but the interpretive battle over meaning is important in the extension of the moral significance of democracy.

Therefore, the constitution, the principles that inspire it, and the laws derived from them do not prescribe how individuals should live their lives but set out the general conditions, and foster the circumstances that make it possible for individuals to lead valuable lives, worthy of being lived, or lives of personal growth. The claim on which all this is founded is that the development and growth of individuality, a valuable way of life, is not possible if an environment conducive to individual possibilities is not provided, and if constitutions do not contain "in nuce" the principles that allow such development.

6.

In this sense, for example, the Spanish Constitution has added social and participatory rights to the classical liberal rights to increase and deepen the meaning of democracy. However, the moral reading I want to make does not stop here, but aims to go further, to find those elements that cannot only broaden the scope of choice, but also bring the individual closer to the possibilities of

[11] The idea of the Constitution as a normative pattern is inspired by R. Vargas-Machuca.

a genuine exercise of autonomy, that which arises from the exercise of reason, from the understanding of the mechanisms of social cooperation as the basis of social interaction and from sensitivity towards objective and historically situated goods. Referring to the Spanish constitution, it has been stated that "a constitution is not only a legal instrument of identification, legitimation and justification of power, but it is also a lifestyle – constitution here has an affinity with the strongest sense of biological structure – with its own ethos which reflects the beliefs and values prevailing in a society, essential to the development of a plan for coexistence."[12]

Inspired by Deweyan ethics that sought to go beyond formal mechanisms to have a repercussion on lifestyles, leads us to understand the constitution not exclusively from the point of view of negative law placing limits on what others can do - and especially what the majority can do according to Dworkin's concerns - but as orientations or normative guidelines. Thus, constitutional guarantees against racial discrimination would not only have to be viewed as the right one has to not be discriminated against on racial grounds, but also as a guideline for creating rules, laws and institutions that make inclusion and integration a reality which is experienced and incorporated into the lifestyles of individuals. The same applies to freedom of expression according to which in a democratic society citizens not only have a right to freely express their opinions, but also to access accurate information - registered in the Spanish constitution (Article 20.1 d)[13] - and plural[14], that allows an adequate representation of reality, that abides by democratic values, and encourages habits of rational deliberation among citizens. Hence, it is understood that information is not nor may be considered as simply a commodity that can be left to market forces. Democratic logic demands intervention as a means of protecting democratic goods, in this case, for example by requiring regulatory bodies for information and communication, whether written, audiovisual or on the Internet. This also applies to the control of advertising and marketing strategies affecting the most important moral values.

One relevant aspect of such a perspective is the promotion of civic virtue through one of the main tools that the state has to hand: the education system and the educational institutions; schools, colleges and vocational training centers, universities, etc. through which the extension of consciousness civic and democratic values and habits should be encouraged as a primary objective. The advantage of the approach advocated is evident from the Opposition Party and the Catholic Church's opposition to the introduction of the subject "Education for citizenship" intended to promote knowledge, attitudes and dispositions consistent with democratic values and principles. Those who opposed the law claimed that the state was invading an area of private concern, that is to say, ideological and moral education. They even argued in favor of conscientious objection against a state that they considered to be indoctrinating and imposing its will on citizens. After a long legal process, the case was closed with a Supreme Court ruling stating that Article 27.2 of the Spanish constitution[15] gives the state responsibility for training citizens in basic values. Moreover, the Supreme Court, in the closing comments stated that "the educational activity of the State, with regard to common ethical values, not only involves their distribution and transmission, but also the promotion of feelings and attitudes that encourage their practical implementation"[16]

In the same vein one might argue for the establishment of the objective conditions among citizens to promote habits related to a healthy life, - sporting

[12] P. Cerezo. "Una lectura moral de la Constitución". *Papeles y memorias de la real Academia de la Ciencia y de las Artes.* nº 2. 1998. pags. 112-125, p 113.
[13] "The right to freely communicate or receive truthful information by any means of dissemination whatsoever" (CE, 20.1 d)
[14] There are interesting comments in this regard by C. R. Sunstein, in *Republica.com*, ed. Paidos, 2003.
[15] "Education should aim to develop the human personality with regard to democratic principles of coexistence, rights and fundamental freedom". (CE, 27, 2)
[16] Supreme Court. Administrative Litigious Court. Date of sentence: 11/02/2009

activity and the right to quality leisure time (Art. 43, 3)[17] – to the development of knowledge, art, and, in general terms, culture (Art. 44)[18], or to the appropriate enjoyment of the natural and urban environment (Articles 45[19] and 46[20]).

It would be relevant at this point to show how the development of these attitudes, skills and dispositions, in turn, affects the strictly political dimension of citizenship. At this point the reference to Dewey is uniquely illuminating as he showed how the quality of democracy depended on the development of creative individuality. Thus, art contributes to the construction of mechanisms of alternative thinking; philosophy, and literary and artistic criticism cultivate critical thinking; science contributes through familiarity with the experimental method and the contrast with empirical reality and through promoting a realistic and constructive approach to truth and knowledge; and environmental awareness contributes to avoiding absolutist and dogmatic attitudes, teaching respect for difference and expanding a holistic conception of man's position in nature. In general, the collective search for truth, goodness and beauty allows us to appreciate cooperative social intelligence that, as Dewey stressed, is essential to the very idea of democracy.[21].

7.

It is important to clarify the relationship between "a moral reading of democracy", as presented here, and pragmatic attitudes in two ways. Firstly, most interpretations of the political philosophy of pragmatism have stressed the relevance of mechanisms external to the institutional and legal ones as a means of deepening democracy, by appealing to social movements or sources on the margins of political activity as it is traditionally considered. The interpretation I offer requires politics to defend basic democratic values more strongly and sees legal and constitutional principles as weapons for the development of political and social order, favoring a deepening in the democratic way of life. Thus, constitutional principles become abstract tools for specific policy. And this explanatory power demands a development of the corresponding cognitive abilities, sensitivity towards the goods these principles represent and dialogical and argumentative skill that make them effective.

Challenging those who argue that the appropriate setting for the deepening of democracy as a way of life takes place outside the legal and institutional fields, there is this other promising position in which the legal and institutional route supports the generation of customs and habits through which we establish, in accordance with the pragmatist ideal, true democracy, one that is based on individual dispositions towards a free game of cooperation and the application of intelligence for social purposes. The law is not enough for democracy, but it is a necessary element and a valuable tool for the deepening of freedom and equality.

Secondly, in *Justice in Robes* Dworkin devotes a large part of the book to a critique of pragmatic positions in the philosophy of law and focuses on R. Posner and R. Rorty. In general, Dworkin wants to defend the need for theory in the face of relativism, subjectivism,

[17] The public authorities shall foster health education, physical education and sports. Likewise, they shall encourage the proper use of leisure time. (CE, 43.3)

[18] 1. The public authorities shall promote and watch over access to culture, to which all are entitled. 2. The public authorities shall promote science and scientific and technical research for the benefit of the general interest. (CE, 44)

[19] 1. Everyone has the right to enjoy an environment suitable for the development of the person, as well as the duty to preserve it. 2. The public authorities shall watch over a rational use of all natural resources with a view to protecting and improving the quality of life and preserving and restoring the environment, by relying on an indispensable collective solidarity. (CE,45)

[20] The public authorities shall guarantee the preservation and promote the enrichment of the historical, cultural and artistic heritage of the peoples of Spain and of the property of which it consists, regardless of their legal status and their ownership. (CE, 46)

[21] For reasons of space I have omitted the discussion regarding the usefulness or otherwise of cultural paternalism. However, this is included in my book *Democracia como estilo de vida.* Seoane, Mougán y Lago. Ed. Siglo XXI. 2009.

consequentialism and utilitarianism that share the idea of the dispensability of philosophical reflection and recommend being guided by existing practices. Posner argues that judges should ignore philosophical and theoretical issues which, according to Dworkin, is nothing but another version of the pragmatist movement that holds that "the truth in general, and questions of political morality specifically, is created by our practices, and that on these issues there is no truth that is independent of a culture or a specific language."[22]

I maintain that Posner misrepresents the positions of pragmatism and, in considering his reading and his interpretation of the positions of Rorty, it should be remembered that in his *Ethics* Dewey did not consider that principles or theory do not have a role in the development of moral judgments. He understood that they were only one of the elements of moral life, - although essential - that had to be integrated with others. Pragmatism is closer, in my view, to Dworkin's position, although I differ in the fact that, while Dworkin gives an important role to the judiciary, - what he called "Herculean judges" -, from a Deweyan point of view we would give more importance to civic virtue and citizenship education as a tool for social transformation. From this perspective, citizens need to press the authorities for the development of policies that transform principles and values into reality. The development of an interpretation of the constitutional principles and values in line with a deeper sense of democracy is not only a task for judges, but for all citizens. In emphasizing the role of judges that, in carrying out their work, must transcend the causality of the case to refer to constitutional principles and values, Dworkin helps to underline an extremely fruitful way of deepening democratic values, a way that we pragmatists should not ignore. The Constitution is also not a point of arrival, but a highly valuable instrument in the practical implementation of Deweyan faith in the democratic way of life.

[22] Dworkin, *Justice in Robes*, p. 87.

DEWEY'S 'EXPERIENCE AND NATURE' - A TALE OF TWO PARADIGMS

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ABSTRACT: John Dewey's book, *Experience and Nature,* perplexed his readers and also himself to the end of his life. Sense can be made of this puzzle by attention to his claim that he was attempting what we would now describe as a paradigm shift and to his radical doctrines on "language", "meaning" and "mind" (doctrines that have been overlooked by the literature). Papers he wrote at the time focus on these radical doctrines. In this paper a few of his sentences on "meaning" are formalised into a unit of analysis called the Minimum Interaction for Meaningfulness (MIM) that implements his concept of 'the social' as 'the inclusive category' which cannot be reduced to a collection of individuals. It is shown that the MIM can achieve Dewey's paradigm shift, implies his theory of "mind" ('the mind that appears **in** individuals is not as such individual mind'), and can achieve the 'continuity' between 'the physical' and 'the ideal' that was the purpose of the book. The book is shown to fall into two parts: the second attempting to implement the new paradigm but the first being in terms of his concept of 'experience' which belongs to the previous incommensurable paradigm.

> *the social … furnishes philosophically the inclusive category*
>
> John Dewey (1928) [LW3:45][1]

> *It is not easy to break away from the current and established classifications and interpretations of the world*
>
> John Dewey (1928) [LW1:170]

Experience and Nature [E&N][2] is agreed to be the magnum of John Dewey's massive opus - it has always confused and perplexed readers and Dewey was perplexed by it until the end of his long life. This paper offers an explanation.

There are four keys to it. The first is that Dewey said he was offering what we would now call a paradigm shift in philosophy. Unfortunately - but understandably - he failed to realise his vision. Nevertheless he adumbrated the implications of the new paradigm in the second half of E&N. In discussion of E&N at the end of his life he can be seen struggling again with the paradigm shift he had adumbrated but was unable to achieve.

As the first Motto to this paper indicates: the paradigm shift was to be achieved by a concept of 'the social' ('mind is seen to be a function of social interactions' [E&N:6]) to which a concept of "meaning"[3] is central ('ability to respond to meanings and employ them … makes the difference between man and other animals' [E&N:7]). As the Motto also implies by 'inclusive category': Dewey's vision of 'the social' cannot be reduced to a collection of "individuals": 'no amount of aggregated collective action of itself constitutes a community' [LW2:330]. In the present paper a concept of "meaning" that is an implementation of Dewey's concept of 'the social' will be extracted from only a few sentences of E&N; it is a unit of analysis (called the MIM, Minimum Interaction for Meaningfulness) and is labelled sociocentric[4] because it necessarily includes two participants and is not reducible to a collection of "individuals". It will be shown that it enables the paradigm shift from previous philosophies that Dewey hoped for.[5] The implications are significant: for example 'the mind that appears **in** individuals is not as such individual mind' ([E&N:170]. It is argued that Dewey's failure to implement such a sociocentric concept of "meaning" consistently in E&N is the underlying reason for the continuing perplexed response to E&N, including by Dewey, himself. The first half of the book is then seen to be individuocentric (using a unit of analysis based on the "individual"): it

[1] From 'Social as a Category' which was republished as 'The Inclusive Philosophic Idea' in 1930 - the latter is the title used in [LW3] (this is Volume 3 of the Collected Works of John Dewey which are divided into Early [EW], Middle [MW] and Later Works [LW]).

[2] *Experience and Nature* is [LW:1] it is referred to herein as [E&N] for convenience and clarity.

[3] Because the discussion is in terms of paradigms - terms that are part of the rejected paradigm (and hence in effect no longer Meaningful) are distinguish by double quotes (also used as 'scare quotes'); single quotes are used for quotation.

[4] The common use of sociocentric is 'a focus on a particular social group' herein it refers to a unit of analysis.

[5] It has been shown that this sociocentric paradigm can address the range of topics in Social Inquiry and Philosophy in the Western Tradition. See [Duff:2012] and [Duff:2011] which are two versions of the same material - the latter contains detailed references to Dewey's writings which have largely been removed from the former (shorter) version.

uses Dewey's concept of 'experience' (which is wholly "individual") as the unit of analysis.

Dewey argued persistently in the period between the two editions of E&N (1925 - 1929) that "meaning" and 'the social' are 'distinctive' and the latter is 'inclusive' but did not define them as a sociocentric unit of analysis. A MIM is not a dyad (a pair of units treated as one) and (as will be demonstrated) the "individual" is developed in MIMs as Dewey envisioned: 'the mind that appears **in** individuals is not as such individual mind' ([E&N:170].[6]

The second key is that readers have simply failed to see and hence to deal with what Dewey actually wrote in his attempt to realise the new paradigm! Even though Dewey did not realise his vision he made many startling claims (such as those quoted in the previous paragraph) which readers should have seen and at least puzzled over but even a recent "review"[7] failed to address the startling statements that Dewey all but shouted - for example: 'the mind that appears **in** individuals is not as such individual mind', and the establishment of 'continuity' between the 'physical' and the 'ideal' such that they belong to one 'world' [E&N:9] that is the 'purpose' of E&N. As will be shown in the Conclusion herein: Dewey issued precisely this challenge in 1928. The question for the reader of E&N today is: 'Where in the literature - nearly a century after E&N - are these radical and startling claims discussed?'.

The third key to E&N is that soon after the second edition was published in 1929 Dewey's radical vision of "the social" all but disappeared from his writing.

The fourth key is that confusion was and is caused for readers by Dewey's persistent use of key terms in multiple senses and different ways. For example 'meaning' is arguably the fundamental term but Everett W. Hall demonstrated that Dewey used it in many different ways.[8] Similarly 'language' is a central term but Dewey equates it with 'signs' [E&N:140] (which is individuocentric) but also says it is a 'mode of interaction' [E&N:145].

Conventional interpretation or exegesis of E&N cannot succeed because the second half of E&N is an inchoate attempt to implement a new paradigm but the first half is inquiry within the received paradigm in the Western Tradition of Philosophy - labelled 'individuocentric' herein - and hence no coherent account of it as a whole can be given. Hence this paper attempts to make sense of E&N by showing how it can be reformulated as a coherent whole using the sociocentric paradigm; the changes Dewey considered making to it even at the end of his life are discussed and give further support to this strategy.

E&N: **reception and second edition**

A sympathetic colleague summed up the response to E&N: 'Dewey's *Experience and Nature* is both the most suggestive and most difficult of his writings, the source of the most wide-spread objections by hostile critics, and of the most diverse interpretations by sympathetic critics' [E&N:vii-viii]. Somewhat more extravagantly Oliver Wendell Holmes Jr., a contemporary, wrote: 'But although Dewey's book is incredibly ill written, it seemed to me after several re-readings to have a feeling of intimacy with the inside of the cosmos that I found unequalled. So methought God would have spoken had He been inarticulate but keenly desirous to tell you how it was'. Such responses are expected to an attempt at a 'paradigm shift' not fully implemented.

[6] See [Duff,2012:B2], 'The Individual and its Genesis' for the development of a notion of an individual.
[7] [Godfrey-Smith, 2014] has the brief of reviewing E&N as if published now.
[8] 'Some Meanings of Meaning in Dewey's Experience and Nature' [LW3:App3] exposes the confusion its title promises. The introductory paragraphs of Dewey's reply [LW3:82-91] reassert the ideas of E&N that are central in the present paper ('the need of a shared situation whenever the understanding of ideas and symbols enter into question') but then writes as if symbols can have "meanings". Dewey's reply is convoluted. See [Duff,1990:463-70] for details of Dewey's multiple uses of 'event' - a fundamental concept in E&N ('nature' consists 'of events' [E&N:5-6]).

Dewey responded to criticism of the first edition (1925) by writing a new first chapter (the original 'failed of its purpose' [E&N:3]) and a preface for the second (1929) edition. In these he warned the reader that the book was attempting what we would now call a 'paradigm shift' in Philosophy: 'I have not striven in this volume for a reconciliation between the new and the old' [E&N:4]. He argues: 'We cannot lay hold of the new … save by the use of ideas and knowledge we already possess' but 'just because the new is new it is not a mere repetition of something already had and mastered. The old takes on new color and meaning in being employed to grasp and interpret the new' [E&N:3]. And he asserts Kuhnian incommensurability: 'To many the associating of the two words ['experience' and 'nature'] will seem like talking of a round square' but 'I know of no route by which dialectical argument can answer such objections. They arise from association with words and cannot be dealt with argumentatively'. The following can be interpreted now as describing a Kuhnian conversion process: 'One can only hope in the course of the whole discussion to disclose the [new] meanings which are attached to "experience" and "nature," and thus insensibly produce, if one is fortunate, a change in the significations previously attached to them'[9] [all E&N:10].

"Dewey's" new paradigm of "meaning": the MIM

Readers of the 1925 edition of E&N should have been alerted to the importance of Chapter 5 'Nature, Communication and Meaning' by the ever sober and honest Dewey making perhaps the most extravagant claim ever made by a "non-idealist" philosopher in the Western Tradition: 'Of all affairs, communication is the most wonderful ... that the fruit of communication should be participation, sharing, is a wonder by the side of which transubstantiation pales' [E&N, p132][10]. The 1929 Preface makes clear that this is not an exaggeration or rhetorical flourish: 'the social participation [e]ffected by communication, through language and other tools, is the naturalistic link which does away with the often alleged necessity of dividing the objects of experience into two worlds, one physical and one ideal' [E&N:7] - it is vital to see what Dewey is saying here: the 'physical' and 'ideal' are part of a single "world". Dewey is at pains to make clear that he was proposing a revolution: 'that character of everyday experience which has been most systematically ignored by philosophy is the extent to which it is saturated with the results of social intercourse and communication' ([E&N:6]). Note that it is "the social" that creates - is prior to - "individual" experience. This is from the discussion of Chapter 5 in the Preface and should have suggested to Dewey that he should have started the book with Chapter 5 on communication not with a discussion of "experience". And he adds - which makes his vision crystal clear - that once we so conceive "language" and 'communication' 'mind is seen to be a function of social interactions, and to be a genuine character of natural events' [E&N:6].

There is of course no problem in seeing that 'social interactions' are 'natural events' but what Dewey has not shown is how 'mind is … a function of social interactions' and how his continuity [E&N:9] between the 'physical' and the 'ideal' [E&N:7] is established or how it is possible that 'the mind that appears in individuals is not as such individual mind' ([E&N:170]. There is no doubt that this is what Dewey intends: in beginning his discussion of the following chapter, Chapter 6, he reiterates 'that the social character of meanings forms the solid content of mind' [E&N:7] but does so by telling us that we have "realized" it - however it needs more "realization" and it is one of the purposes of this paper to show how a concept of 'the social' which is 'the inclusive category' (in the sense that it is clearly

[9] See also 'When an old essence or meaning … ' [LW1:171]; Dewey argued this again in 1939 - see [LW14:142] where he uses the word 'shift' in Kuhn's sense and argues (p143) that 'the historic development of the natural sciences' leads to changes in perspective (p141) which is vital to explanation of the means by which a paradigm shift is decided (see [Duff,2012:C1]).

[10] C. S. Peirce used transubstantiation as an example in Section II of 'How to Make Our Ideas Clear'.

not reducible to a collection of individuals no matter how complex their interactions) can be extracted from E&N.

While Dewey was developing the Preface from which the quotations in the previous paragraph were taken he argued vigorously that 'the social' is 'inclusive' in a paper 'The Inclusive Philosophic Idea' [LW3] (originally published in 1928 as 'Social as a Category') although he did not define it as a unit of analysis. Unfortunately this paper shares the confusions of E&N but it is important for the present essay because it shows the strength of Dewey's focus on "the social" during the development of E&N.[11]

All of this and Dewey's belief that he was developing a paradigm shift in philosophy and his perplexities over E&N justifies very selectively extracting the following quotations from the plethora of uses of 'meaning' in Chapter 5 and using them to formulate 'a unit of analysis' that is irreducibly social.

> *Language is specifically A MODE OF INTERACTION* of ***at least two beings***, *a speaker and a hearer*; *it presupposes an organized group to which these creatures belong, and from whom they have acquired their habits of speech. It is therefore a relationship* [E&N:145, emp added]

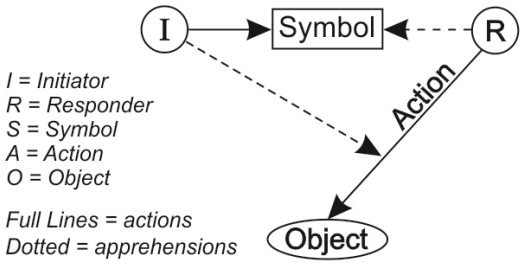
later in the same paragraph Dewey requires:

> *something common as between persons and an* ***object***. *… Persons and thing must alike serve as means in a common, shared consequence. This* ***community of partaking*** *is meaning* [E&N:145-6, emp added].

Note: a "meaning" is not something a sentence "has" or "expresses" nor something conveyed but is a 'community of partaking' - something social.

> *To fail to understand is to fail to come into* ***agreement in action****; to misunderstand is to set up action at cross purposes [E&N:141, emp added].*

These statements can be expressed in the concept of a Minimum Interaction for Meaningfulness (MIM) illustrated in the following diagram:



The Minimum Interaction for Meaningfulness

In a MIM we have Dewey's requirements: a Symbol ("language"), two people (Participants), and the Responder does an Action on the Object in response to the Symbol expressed by the Initiator, I. (The terms of the MP have been capitalised - Action, Symbol - to distinguish them from the use of those words - action, symbol - in ordinary use.) For example: if I asks R to "Bring the red ball' and R does so a MIM might be assigned (by observers): S = Bring the red ball, A = R brings the red ball, O = the red ball. (MIMs can be assigned to the "same" situation in many ways.[12]) If I accepts the Action that R does and R is happy with (accepts) his or her own Action also then the two participants have 'come into agreement in action' and it would accord with normal usage to say that the interaction was Meaningful. A Meaningful MIM is called a MeMIM. A MIM is a sociocentric unit of analysis because it necessarily includes two people and is the

[11] 'The inclusive Philosophic Idea' [LW3:41-54] considers 'belief' in 'the intrusive intervention of unnatural and supernatural factors in order to account for the differences between the animal and the human' [LW3:48] and argues for 'an alternative' (to the "mental" as a 'mysterious intrusion', or an 'epiphenomenon' or 'ontological' [LW3:49]) although it is argued vaguely in terms of 'human society' [LW3:48]) but then the argument is presented again in the terms to be formulated herein as the concept of a MIM: 'communication effects meaning and understanding as conditions of unity or agreement in conjoint behavior' - meaning is not an 'accidentally supervening quality but a constitutive ingredient of existential events' [LW3:49-50].

[12] 'The same existential events are capable of an infinite number of meanings' [E&N:241], also [E&N:132,241].

minimum unit to which the term 'Meaningful' can be applied; in this paradigm 'Meaningful' may not be applied to the Symbol or anything else only to a complete MIM. The paradigm of Social Inquiry which the MIM generates is called the MeMIM Paradigm (MP).[13]

The Action of a MIM can be a tangible[14] Action (in response to S = 'Bring the red ball'), or a sentence ('No I won't'), or it can be intangible when it is a perception (such as in response to 'Can you see the red ball'), thought ("I is wrong"), or emotion (response to S = 'Isn't that music beautiful' or S = 'I love you'). A MIM with a tangible Action is an experiment.

Note that neither we, observers, nor the two Participants need make any assumptions or judgments about whether the two Participants in a MeMIM perceive the Object similarly nor that they do not perceive it similarly[15]: if R does an Action that is acceptable to I in response to I's Symbol ('Bring the red ball') and R was happy to do that Action then there is nothing further needed in that interaction.

The quotations from E&N above are highly selective but are consistent with the concept of 'the social' that Dewey argued for strongly at that time: the Motto to this paper [LW3:45] with his call for 'the frank acknowledgment of the social as a category continuous with and inclusive of the categories of the physical, vital and mental' [LW3:46] and 'when we turn to the social, we find … a describable, verifiable empirical phenomenon whose genesis, modes and consequences can be concretely examined and traced [LW3:49-50]. Finally: 'Opinion and theory as long as … they are unconfirmed in conjoint behavior are at best but candidates for membership within the system of knowledge' [LW3:50][16]; of course 'conjoint' can be interpreted individuocentrically but in the quotations from which the MIM was developed and in (for example), the Motto to this paper and [LW2:330] it is clear that 'conjoint' indicates an irreducible unit such as the MIM. The selective quotations are consistent also with many doctrines of E&N such as 'Meaning … is … a distinctive behaviour' [E&N:141] and (as will be demonstrated in detail below) 'the mind that appears **in** individuals is not as such individual mind' [E&N:170].

Unfortunately Dewey also continued to describe words, signs, and other things as having "meaning" and sometimes he used 'meaning' in ways that are ambiguous generating the confusion discussed above and documented by Hall (see n8). For example he said a 'word' gains "meaning" when its use 'establishes a genuine community of action' [E&N:145] instead of consistently describing a 'meaning' as a complete 'community of action' (as he had also defined it) and a Symbol as an essential part of such a community. His continued use of "meaning" in many senses confuses and undermines 'the social' as the 'inclusive category'.

All of this suggests also the necessity of specifying the unit of analysis of any philosophy and using it rigorously (as in Science) in order to procure 'for philosophic reflection something of that cooperative tendency towards consensus which marks inquiry in the natural sciences' [E&N:34,389].

[13] See n5 above.

[14] In the MP a tangible action is defined as an 'Imitable Action' [Duff,2012:15,17,35,A4].

[15] The MP - in the Peirce /Dewey Pragmatist tradition - rejects the question of whether the Object is "real" independently of the Participants (or any other observers): two Participants can change the Action they accept on an Object - for example before Newton's Physics the Earth was stationary and after it was moving. Borrowing Kuhn's terms: after the paradigm shift the Participants live in a different world and they will participate only in the new MIM and in this sense the Object has changed. In explaining the Theory of Relativity Einstein gives the example of a stone dropped from a moving train. To an observer on the train its path is a straight line but to an observer on the platform the path is a parabola - Einstein asked whether 'in reality' the path of the stone is a straight line or a parabola and answered that 'there is no such thing as an independently existing trajectory' (see [Duff,2012:6-7]). For further discussion see [Duff,2012:19-20, Appendices VI, VIII].

[16] However - as will be argued - the MP has no need for Dewey's contention that human beings combine like atoms and cells [LW2:330,250] - indeed it is the fact that symbols are arbitrary (which will be argued in detail below) that gives human beings their distinctive power.

The diagram of a MIM does not include one part of the quotations above: 'language … presupposes an organized group to which these creatures belong, and from whom they have acquired their habits of speech' - this can be captured in the notion of a Common Background of previous participation in relevant MeMIMs (Meaningful MIMs) that enables the two Participants to agree in the current MIM [Duff:2012:20-2,80f]. If I ask you (whom I have never seen nor met before) to 'Pass the salt' and you can do what I want it can only be because you were taught to do the required Action in response to the Symbol by your mother and I was taught the "same" by my mother - and our mothers (who never met) were taught the "same" by their mothers and so on. If R is happy to do the Action that I wants but there is no Common Background then the Action must have been done by chance or coercion and the MIM is not Meaningful.

A set of MIMs that is Meaningful to all of a set of Participants pairwise is called a MeMIMset (a Kuhnian paradigm of Science is a MeMIMset). The MeMIMset of Physics aspires to be formally unified but others - such as the MeMIMset of ordinary English (all the things about which all English speakers agree: 'Bring the red ball', 'It's 30 degrees today', 'That is a dog', etcetera) - are not but the members are able to participate in the MIMs of the MeMIMset and judge whether other people are able to participate (are members of the community) just as they can speak grammatically without necessarily being able to specify a grammar. In the MP (MeMIM Paradigm) a 'language' is merely the set of symbols used to constitute the Symbols of a MeMIMset [Duff,2012:21] and thus the elements of a language are not and cannot be Meaningful; it is only MIMs - interactions - that can be Meaningful; "language" is conceived as for coordinating our actions not for describing "the world".

The concept of a MIM can be used to achieve the vision of E&N - 'mind' and 'the ideal' will be discussed briefly as illustrations later herein.[17]

[17] [Duff,2012] and [Duff,2011] each give a full development.

How the MP achieves Dewey's vision

The concept of a MeMIM - a sociocentric unit of analysis - has been shown to implement Dewey's theses on 'the social' and on communication and can be stated axiomatically and hence independently of Dewey's work. This section will give arguments that support the adoption of a sociocentric unit of analysis, will show how it implies the theory of mind that Dewey adumbrated, and a theory of ideal objects that demonstrates the 'continuity' [E&N:9] between the 'physical' and the 'ideal' [E&N:7] that Dewey envisioned.

"Language" is necessarily social because Symbols are entirely arbitrary

There is a simple and decisive fact that establishes that "meaning" is necessarily social: "Symbols" are obviously entirely arbitrary[18]: the symbol 'dog' - written or spoken - does not resemble the animal or anything else in "the world". Hence: symbols cannot have any connection to anything in "the world" except that given to them (ultimately) *by the tangible actions* of the users. You cannot teach someone how to respond to 'Bring the red ball' by using symbols (words) alone but must show them what to do; must demonstrate. Hence to communicate with the user of a symbol there are three options: you must accept their use of the symbol, or they must accept yours, or you and the other participant must mutually agree to a new symbol-use. Thus a person who needs to - or must learn to - use a symbol has no choice but to have the use imposed on them and of course this applies to an infant who must accept its mother-tongue.[19]

[18] [De Saussure,1974:67] argued that 'the bond between the signifier ['sound-image'] and the signified ['concept'] is arbitrary' not as here with the thing (Object). De Saussure's ideas are complex but he claimed a notion of language as 'social' but 'it is a product that is passively assimilated by the individual' to learn it 'the individual must always serve an apprenticeship' and 'speaking … is an individual act' OpCit p14 - this is individuocentric.

[19] [Madzia,2015] – which offers only a speculative conclusion - illustrates the gulf between the paradigm

In a MIM (see diagram) there is no "direct" connection between the Symbol (words) and the Object (things). Thus the arguments in this paper may be based either on symbols being entirely arbitrary or an axiomatic adoption of the MIM as a unit of analysis.

Dewey's theory of "mind"

In the Preface to the second edition of E&N Dewey argued: 'the social character of meanings forms the solid content of mind' [E&N:7] which he had argued in the first edition: 'the mind that appears in individuals is not as such individual mind' ([E&N:170] and 'It is heresy to conceive meanings to be private, a property of ghostly psychic existences' [E&N:148].[20] These are startling claims that should arrest and focus the reader! However Dewey did not provide a clear account of "mind" or "minds" as social not "individual" but the MP shows how mind is social.

There is no direct connection between the Symbol (words) and the Object (things) in a MIM hence it is only by showing the learner (R) what to do - making the learner do a tangible Action - that I is able to teach R how to respond to 'Bring the red ball'. In a MeMIM the "connection" ("reference") is achieved by the actions and acceptances of the Participants and does not exist apart from them. R cannot respond to the sentence until shown how to but once R is able to respond correctly we know that something has changed - been internalised - in R as a result of being taught and it is that change that we call the development of "mind".

The development of "mind" in this paradigm can be complex and subtle: in learning to use Symbols learners usually learn patterns of action not just "bare" Actions: "Bringing the red ball' could be fun but 'Bringing the full cup' requires care and attention [Duff,2012:16,42]. And clearly this applies to all learners: the "everyday" sentences taught to infants and those taught to Physics students.

The internalisation of the capacity to use Symbols - the development of 'mind' - determines how an infant interacts with others and with "the world" thus 'mind is seen to be a function of social interactions' [E&N:6]; if an infant were not "taught" to 'Bring the red ball' in a MIM they would not perceive red ('taught' is in scare quotes here because the infant has no choice; the Action in response to 'Bring the red ball' is imposed). A learner must learn also to participate in each MeMIM as I after being taught to participate as R thus each MeMIM is the same for both Participants and what is internalised is (merely) the capacity to interact. Thus a "meaning" is not something that can be the exclusive possession of an "individual": a mind is the ability to participate in MIMs thus 'the mind that appears **in** individuals is not as such individual mind' ([E&N:170] and 'mind is seen to be a function of social interactions' [E&N:6][21]. If S = 'See (perceive) the red ball' then A is a perception - is intangible[22] - but if a person cannot "Bring the red ball"

advanced herein and individuocentric treatments of 'social construction'. Madzia asserts 'As far as its content goes, we have no reason to question Mead's claim that the self is entirely a product of inference, in other words – that it is socially constructed all the way down' (p 86) but the MP explains how the 'content' is 'socially constructed' by imposition of MIMs on infants learning to engage in interaction using symbols. The incommensurability of the two paradigms is clear because the MP's rock-bottom is MIMs with tangible Actions whereas Madzia's individuocentric treatment is 'down' to 'primal self-awareness' which is a concept that is more complex than the phenomena that it is hoping to explain. In the MP self-awareness is not a 'primitive' attribute of a person but a later development requiring competence to participate in second level MIMs (see below) in which oneself is one of the Participants.

[20] Some readers might look for discussion of the work of Wittgenstein in this paper but this would be an irrelevant distraction: as Quine has pointed out [1969:27] the so-called Private Language Argument was formulated by Dewey. Incidentally it has become common to say that Dewey anticipated Wittgenstein when Wittgenstein is to be strongly criticised for failing to read Dewey. Note that Quine's remarks include some of the quotations from which the concept of a MIM was developed.

[21] See also 'Soliloquy' [E&N:135], 'heresy' [E&N:148], 'meanings are objective because they are modes of natural interaction' [E&N:149].

[22] In the MP intangible Actions are captured by a definition of 'UnImitable Actions' [Duff:2012] p35, p38, p42, p98, p161,Section A4.

we know that they cannot perceive it. Thus the MP implies a (Pragmatist) theory of mind acceptable "naturalistically" and to Dewey.

A person has "non-verbal knowledge" - such as not walking into trees - but we know that this has been "taught" by evolution: without such "knowledge" human beings could not have survived. 'Everything which is distinctively human is learned, not native, even though it could not be learned without native structures which mark man off from other animals' [LW2:331].

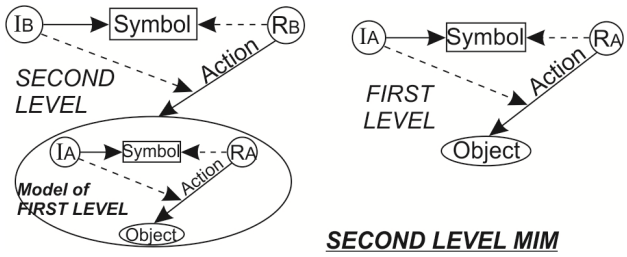
Symbol-use is an ubiquitous and essential activity in peoples' interactions with each other and their "worlds" - but because symbol-use and patterns of action must be imposed on the learner symbol-use determines the nature of the symbol-user to a very significant extent.[23] Hence human beings are symbol-using animals reproduced from the previous generation and hence historical beings.[24]

'*Existence and Essence*': *Ideal Objects*

In Chapter 5 of E&N (which has the ideas from which the concept of a Meaningful MIM - MeMIM - is derived) Dewey argued 'Failure to acknowledge the presence and operation of natural interaction in the form of communication creates the gulf between existence and essence' [E&N:133]; he stressed the centrality of this in the Preface [E&N:6-7]. The MP shows precisely how the gulf is bridged - except "existence" and "essence" have to be re-conceptualised in the sociocentric paradigm (MP); which of course is what Dewey hoped to achieve.[25]

In the MP an 'existence' is simply an Object in a MeMIM: because the Symbol refers to the Object it exists for the Participants. Scientific and "empiricist" standards can be ensured by insistence on Actions being tangible.[26]

Observers are necessary in the MP: a MIM is posited by observers who assign the elements of a MIM to parts of an interaction. When discussing observers assigning a MIM we, I the writer and you the reader, must also assign a MIM (called a Second Level MIM) to the interaction of the observers (because only a MIM can be Meaningful). In the following diagram IA and RA are the mother and infant (when the mother is teaching 'Bring the red ball') and IB and RB are the observers.



The second level MIM is assigned by me, the writer, and you, the reader. Because only MIMs can be Meaningful our assignment of a MIM must be analysed also as a MIM thus the relevant sentences of the present paper are S in our Third Level MIM (because it takes the second level as its Object) and we are observers of both the observers and the first level Participants. First and second level MIMs are a clearer formulation of Dewey's distinction between primary and secondary experience [E&N:15-16].

In the diagram above of a second level MIM the second level Object is a model. If I say 'This is a whale' while pointing to a drawing, model, or an actual whale I can make that thing a model of all whales: my sentence is S in a second level, O is the model, and the first level MIMs are all the MIMs of the past in which S is 'This is a whale' and the Object is a whale.[27] Ditto for 'This is red' using any red thing as Object in a second level. Thus concepts, ideals, and types[28] - second level Objects - can be things - existences - on which we can do tangible Actions.

[23] The other factor is temperament see [Duff,2012:247].
[24] This implies a Theory of History but in contrast to Marx's is general and not confined to the economic. See [Duff,2012] p41-2, App III.
[25] 'one can only hope' [E&N:10].
[26] [Duff,2012:A3,D4(b)].

[27] The second level Object in this example is the model of the whale (not of the whole first level MIM as in the diagram above) and the MIMs of the two levels are correlated by convention.
[28] Thus a "Theory of Types" is implicit in the MP not added gratuitously to preclude paradoxes.

Participants learn to participate in the second level MeMIM the same way they learn the first: by having it imposed on them; but it obviously requires greater complexity of intellectual operations.

A second level MIM is Meaningful if the Participants in it agree and all the first levels that it implies are Meaningful. If someone disagrees in a first level that it is a whale ('This is a fish') then that single first level that is not Meaningful may be sufficient to cause inquiry into the Meaningfulness of the second level.[29]

The Object of a second or higher level MeMIM can be intangible. Consider Blindfold Chess: the two players construct a board "in mind" on which they play. For example a MIM could be assigned to the moves taken in pairs with S being the move of one player and A the responding move by the other (which becomes S for the next pair and so on) and O is the Blindfold chess-set (pieces and board). The "chess-set" constructed by the players in imagination must be the same set for each of them or they could not play a legitimate game. Their set could be O in a second level MIM and may be monitored on an actual set which would be O in a first level MIM. The moves on the monitor set are tangible and the moves of the players are perceptible (they say their moves) or they could not interact. The monitor set is not necessary for the game (only for lesser mortals such as judges and spectators) hence we could also analyse the players' interactions as first level MIMs and the Blindfold chess set as O. Thus the players do perceptible moves on an intangible set but it is appropriate to say it is real.

A similar analysis can be given of music: the player(s) are I, the audience (individually or collectively) is R, S is the notes played (considered as "bare" notes which can be recorded as marks on paper or as audio). I and R construct (as in Blindfold Chess) a performance, O (which is not S which is the "bare" notes), and A is the perception by R of the performance.[30] Science can be distinguished by requiring that all Actions be tangible: perception of a meter reading must be wholly equivalent to pointing to 3.75 on the scale.[31] Aesthetic communities do not want the response to an aesthetic Object to be equivalent to a tangible Action. Under the MP all formal inquiries are the result of simple restrictions on inquiry ([Duff,2012:Chapter D). Thus the MP fulfils Dewey's vision for E&N as the result of applying 'in the more general realm of philosophy the thought which is effective in dealing with any and every genuine question, from the elaborate problems of science to the practical deliberations of daily life' [E&N:3,11].

In the MP ideal things (blindfold chess-sets, the type of a whale, a performance of music) are second or higher level Objects thus the MP fulfils Dewey's claims that 'the social participation [e]ffected by language … is the naturalistic link which does away with the often alleged necessity of dividing the objects of experience into two worlds, one physical and one ideal' [E&N:7][32] and that his concepts of "meaning" and communication were the means of achieving the ulterior purpose of E&N: 'Ability to respond to meanings and employ them … is the agency for elevating man into the realm of what is usually called the ideal and spiritual [E&N:7].[33]

The arguments in this section show why Dewey responded (in 1928) to Hall's criticism of his treatment of 'meaning' in E&N with 'the topic of meaning is certainly one of the most important in contemporary philosophical discussion' [LW3:91] and stressed 'the need of a shared situation whenever the understanding of ideas and symbols enter into question' unfortunately in this response as in E&N itself Dewey was unable to find a means of achieving his vision of 'the social' as 'the inclusive category' without including individuocentric concepts in his explanations.

[29] [Duff,2012:A3]
[30] See [Duff,2012:D4(d) and D4(e)].
[31] Thus an "empiricist" criterion of "meaning" could be imposed by insisting that MIMs are not Meaningful unless the Action is tangible but a Pragmatist would accept that an aesthetic MIM could be Meaningful.
[32] In 1920 Dewey did not believe this possible see [MW12:154].
[33] This was argued also in the first edition 'Failure to acknowledge …' [E&N:133].

Of course "physical" and "ideal" in the sociocentric paradigm are different concepts (from the concepts of non-Pragmatist philosophies): a thing is 'physical' if it is the Object of a MeMIM with tangible Action and is 'ideal' if it is the Object of a second (or higher) level MeMIM but as argued: an ideal thing can be tangible and can have tangible Actions done on it; it is the role it plays (the actions and acceptances of the Participants in the different MIMs) that makes it ideal.

Dewey was always perplexed and dissatisfied with E&N

The central thesis of this paper is that Dewey had a vision for E&N in which 'the social … furnishes philosophically the inclusive category' but failed to achieve it. This is clear in his reconsiderations of E&N prompted by the opportunity in 1949 (twenty years after the second edition) to write a new introduction to it [E&N:330-61] which shows that he was again perplexed and dissatisfied.

His attempt to write a new introduction turned into a proposal for writing a new book [E&N:329]. He postponed this but returned to it in 1951 when he 'transformed the task of finishing the Introduction into a formidable new problem' [E&N:361]: 'Were I to write (or rewrite) *Experience and Nature* today I would entitle the book *Culture and Nature* … I would abandon … "experience"' and 'substitute … "culture" because with its meaning as now firmly established it can fully and freely carry my philosophy of experience' [E&N:361] but in the next paragraph he resiled: 'there is much to be said in favor of using "experience"' [E&N:361-2] which was his opinion two years earlier when E&N was to be 'reprinted unchanged' E&N:330]. Dewey then (1951) re-asserts that '"experience" … must designate both what is experienced and the ways of experiencing it' [E&N:362,12-3] but reflects that this insistence was 'a mere ideological thundering' because he had ignored the historical changes which had made his 'use of "experience" strange and incomprehensible' [E&N:362][34]. In fact he had almost the same arguments with himself in the first edition in which he discussed the relationship between 'experience' and 'culture' [E&N:42] referring to the 1925 Chapter 1 in which he speculated also that 'the word and the notion of experience might be discarded' [E&N:372].

Here we see Dewey vacillating between 'culture' which is a "social" (but not necessarily sociocentric) concept and 'experience', an individuocentric concept, but the change is not of the order of a paradigm shift if 'the social' is conceived conventionally as a product of the interaction of "individuals" who are prior to "the social". But as was shown above herein: parallel to E&N Dewey had argued clearly for a concept of 'the social' as prior to "the individual" that accords with the same ideas as expressed in E&N but in 1951 there is no sign that this was relevant to or the cause of Dewey's vacillations twenty years later. As argued above: around the time of the second edition of E&N this radical concept disappeared from his work; certainly "the social" remained strong in Dewey's thought but only as consistent with a writer for whom education and politics remained central concerns.

The thesis that Dewey was never able to crystallise his vision of 'the social' is supported by evidence from a "new" book by "Dewey" compiled by Phillip Deen from notes by Dewey that are believed to be part of his attempt to write a new book. On his attempts to write a 'social interpretation of the history of philosophers - if not of philosophy' Dewey says 'it never would jell'[35].

If Dewey had a clear concept of 'the social' such as the MIM he could not have had such a dilemma between 'culture' and 'experience' hence it is arguably due to the presence in E&N of two (incommensurable) paradigms: the not fully realised 'sociocentric' (concept of "meaning") and the 'individuocentric' concept of "experience" that necessarily includes only one person

[34] I wonder if there is another writer who has at the end of his life so honestly criticised his major work?
[35] [Deen,2012:loc108], also compare [loc111] with [E&N:329], see also for example loc87-8, loc93.

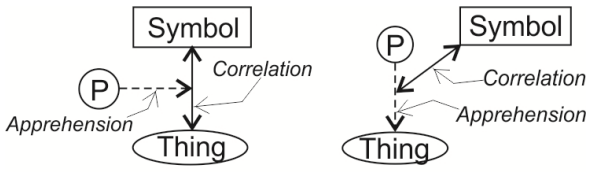
'things in their immediacy' are 'a direct and ineffable presence' [E&N:74-5].

The two paradigms in E&N

In 1929 Dewey distinguished E&N into two parts by identifying a 'pivot' [E&N:6] between chapters 4 and 5. The second part - conceived herein as sociocentric - includes the quotations from Chapter 5 from which the MP was developed, Chapters 6-10, and the summaries of 5-10 in the new Preface [E&N:6-9]. It is in discussion of Chapter 5 that Dewey asserts the claim that 'social cooperation and mutual participation' [E&N:6] is the key to the 'continuity' [E&N:9] between the 'physical' and the 'ideal' that is the purpose of the book (a continuity which as shown above can be explained and developed in detail in terms of the MP).

The first part is based on Dewey's concept of "experience" which he later described as 'strange and incomprehensible' for historical reasons [E&N:361] - however the problems with "experience" are not historical but theoretical.

In Dewey's concept of 'experience' - as in the "received" concept - it is the individual who expresses, perceives, and correlates. In the view that a "meaning" is the use of the linguistic entity it is the individual who "uses". In spite of the diversity in ideas in Philosophy since Plato the following two diagrams can serve to consider the issue.



(P is a person)

Individuocentric Units of analysis

A comparison of these diagrams with the diagram of a MIM above shows that a MIM is not reducible to any combination of individuocentric units and hence it is appropriate to describe the MIM as part of a different paradigm. The onus is on those who disagree to show how the MIM is reducible to a combination of individuocentric units of analysis given that symbols are entirely arbitrary. If a MIM is not reducible then the MP demonstrates Dewey's claim that 'no amount of aggregated collective action of itself constitutes a community' [LW2:330].[36]

In Dewey's concept "experience" is of 'things in their immediacy' which are 'a direct and ineffable presence' [E&N:74-5]. He claims also that in immediacies there is a 'self-disclosure of nature itself' [E&N:5]: 'the intrinsic nature of events is revealed in experience as the immediately felt qualities of things' [E&N:6][37] but of these immediacies it is 'impossible to say anything to another … Immediate things may be *pointed to* by words, but not described or defined' [E&N:74-5]; they are "private" "perceptions". Thus Dewey's "immediacies" and hence "experience" are individuocentric concepts and raise the problem of how Dewey can know that what is 'ineffable' is a 'self-disclosure of nature'. Note also that the first part of E&N implies that 'the intrinsic nature of events' - 'nature' - can not be 'described or defined'. As discussed earlier herein Dewey in response to Hall explained 'pointing' as a matter of 'a shared situation' but this faces the problem of how what is 'private' ('ineffable') can be 'shared' by two "individuals". Dewey's 'experience' is indeed a 'weasel word' [E&N:365].

In contrast: in the MP attributions of Meaningfulness are based on the acceptances by the Participants of the Action of a MIM hence a concept such as 'immediately felt qualities' is irrelevant. In teaching an infant 'red ball' and then 'red' we do not rely on 'immediately felt qualities' but show the infant the

[36] [Moreno,1979] "The Pragmatic `We' Reconsidered", in spite of the title, misses the significance of these remarks which occur on the first page to which Moreno refers (95). The interpretation presented herein shows that his claims about Dewey's view of "we" are individuocentric. They appear to be based only on the *Public and Its Problems* [LW2] but it is difficult to read this correctly without reference to E&N.

[37] It is an issue peripheral to this paper but worth noting that Dewey offers no justification that it is 'nature itself' that is disclosed in "immediacies".

Action we require and judge its success by its acquisition of the ability to do the required Action and its acceptances of such Actions when done by itself and by others; we cannot know and do not ask in this interaction what it "perceives" or "feels" "privately".

Thus in a sociocentric paradigm "language" is for coordination of our actions not for description of "the world" or expression of our "individual" thoughts as in individuocentric concepts.

Had Dewey used the sociocentric concept of "meaning" (the MeMIM) as his 'denotative method' [E&N:372] then 'the word and the notion of experience might be discarded; it would be superfluous' [E&N:372] and the first half of E&N could be re-formulated in terms of MIMs and it would be sociocentric.

In explaining Chapters 3-4 Dewey argued that 'the intrinsic nature of events is revealed in experience as the immediately felt qualities of things' [E&N:6]. However he believed he needed to connect 'these qualities' with 'the regularities that form the objects of knowledge' - which is then 'intelligently directed experience' [E&N:6] - but had to resort to the metaphors 'intimate', 'fusion' and 'stretches' [E&N:13] and we can argue this is because 'immediacy of existence is ineffable' [E&N:74] - because the sociocentric and individuocentric paradigms are incommensurable and only a "fudge" can join them. In contrast the elements of a MeMIM (including acceptances, assignments, and attributions) are undeniably naturalistic because they are resolvable into perceptible human actions and hence can be Dewey's 'philosopher's real datum' [E&N:369].

Speculative Remarks

It is illuminating and interesting to speculate on why Dewey - over so many years - did not ever make the shift he claimed to be making in E&N.

In 1920 (in contrast to E&N) Dewey considered the relationship between society and the individual [MW12:187f] in a relatively conventional analysis except that neither was given priority. Then between 1925 and 1929 he published E&N which - it has been argued in this paper - contains two paradigms the second promising a revolutionary concept - a sociocentric unit of analysis - and stating its features but never achieving it.

After 1930 "meaning" as a 'genuine community of action' and 'the social' as 'the inclusive category' all but disappeared from Dewey's work: in a major work (his 'Logic') in 1938 the sociocentric concept of "meaning" is re-stated [LW12:52] but its influence on that book is peripheral and in *Experience and Education* (1938) [LW13] he relied wholly on his individuocentric theory of experience as the title indicates and 'social' is used entirely conventionally.

It is not too much to say therefore that 'the social' as 'the inclusive category' was an episode in Dewey's *opus*. Part of the explanation may be the removal of the personal influence of G. H. Mead - who died in 1931 - and for whom "the social" was central. Dewey said of Mead: 'I dislike to think what my own thinking might have been were it not for the seminal ideas which I derived from him. For his ideas were genuinely original; they started one thinking in directions where it had never occurred to one that it was worth even to look' [LW6:24]. The implication is that Dewey may not have been able to clarify his vision of 'the social' because it was not entirely his own? Perhaps with Mead and Dewey the whole was greater than the sum of the parts?

A complementary part of the explanation may be that Dewey was engaged in (what might by analogy with Kuhn's concept of 'revolutionary science') be described as 'revolutionary philosophy' but did not undergo the necessary 'conversion experience' (gestalt switch); instead he switched back and forth between the concepts of the two incommensurable paradigms - an experience he described: 'When an old essence or meaning is in process of dissolution and new one has not taken shape … the intervening existence is too fluid and formless for publication, even to one's self' [E&N:171]. A shift of paradigm arguably requires a "trigger" which may be a chance occurrence such as a falling apple (as has been suggested for Newton's insights). We can only

speculate that the luck of such a trigger did not occur or more likely Dewey's mind was formed in the old paradigm in which he had worked for too long but the new was adumbrated by Mead and did not arise in Dewey's mind.

The difficulty that Dewey faced in making the paradigm shift may be experienced by imagining that you are living before the Sun-centred Solar System was accepted. You are familiar with diagrams of an Earth-centred "Solar System" and when you stand on your front verandah you can see the diagram confirmed with the Sun rising in the East and going around the Earth. After the Sun-centred system was accepted you became familiar with the new diagram but when you stand on your front verandah you still see the Sun go around the Earth each day and the new diagram does not correspond with what you see nor your intuition and it takes some "mental gymnastics" to correlate what you observe with the diagram that you now accept to be the correct representation. The same applies with the MIM: we are used to thinking of a "meaning" as something that sentences "have", that we can "transmit" when communicating, and can have in our minds - switching to thinking of a "meaning" as an interaction between two Participants and applying this concept consistently take some effort and it is easy to switch back into our intuitions; without the diagram of a MIM or similar device Dewey faced an almost impossible task.

Challenge

If the case presented in this paper is rejected then it poses the implicit challenge to Dewey scholars and others writing on Pragmatism of explaining Dewey's life-long perplexities over E&N, his other relevant writings in the 1920s on 'the social' especially the paper 'Social as a Category' / 'The Inclusive Philosophic Idea', and his claims for Chapter 5 of E&N in the 1929 Preface.

Apart from the life-long reconsiderations - in 1930 immediately after the 1929 edition of E&N - in reflecting on the state of philosophy - Dewey proposed re-doing (reconstructing) philosophy yet again using the ideas of the second, sociocentric, part of E&N: he asserted 'the importance of distinctive social categories, especially communication and participation. It is my conviction that a great deal of our philosophizing needs to be done over again from this point of view, and there will ultimately result an integrated synthesis in a philosophy' [LW5:159]. This is a remarkable statement from a philosopher who had just revised his opus magnum, E&N, in the light of criticism and his own reflections.

In fact Dewey had posed this challenge in 1928: ''The question of whether we should begin with the simple or the complex appears to me the most important problem in philosophical method at the present time, cutting under, for example, the traditional distinctions of real and ideal' [LW3:42]. His answer included a challenge: 'social phenomena do as a matter of fact manifest *something* distinctive, and …that something affords the key to a naturalistic account of phenomena baffling philosophic interpretation when it is left out of account' thus 'the burden of proof as to the value of "social" as a metaphysical category lies upon those who habitually treat its worth as trivial. For what do *they* mean by social phenomena?' [LW3:47].

Dewey's answer at that time is given in the Motto ('the social … furnishes philosophically the inclusive category') of the present paper which has conceived 'the social' as an 'inclusive category' - a unit of analysis: the Minimum Interaction for Meaningfulness.

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AESTHETIC EXPERIENCE
– A PRAGMATIST PERSPECTIVE IN COGNITIVE AESTHETICS

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ABSTRACT: In the present paper, I analyse the connections between cognition and aesthetic experience according to two major philosophical paradigms: respectively, the aesthetic theory of Immanuel Kant and that of John Dewey. According to Kant's Third Critique, aesthetic judgment – the exemplary form of reflecting judgment – is indirectly, but significantly, related to cognition. Aesthetic judgments are not cognitive judgments in the narrow sense of the term, since the standard of taste does not depend on any objective property of the object. However, the feeling of pleasure enacted by the beauty of the object points out to an enhancement of our cognitive faculties, namely understanding and imagination – an enhancement qualified by Kant as a "free play" of those faculties.

In *Experience and Nature* (1925-1929) and then in *Art as Experience* (1934), John Dewey defended a more advanced paradigm of the relationship between aesthetic experience and cognition. According to Dewey, the aesthetic quality present in every experience does not point out to a pure reflective attitude, but constitutes a dynamic organizing principle of experience. Aesthetic experiences narrowly construed – art, beauty and so on – show the constitutively interactive character of every human cognition: while getting cognition of an object, humans interact with the surrounding environment, and so design new 'cognitive habitats' for their lives.

Introductory remarks

The present paper proceeds as follows. After these introductory remarks, I briefly analyse the relationship between cognition and aesthetic experience, according to five specific issues: a) the cognitive import of aesthetic experience (Schaeffer's hypothesis); b) the convergence of practical and reflective elements in aesthetic experience (Pepper's hypothesis); c) cognition and aesthetic experience in Kant; d) cognition and aesthetic experience in Dewey; e) cognition and aesthetic experience according to a 'crossing dialogue' between Kant and Dewey.

Kant's and Dewey's different accounts of aesthetic experience are too wide to be exhaustively discussed here. My purpose is only to emphasize the relationship of aesthetic experience to cognition – a topic which is not new in Kant-studies and has some degree of originality for Dewey-studies. In the last forty years, critics increasingly recognized that Kant's account of aesthetic experience can be understood only in the perspective of a strong relationship to his theory of knowledge. The Critique of Judgment, as argues Emilio Garroni in *Estetica ed epistemologia* (1976), recovers and enlarges Kant's discourse about the status of scientific knowledge, first discussed in the Critique of the Pure Reason. Recently, this issue has been newly proposed by a volume edited by Rebecca Kukla, with contributions by some of the most illustrious English-speaking Kantian scholars, as well as by a paper, oriented to an encounter between Kant's aesthetic reformulation of schematism and cognitive sciences, by Linda Palmer. In Italy, let us think only to the works of Fabrizio Desideri on the Kantian notion of *reflektierende Wahrnehmung*, or those of Pietro Montani on the "free schematism" of the power of judgment as a form of "technical schematism".

From Dewey's point of view, the issue is perhaps less evident, since the most recent criticism focused more on the "everyday aesthetics" character of his aesthetic theory (Cometti 2009; Cometti, Matteucci 2015; Dreon 2012; Dreon, Goldoni, Shusterman 2012; Shusterman 1992), on the relationship between biology and aesthetics (Ottobre 2012), or in that among psychology, education and aesthetic experience (Alexander 1987). What seems to me as still unexplored, and which I shall focus on, is the nature of cognition as *expertise*, as emerges by comparing *Art as Experience* and *Experience, Nature and Art*. Dewey's contribution in that sense is extremely important because it allows us to enlarge our conception of cognition, which is still in Kant strongly influenced by the model of scientific cognition, in order to understand how actually works human cognition as a *power of interaction* with environment – a conception of cognition which matches much better with the purpose of investigating human cognition within the framework of the cognition sciences and of evolutionary anthropology (Sterelny 2014; Tomasello 2014).

Let me restate the hypothesis formulated by Jean-Marie Schaeffer about the cognitive import of aesthetic experience in his last book *L'expérience esthétique*. Aesthetic experience is neither a non cognitive agency of human behaviour, nor is a special form of cognition, separated from cognition in general. Aesthetic experience is rather a form of *redirecting attention* – which is a kind of primary intentionality, having not a specific object, but being rather oriented to experience in general – towards new possible uses, which appear not "enlisted" in the subject's cognitive "agenda". It follows that aesthetic experience does not necessarily designate a special activity, referred as something like an "artworld" – Philosophies of art based on the idea od "artworld", like those of Danto (1981) and Dickie (1974), reject by the way the very idea that there is any constitutive bound between artworks and aesthetic experience.

Aesthetic experience refers to any possible form of human cognition, in the broad sense of any interaction between nature and the human subject, at the only condition to consider this interaction not for its specific objectives, but for its capability of refreshing the human powers of cognition, namely human attention to the world as place of every possible discovery and invention.

Schaeffer's hypothesis is quite convincing. It only describes, however, *how* aesthetic experience is able to activate such a complex mechanism, as well as to let it work. But it does not explain *why* human subjects have such a refined power. The kind of "why" I would like to answer to is not of an *ontological* order, but rather of an *epistemological* one. I am interested less in assessing some theses about the *nature* of human beings and more in arguing some hypotheses about the *quality* of human cognition as a performance and a specific attitude.

Cognition and aesthetic experience: reconsidering a relationship

Aesthetic experience is one of the most influential aesthetic categories, at least since the middle of 19th century. It variously describes the way we interact with beautiful or more narrowly artistic objects. As a comprehending category, it was used for describing the role either of the artist (or the author) or the spectator (or the reader), according to different artistic agendas and philosophical paradigms. It helped establishing criteria for making distinctions between natural and artistic beauty, or between different forms of experience – as does Hans Georg Gadamer in his most famous essay, *Wahrheit und Methode* (1960), by arguing his well-known distinction between *Erlebnis* and *Erfahrung*. Aesthetic experience helped also drawing a sharp distinction between ordinary experience and aesthetic objects, or on the contrary to find the inner relations between these two domains of human life.

It is recently emerging the idea that the identity-and-difference between aesthetic experience and cognition should be now reconsidered. In his last essay, *L'expérience esthétique* (2015), Jean-Marie Schaeffer suggests the urgency of such an enterprise because of the new problems advanced by cognitive sciences. Cognitive sciences work with a very enlarged notion of cognition, which entails both rational and practical cognition, as well as the emotional response connected to them. Within that context, Schaeffer considers aesthetic experience as the enactment of a specific form of intentionality relevant for subjective attention, rather than for the objective representation of cognition.

Schaeffer is aware that his account of aesthetic experience, though presented as a scientific hypothesis, is indebted with some major philosophical accounts. I think in particular to Kant's *Kritik der Urteilskraft* (1790) and John Dewey's *Art as Experience* (1934), as well as to the chapter on art and aesthetics of his previous essay *Experience and Nature* (1925; 2nd edition: 1929), entitled *Experience, Nature and Art*. Both thinkers give

fundamental contributions to focusing the relationship between cognition and aesthetic experience. By making a confrontation between Kant and Dewey, my purpose is to show that, while scientific descriptions help us accounting for the way human mind works as one has an aesthetic experience, philosophical hypotheses propose explanations for the sense of such a specialized cognitive performance.

In this perspective, reconsidering past paradigms of aesthetic experience is as important as establishing a dialogue between philosophy and the cognitive sciences. I argue that such a dialogue would be impossible without considering the specific issues labelled by philosophical investigation. Philosophical investigation is not relevant just for scientific "meta-theory": it develops hypotheses on its own. The dialogue between philosophy and science makes sense only in the case that philosophy might reformulates its theoretical questions according to the advancements of scientific research, and science, on its turn, might reframe its research issues being influenced by philosophical reflection. Let us consider the experiments of brain imaging conducted on a subject who is having an aesthetic experience. Those experiments take for granted that we all agree on what is an aesthetic experience – and, above all, on *what kind of cognition it is*.

Kant and Dewey:
two defenders of the aesthetic-cognitive relationship?

While, as we shall see, it is quite evident what relationship Kant recognizes between cognition and aesthetic experience (D'Angelo 2011; Desideri 2011; Garroni 1976; Kukla 2009; Marcucci 1988; Montani 2014; Palmer 2011; Scaravelli 1973), Dewey is usually considered rather as a defender of the relationship between ordinary life and aesthetic experience (Cometti 2009; Cometti, Matteucci 2015; Dreon 2012; Dreon, Goldoni, Shusterman 2012; Shusterman 1992). In the present paper, I consider Dewey's aesthetics from a different point of view – a point of view which puts in contact Dewey with Kant.

Their respective ideas on aesthetic experiences are presented here as two different but close responses to the naturalized description of aesthetic experience proposed by cognitive sciences and based on brain imaging (Consoli 2010). This argument needs, of course, that we establish a common area of interest between Kant and Dewey, as far as a definition of cognition is concerned. I do not want to argue for the identity between one is able to recognize as cognition according to Kant and what might be defined as "cognitive" in relation to Dewey. Kant has a more rational idea of cognition. If we consider the relationship he establishes between cognition and science, we must consider that his idea of scientific knowledge is based on physics and astronomy, i.e. producing rational frames within one may reconstruct the order of the Universe. In Dewey cognition cannot be separated from practice. As emerges in *Logic. Theory of Inquiry*, scientific cognition deals with a highly controlled interaction with environment, which is distinct from common conducts of life, but does not radically differ from them. In that sense, I argue that the "cognitive fallacy" stated by Dewey is valid only with reference to a narrowly speaking rational cognition, while cognition could be investigated according to an enlarged view, which comprehends all forms of interaction with environment oriented to ways of problem solving.

I argue that, if we look at the Third rather than the First Critique, we could apply this enlarged concept of cognition to Kant, as well as to Dewey. Cognition narrowly construed, that is cognition as stated in the First Critique, is irreducible to this paradigm. Cognition broadly construed, however, that is cognition as stated in the Third Critique, has a larger experiential ground and entails a wider range of interactive attitudes towards nature. Above all, experience, as stated in the Third Critique, foresees the possibility of establishing cognitively undetermined, but highly meaningful, relationships to reality. Aesthetic experience should be considered, then, as a way of refreshing the agency of our cognitive powers – imagination and understanding in

Kant's words. Some interpreters (Desideri 2011; Garroni 1976; Montani 2014; Palmer 2011) recognize that this aspect of the Kantian paradigm of aesthetic experience has an import also for the modern research in the cognitive sciences. And, for us, it overlaps and enriches Dewey's theory of aesthetic experience as interaction with environment.

In that sense, especially if we focus not on their respective epistemologies but on their aesthetic theories, we must recognize that, although maintaining different perspectives about the inner nature of cognition, Kant and Dewey share the same idea that we need to think a reflective stage of cognition in general, whose task is to define the relationship between cognition and experience – and for both thinkers this stage is represented by aesthetic experience.

Stephen C. Pepper's hypothesis

The idea of aesthetics I am defending here must be explained. I am speaking of aesthetics as primarily being a philosophy of art or of beauty. And I also argue that an aesthetic theory, which emphasizes more the nature of experience and cognition than that of the work of art or of beauty, is the kind of aesthetic theory we find both in Kant and Dewey. This idea of aesthetics has many forerunners. I just mention here what argues Stephen C. Pepper in the last chapter of his essay *The Work of Art* (1955). This chapter focuses on Dewey's notion of "fusion" within the analysis of aesthetic experience (Pepper 1955, 159 ff.). What Pepper calls "fusion" is what Dewey preferably calls "consummation". In other words, it is the ability of assembling together the different fragments of an experience, in order to give them a unified sense. Consummation is a quality proper to every experience, if it is *an* experience, as argues Dewey, that is if it fulfils the condition of conveying a sense of the interaction the subject has with the world through it. The consummatory quality present in every experience is, however, emphasized in the aesthetic experience, where the enhancement of our sense of interaction and mutual exchange with the world is more relevant than the specific cognitive content of experience. Pepper writes:

> Fusion then seems to be the state of consciousness to be found *unless* a problematic situation arises forcing discrimination and analysis to avoid pain and frustration. Fusion, accordingly, is not a process added to primitive elements generating a new supervening quality. Rather, analysis is the added process breaking into a primitive fusion generating a discrimination of some elements lying in the fusion. The continuity of life is a gradation of qualitative fusions, here and there broken into by articulated analyses and discriminations wherever practical exigencies require it. (163-164)

Pepper also argues that this concept of "fusion", or "consummation", could be derived from Baumgarten's idea of aesthetic experience as *cognitio sensitiva*. As a matter of common knowledge, Alexander G. Baumgarten is the founder of aesthetics since he is the first philosopher who used the word "aesthetics" (in German *Ästhetik*) to describe the philosophical investigation of beauty and art. He coined this word by deriving it from the Greek word *aisthesis*, which means "sensation", "feeling" and "perception". Baumgarten, who was a follower of Leibniz's Rationalism and a student of the Rationalist philosopher Wolff, compared sensation to rational cognition and considered sensation as a lower degree of cognition. This *cognitio inferior* was, however, necessary in order to pass to the rational ground of cognition, which is to be considered as the only true form of cognition and the *cognitio superior*. The specificity of Baumgarten's contribution is that he is the first thinker who considers the possibility of investigating *cognitio sensitiva* as such. Compared to *cognitio rationalis*, the former is actually "confused", that is irreducible to any rational or intellectual rule, but deserves that the philosopher considers it autonomously and formulates specific issues on it. Though confused, sensitive experience is able, in facts, to appear in its proper "clarity". And for Baumgarten art and beauty are

exemplary cases of sensitive experiences, which manifest the quality of clarity. Here is the reason why Baumgarten puts in relationship the epistemological issue of sensitive cognition and experience with the philosophical question on art and beauty.

Kant's and Dewey's visions on aesthetics are evidently indebted to Baumgarten. Both thinkers, however, argue for a significant difference from Baumgarten's paradigm of aesthetic experience. They do not consider aesthetic experience as the effect of mere collection of sensations. To use Pepper's words, the "fusion" realized through aesthetic experience is not merely *quantitative*, but has a specific *quality*. According to Kant, aesthetic experience deals with the refreshment of our cognitive agency. This refreshment is possible because imagination and understanding, that is the synthesis of perception and the organization of experience into a conceptual framework, enter into a new "disposition" during aesthetic experience. This disposition is described by Kant as the "free play" of those faculties, oriented not a given cognitive matter, but to our cognitive attitude as a whole. The kind of fusion realized deals with the entire life of the mind[1] of the subject. According to Dewey, fusion is realized when all the parts of a single experience enter each other into an organic relationship, which has a consummatory quality and engenders pleasure for this reason. This second kind of fusion deals with the capability of grasping the sense of our single interactions with the world. Both Kant and Dewey introduce, then, significant amendments to Baumgarten's theory of aesthetic experience as "confused cognition".

The way I shall consider here aesthetic experience, referring to Dewey, emphasize the aspect of interaction with environment. Aesthetic experience enhances the vital relationship of the human subject to the world. As a consequence, we cannot consider it, as Dewey seems to suggest, only in relationship to the single aesthetic experience: consummation has a value for the entire life of the mind. I introduce therefore the issue by making reference to Kant, who emphasizes this aspect. Aesthetic experience is considered then as a particular form of experience, which refreshing our cognitive agency *in general*, enforces our power of interaction with the world. To use Schaeffer's words, our perceptual attention results 'upgraded' as we have an aesthetic experience.

Aesthetic experience in Kant

Renewing the Italian tradition of Kantian studies, stated by scholars like Luigi Scaravelli, Silvestro Marcucci and above all Emilio Garroni, Paolo D'Angelo argues that we should consider aesthetic experience as an «experience of the non cognitive conditions of experience as such». Aesthetic experience would represent no special area of the life of the mind. It is rather the enactment of a different modality of manifestation of the mental life of the human subject, where the focus is not on the specific objects the subject deals with, but on the way s/he feels and perceives.

As a matter of common knowledge, the task of philosophy, from the point of view of Kantian Criticism, is to establish the "conditions of possibility" of experience and cognition in general. The difference between establishing the conditions of possibility of experience and cognition in general and describing the psychology of cognition can be stated as follows. Let us rather consider first our experience and cognition as such, that is to say *in general*, as the only reliable ground for every investigation that claims to establish a rule for our experience of the world. As a consequence, every agency of the human mind (reason, will, understanding, imagination) has to be investigated according to its specific conditions of possibility, that is to say its possibilities and limits according to the specific objects it is directed to.

[1] For the notion of "life of the mind", see H. Arendt, *The Life of the Mind*, ed. by M. McCarthy, Harcourt, Brace & Jovanovich, New York 1987.

The question about the conditions of possibility of what Kant calls "power of judgment" (*Urteilskraft*) is, however, more complicated than in the previous cases of the Critique of Pure Reason and of the Critique of Practical Reason. In those cases, Criticism "constitutes", in Kant's words, determinate objects bound to the relation to specific faculties of the mind: epistemic objects in relation to understanding; free will in relation to reason, considered as ethical deliberation. In other words, mental faculties are considered in an immediate relationship to special areas of human knowledge and action. In the case of *Urteilskraft*, on the contrary, the subject deals with experience "in general" (*überhaupt*). This statement is relevant for the special treatment Kant has of *Urteilskraft*. The power of judgment is, writes Kant:

> The power of judgment in general (*überhaupt*) is the faculty for thinking of the particular as contained under the universal. If the universal (the rule, the principle, the law) is given, then the power of judgment, which subsumes the particular under it (even when, as a transcendental power of judgment, it provides the conditions *a priori* in accordance with which alone anything can be subsumed under the universal), is **determining** (*bestimmend*). If, however, only the particular is given, for which the universal is to be found (*wozu sie das Allgemeine finden soll*), then the power of judgment is merely **reflecting** (*bloß reflektierend*). (KU, § IV; *CPJ*, 66-67)

The power of judgment is not merely a logical faculty of syllogism. If it were so construed, theorizing the existence of the *reflektierende Urteilskraft* would be senseless. There would just be no difference between "subsuming a particular case under a universal rule" and the inferential power of human understanding. In other words, while having an experience, the subject would immediately recognize causal bounds among phenomena. To Kant, the evidence is quite the opposite:

> The determining power of judgment under the universal transcendental laws, given by the understanding, merely subsumes; the law is sketched out for it *a priori*, and it is therefore unnecessary for it to think of a law for itself in order to be able to subordinate the particular in nature to the universal. – But there is such a manifold of forms in nature, as it were so many modifications of the universal transcendental concepts of nature that are left undetermined by those laws that the pure understanding gives *a priori*, since these pertain only to the possibility of a nature (as object of the senses) in general, that there must nevertheless also be laws for it which, as empirical, may indeed be contingent in accordance with the insight of **our** understanding, but which, if they are to be called laws (as is also required by the concept of a nature), must be regarded as necessary on a principle of the unity of the manifold, even if that principle is unknown to us. (KU, § IV; *CPJ*, 67)

Kant emphasizes that the human subject addresses in principle experience "in general" as the undetermined background of all her/his possible determined experiences. Instead of assuming a metaphysical idea of the order of the world – an idea of "cosmos", so to say – we must assume that the reflective condition of our mind is the founding principle of our experience and, in a mediated way, of our cognition. Kant's argument follows what Kant himself states in the First Critique: pure concepts of understanding are the *a priori* condition for determining every possible cognition of given objects. As a consequence, transcendental necessary laws of nature are the directly inferred by transcendental categories – i.e. pure concepts of understanding.

This rational organization of nature would not make sense, unless it refers to the specific and contingent conditions of applications to given objects and particular cases. As stated by Luigi Scaravelli, in order guarantee the application of transcendental concepts to empirical phenomena, Kant must argue for the existence of a "third manifold" – the two first manifolds being the above mentioned transcendental categories, and empirical phenomena. This "third manifold" is the (possible) system of the (empirical) laws of nature, which actually describe particular and contingent cases according to their organization in kinds and species. Kant reconsiders here the possibility of a *teleology of nature*. His system of nature is not speculative – and Rationalist,

as that of Baumgarten. The power of judgment must be therefore considered as an autonomous faculty in the system of mental faculties.

The point is that the principle of such a faculty is radically different than the principles of either the Pure or of the Practical Reason. If it were just the postulate of a real representation of the ends of natural things according to a general rule, this principle would be intellectual. This point contrasts, however, what I said about the status of the Power of Judgment, i.e. that we are unable to immediately reduce the manifold reality of empirical phenomena to concepts, and we need a principle to *orient ourselves through experience*. The principle of *Urteilskraft* cannot be referred to concepts and necessary laws:

> The power of judgment thus also has in itself an *a priori* principle for the possibility of nature, though only in a subjective respect, by means of which it prescribes a law, not to nature (as autonomy), but to itself (as heautonomy) for reflection on nature, which one could call the **law of the specification of nature** with regard to its empirical laws, which it does not cognize *a priori* but rather assumes in behalf of an order of nature cognizable for our understanding in the division that it makes of its universal laws when it would subordinate a manifold of particular laws to these. (KU, § V, *CPJ*, 72)

Kant calls definitively this principle of judgment *Naturzweckmäßigkeit*, which can be loosely translated as "purposiveness of nature". Kant, indeed, largely overcomes the traditional conception of teleology. For the reasons mentioned above, the *Naturzweckmäßigkeit* is not a concept, but a *feeling* since it can refer only to situations in which we actually feel a sense of the good organization of nature, its disposition to be experienced and known by human subject, and our disposition as cognitive agents to experience and know it. The harmony of nature is not an idea or a concept the subject may infer from the universal laws that govern the mechanism of nature. Harmony is generated by the feeling of pleasure we have in relationship to specific phenomena.

The question of aesthetic pleasure is not a matter of mere sensitive attractiveness. Aesthetic pleasure is directly engaged in the way cognition is established, since it foresees the orientation through experience in the perspective of defining the concepts necessary to recognize the laws that govern phenomena. As argues Emilio Garroni, aesthetic experience displays a high *heuristic potentiality*: having an experience means to orient oneself through events and facts which might, or might not, have a meaning in relationship to our knowledge. By anticipating the possible meaning of phenomena, aesthetic experience, as Kant says, "quickens" our cognitive powers. This passage is possible because in aesthetic experience we find a relationship between the "disposition" (*Stimmung*) of the inner play among faculties – in particular between understanding and imagination – and "proportion" (*Proportion*) which this cognitive play establishes with a given object through our commitment:

> Cognitions and judgments must, together with the conviction that accompanies them, be able to be universally communicated, for otherwise they would have no correspondence with the object; they would all be a merely subjective play of the powers of representations, just as scepticism insists. But if cognitions are to be able to be communicated, then the mental state, i.e., the disposition of the cognitive powers for a cognition in general, and indeed that proportion which is suitable for making cognition out of a representation (whereby an object is given to us) must also be capable of being universally communicated; for without this, as the subjective condition of cognizing, the cognition, as an effect, could not arise. (KU, § 21; *CPJ*, 122-123)

Aesthetic experience in Dewey

In *Art as Experience*, Dewey takes an attitude comparable to what Kant states in the Third Critique. Dewey himself, however, misunderstands the meaning of Kant's aesthetics. On one hand, Dewey believes that Kant argues for a "contemplative" theory of aesthetic experience; on the other hand, Kant considers the attitude typical of aesthetic experience as being

necessarily characterized by a lack of interest for the concrete reality of the object. Both statements are wrong, if we go back to what argued in the previous paragraph. The *Interesselosigkeit*, stated by Kant with reference to aesthetic experience, emphasizes the reflective and mediated attitude of a kind of experience where the refreshment of the general cognitive agency prevails over the single cognitive enterprise. Neither contemplation nor lack of interest is Kant's focus on aesthetic experience. His focus is rather the primary nature of reflection on experience in general over cognition of given objects.

The following passage, taken from *Art as Experience*, shows how far Dewey shares Kant's theoretical instance on the nature of aesthetic experience:

> Thus the non-esthetic lies within two limits. At one pole is the loose succession that does not begin at any particular place and that ends – in the sense of ceasing – at any particular place. At the other is the arrest, constriction, proceeding from parts having only a mechanical connection with one another. There exists so much of one and the other of these two kinds of experience that unconsciously they come to be taken as norms of all experience. Then, when the esthetic appears, it so sharply contrasts with the picture that has been formed of experience, that it is impossible to combine its special qualities with the features of the picture and the esthetic is given an outside place and status. The account that has been given of experience dominantly intellectual and practical is intended to show that there is no such contrast involved in having an experience; that, on the contrary, no experience of whatever sort is a unity unless it has esthetic quality. (*AE*, in *LW* 10, 47)

Dewey's description of the "non-esthetic" echoes Kant's idea of a strong relationship existing between aesthetic experience and the epistemological claim for the necessity of a free orientation through experience – an orientation which prepares the work of cognition, i.e. the recognition of specific causal bounds among phenomena. There are, of course, also differences between Dewey and Kant. Unlike Kant, for instance, Dewey does not theorize a general purposiveness of nature, "as if" (*als ob*) a supersensible intelligence had planned its course.

Although Dewey does not theorize such a teleology, he is nevertheless inspired by William James' "Radical Empiricism". From James, Dewey recovers the idea that cognition is made of "experienced relations". From Peirce's "Pragmaticism", Dewey also recovers the idea of "infinite semiosis": cognition is based in a series of inferences about the object experience, which correspond to semiotic acts of increasing denotation of the object, whose meaning is finally stabilized into a "habit" concerning the use of the corresponding sign (i.e. its name). The semiotic experience stated by Peirce has, then, a pretty heuristic quality, which is confirmed by the importance given to abduction among inferential powers. These sources of Dewey's philosophy, namely of his aesthetics, do not contrast with Kant's account of aesthetic experience. They rather emphasize its anti-metaphysical character, by avoiding any form of teleological framework for experience – and in particular for aesthetic experience (Calcaterra 2011; Cecchi 2014).

The only form of teleology of experience recognized by Dewey concerns the purposiveness of aesthetic experience, taken as a single process, which makes sense of its own course, i.e. has a consummatory quality. In *Experience and Nature*, Dewey describes aesthetic experience as a sort of 'developing expertise'. Dewey believes that we should translate the word "experience" into the Greek word *techne* – which means "art", as well as "technique" or "know-how". This word shows the fundamental understanding of experience by the ancient Greeks. In the *Unfinished Introduction* (1949-1951) to the new edition of *Experience and Nature*, Dewey even establishes an analogy between experience and culture: in this case, experience designates the common ground of knowledge, values and beliefs shared by a community.

We need, however, to retrace Dewey's phenomenology of aesthetic experience, where, as said above, the emphasis is on how we have *an* experience, rather than on how we reframe our life of the mind *through* experience, in order to fully understand the meaning of the aesthetic for him. Experience must be primarily understood as an 'individualizing' process. Only

at the end of this process, experience engenders a meaning, which becomes an integral part of our cultural and cognitive, setting. *Aesthetic experience has the function of emphasizing the organizing process of ordinary experience* – an organizing power which Dewey qualifies as an aesthetic principle of ordinary experience. As a consequence, we are not interested in aesthetic experience because it refers either to beauty or art. This is due to the fact that aesthetic experience emphasizes the *primary cognitive (or aesthetic-cognitive) performance* of experience:

> Experience occurs continuously, because the interaction of live creature and environing conditions is involved in the very process of living. Under conditions of resistance and conflict, aspects and elements of the self and the world that are implicated in this interaction qualify experience with emotions and ideas so chat conscious intent emerges. Oftentimes, however, the experience has is inchoate. Things are experienced but not in such a way that they are composed into *an* experience. There is distraction and dispersion; what we observe and what we think, what we desire and what we get, are at odds with each other. […]
>
> In contrast with such experience, we have *an* experience when the material experienced runs its course to fulfilment. Then and then only is it integrated within and demarcated in the general stream of experience from other experiences. A piece of work is finished in a way that is satisfactory; a problem receives its solution; a game is played through; a situation, whether that of eating a meal, playing a game of chess, carrying on a conversation, writing a book, or taking part in a political campaign, is so rounded out that its close is a consummation and not a cessation. Such an experience is a whole and carries with its own individualizing quality and self-sufficiency. It is *an* experience. (*AE*, in *LW* 10, 42)

The peculiar feature of *an* experience is its specifically dynamic organizing quality, which refers to its specific materials and course. It is its *aesthetic quality* because it depends on the subject's active and full commitment in the *sensitive* relationship to the object experienced. "Aesthetic" recovers here, like for Baumgarten and Kant, the sense of "sensitive". Aesthetic categories accordingly take a new meaning than in the philosophies of art stigmatized by Dewey. Aesthetic pleasure, for instance, is the result of the consummation, the feeling of having *an* (i.e. one organic) experience. Dewey himself overlaps the original sense of the word – "consummation" derives from the Latin *consummatio* and means "fulfilment", "accomplishment" – with the secondary sense of "consume", superimposed to the former. In a nutshell, every organic and organized experience has an aesthetic ground. Every experience is, in principle, aesthetic. Aesthetic experiences narrowly construed emphasize this quality and make us them available for a direct and more intensive perception of this aesthetic ground of experience.

This character of aesthetic experience brought many interpreters to reconsider Dewey's aesthetic theory within different interpretive paradigms: a substantial disappearance of the difference between "ordinary" and "special" (namely aesthetic) experience, where lifestyle, rather than style artistically construed, is at stake (Cometti 2009; Cometti, Matteucci 2015; Dreon 2012; Dreon, Goldoni, Shusterman 2012; Shusterman 1992); a milestone in the dialogue between aesthetics and evolution theory (Ottobre 2012); or a contribution to the revival of "aesthetic education" (Alexander 1987).

Dewey and Kant: a crossing dialogue

What I would like to propose is to reconsider Dewey's aesthetic theory from the point of view of its relationship to cognition. Kant's *Kritik der Urteilskraft* constitutes a model for this relationship. The contribution Dewey's aesthetics might give it should searched in the opportunity of rethinking cognition as a less theoretical and more practical *interaction* with nature. Accordingly, the specificity of aesthetic experience is not only that of refreshing cognitive faculties in the perspective of new possible cognition. As underlines Pietro Montani in his last book, *Tecnologie della sensibilità* (2014), where he attempts, by the way, to establish a relationship between Kant and Dewey, aesthetic experience also supplies the *enrichment of the*

qualities of experience, allowing the subject to find a new access into and new possibilities within the concrete material of experience. We should consider, then, the peculiarly *technical* feature of aesthetic experience, while reconsidering the prosecution of the "aesthetic" into the "artistic" as the fulfilment of a process designing new ways of manipulating sense data. But, for this, we need to go back to *Experience and Nature* and to its aesthetic chapter, *Experience, Nature and Art*, where Dewey writes:

> Artistic sense […] grasps tendencies as possibilities; the invitation of these possibilities to perception is more urgent and compelling than that of the given already achieved. While means-consequence relationship is directly sensed, felt, in both appreciation and artistic production, in the former the scale descends upon the side of the attained; in the latter there predominates the invitation of an existent consummation to bring into existence further perceptions. Art in being, the active productive process, may thus be defined as an esthetic perception together with an *operative* perception of the efficiencies of the esthetic object. (*EN*, in *LW* 1, 281)

"Fine art", in a Deweyan perspective, is no longer an activity which pursues the beholder's contemplation. Art should be rather conceived as a way of *training* the beholder's perception to the condition of assuming new schemes for interpreting and comprehending reality. It is "aesthetic perception" brought to display its inner "operability". In other words, it is a way of establishing new technical rules, either for perception or for action. This new task of the so-called "fine arts" has doubtlessly a direct influence on our cognition. Dewey himself recognizes that there is no difference in quality, but only in quantity or in specificity, among art, technique and science. All those activities open the path to different forms of cognition:

> Knowledge or science, as a work of art, like any other work of art, confers upon things traits and potentialities which did not *previously* belong to them. (*EN*, in *LW* 1, 285)

This state of affairs designs a new horizon of tasks and opportunities for the "fine arts". Furthermore, a new relationship between artists and the public is to be sketched. In *Individuality and Experience* (1926), for instance, Dewey suggests that art teachers, rather than teaching youth what is art, should assume the role of "masters" who interface with "apprentices". The passages quoted above from *Experience and Nature* show that this is not a special solution for a specific problem. Dewey has in mind aesthetic experience as a form of "reflective cognition". But by "reflective cognition" he would not mean the pure refreshment of cognitive faculties, like Kant. It is an enhancement of our cognitive agency *and* an active and productive interaction with the surrounding environment, an activity which concretely foreruns the work of other, more refined, cognitive practices, like science, in order to establish clear and shared experimental criteria. The meaning of what is art changes. Dewey's words describe better than any other this new function of art:

> It is a device in experimentation carried on for the sake of education. It exists for the sake of a specialized use, use being a new training of modes of perception. The creators of such works of art are entitled, when successful, to the gratitude that we give to inventors of microscopes and microphones; in the end, they open new objects to be observed and enjoyed. (*EN*, in *LW* 1, 293)

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DEWEY AND THE ART OF EXPERIENCE

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ABSTRACT: Instead of following the behaviorists and abandoning the concept of experience, Dewey wanted to reconstruct it. Dewey was an ardent Darwinist, so whatever experience is, it has to be an evolved, presumably adaptive power. "Experience" became for him one word for the multiplex relation between the evolved, adapted organism and its environment. Human environments include groups and social relations mediated by language. But "experience" is not centered there, or restricted to the use of language. Experience comprises our total interaction with the environment. It is with *this* experience that knowledge begins and where its value is proved.

Dewey seems largely indifferent to the idea of empiricism. He ignores it in his various epitomes of pragmatism. "Empiricism" sounds like something made up for textbooks. But *experience* is the most real thing Dewey can think of, and he thinks about it a lot. It is mentioned in the titles of two important books, *Experience and Nature* (1925) and *Art As Experience* (1934). Instead of following the behaviorists, and abandoning the concept of experience, he wanted to reconstruct it. Evidently he counted it a mistake in philosophy to forget about experience. "Ultimately there are but two philosophies," he said. "One of them accepts life and experience in all its uncertainty, mystery, doubt, and half-knowledge and turns that experience upon itself to deepen and intensify its own qualities." (AE 34) He never says what the other one is.[1]

Dewey was an ardent Darwinist. Whatever experience is, it has to be an evolved, presumably adaptive power, and cannot be restricted to a sphere isolated from the evolutionary causality of time. "Experience is not a veil that shuts man off from nature; it is a means of penetrating continually further into the heart of nature . . . a growing progressive self-disclosure of nature itself." (EN xv) When Dewey thinks about knowledge he thinks about the evolved, adaptive relation between organism and environment. "Experience" became for him one word for this multiplex relation. "Interaction of environment with organism is the source, direct or indirect, of all experience." (AE 147)

Human environments include groups and social relations mediated by language. So a relation between organism and environment does not exclude discursive relations with others. But it is not centered there, or restricted to the use of language. Experience comprises our total interaction with the environment, including the corporeal *milieu intérieur*, "the entire organic agent-patient in all its interactions with the environment, natural and social."[2] It is with *this* experience that knowledge begins and where its value is proved. Epitomizing his "instrumental" conception of knowledge, Dewey says "knowledge is instrumental to the enrichment of immediate experience through the control over action that it exercises." (AE 290) Knowledge is "a mode of experiencing things which facilitates control of objects for purposes of non-cognitive experiences" (QC 79), these being satisfactions, or what Dewey calls consummations.

Dewey explained the value of experience with a distinction between subsistence and growth. We were to imagine subsistence as bare life, while growth was the spiral movement from a temporary falling out to a more extensive recovery. This was the experience by which we learned and became experienced. Such experience came in waves. First, a phase of need, the organism momentarily falling out of step with an environment. Then came improvised recovery, which was not a simple return, but an enrichment for invention expressed in resistance surmounted. Dewey seems to have read little Nietzsche

[1] References to the following works by John Dewey are parenthetically embedded:

AE *Art as Experience* (New York: G. P. Putnam's Sons, 1934)

EN *Experience and Nature*, 2nd ed. (La Salle: Open Court, 1929).

L *Logic: The Theory of Inquiry* (New York: Henry Holt, 1938).

QC *The Quest for Certainty*, *Later Works*, vol. 4 (Carbondale, IL: Southern Illinois University Press, 1988).

[2] John Dewey, "The Need for Recovery in Philosophy," *The Middle Works*, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1980), 10:26.

and to have liked none of it. But he did believe, as Nietzsche famously said, that whatever does not kill you makes you stronger.[3] Perhaps they both learned it from Emerson. For Dewey, any resistance or tension was an opportunity to discover unsuspected potentials, and the occasion of experience from which something was learned. Without suspense, crisis, and resolution, no experience, at least none that we learn from.

Dewey has an idea of how experience ought to unfold. He describes a norm. He thinks he finds this norm in nature, in evolution, in adaptation. It belongs to life, to nature, not to history or culture. Concurrent sensations, memories, percepts, and who-knows-what other mental states do not automatically compose an experience. An experience is a complex, processual event that tends to come to a normative close. Life is beset with distraction, the discrepancy of observation and thought, the miscalculation of means and end. We have a consummated experience when the material runs its course to fulfillment. Then the episode is integrated within and individuated in the stream of experience, a unity, a single felt, emotional quality, that pervades the parts. In those moments when nothing is broken off, nothing intermittent, everything so rounded out that its close becomes a fruition rather than a caseation, we enjoy *an experience*, the kind we learn from, but more, the kind we live for, the aesthetic, imaginative, satisfying kind.

A normatively whole experience is emotional, that is, unified; it is intellectual, that is, meaningful; and it is practical, that is, an adaptive interaction with an environment. Consummation is not reserved until the end. It is anticipated throughout and recurrently savored in ceaseless small consummations, always presenting something new. Such experience is in virtue of its satisfying quality described as *aesthetic*, as experience of an satisfying aesthetic quality. Aesthetic is the quality proper to experience, the norm for experience, "the clarified and intensified development of traits that belong to every normally complete experience." (AE 46) Aesthetic consummation "is experience in its integrity . . . pure experience . . . experience freed from the forces that impede and confuse its development as experience. . . . To esthetic experience, then, the philosopher must go to understand what experience is." (AE 274)

First thing we need to understand is that experience is not a veil that shuts us off from nature. It is a means of penetrating into nature, pursuing "a growing progressive self-disclosure of nature itself." (EN xv) Philosophy has had a tendency to oppose nature and experience. Experience was a superimposed veil, something to be transcended to find nature. Modern science no longer feels this problem. It takes for granted that experience controlled in appropriate ways is the path to facts and laws of nature. Philosophy should rethink its concept of experience accordingly. The experience of natural science shows that experience is not just a thin layer of nature but penetrates nature in a way that can be extended. Experience is primarily experience of things, of nature, of the real, and not of sense data or impressions, which merely delay the real. These are reflective products of analysis and not the primary given.

Another thing we have to appreciate, then, is the directing power of experience. The philosophers have not been good empiricists on this score. Dewey thought that the failure of traditional philosophy came from "lack of confidence in the directive powers that inhere in experience." (EN xv) Philosophy has tended to understand experience as experiencing only itself, solitary states of subjective, private consciousness, rather than common things of nature. This tendency is as ancient as the Cyrenaics and as modern as Mach. On one point Dewey might agree with Carnap. De-subjectification was indispensable to scientific success. "The de-personalizing and de-socializing of some objects," he said, "was a necessary precondition of ability to regulate experience." (EN 16) Carnap's

[3] "What does not kill him makes him stronger." Friedrich Nietzsche, *Ecce Homo,* trans. Judith Norman (Cambridge: Cambridge University Press, 2005), 77. I discuss their relationship in "Pragmatism and Gay Science," *Dewey and Continental Philosophy*, ed. Paul Fairfield (Carbondale: Southern Illinois University Press, 2010), 69-89.

response to de-subjectification was flight from experience into pure structure.[4] Dewey's was to put experience under the control of experimental logic. Carnap had difficulty finding anything to say about the value of experiments in science. Dewey could not say enough. He repeated a signature theme of empiricism. The value of knowledge depends on experience. To know a thing takes experience with it, and is not something you can get from thought alone. Nor from perception alone, without memory, that is, experience.

Experience presupposes unscripted instability, however momentary. But it has to be instability within a context of stability. Experience emerges from this mix of the new and the familiar, difference and repetition. "It is precisely the peculiar intermixture of support and frustration of man by nature which constitutes experience." (EN 341) If life were all one and the same, there would be nothing to remember, nothing to learn, no experience. But when nature fluctuates and refuses to satisfy our expectations, then we have a problem, a question, a halt, and an opportunity for the experience from which we learn. The exchange may involve the acquisition of experience, or may be an expression of what experience has learned. Either way, whether as memory or as something to be remembered, experience arises and finds its expression at the interface of stability and uncertainty. With experience, we learn how to enlarge the stability or at least limit the precariousness. We also learn that any experience could be otherwise, that it could be better, and that its being so depends on choices we make.

Dewey sent philosophers to aesthetic experience to study what experience is. Later, he said that *imaginative* experience "exemplifies more fully than any other kind of experience what experience itself is in its very movement and structure." (AE 281) Implicitly, then, he equated aesthetic quality, which we know was the consummatory satisfaction of an experience, with *imaginative* quality. So we wonder, what quality is "imaginative"? He mocked Kant's facultative psychology, and assured us that imagination was not a power or faculty. It was a quality of experience. Experience had this quality, was imaginative, when notably successful in stitching old and new together, making the whole experience consummatory and aesthetically satisfying. "When old and familiar things are made new in experience, there is imagination. . . . There is always some measure of adventure in the meeting of mind and universe, and this adventure is, in its measure, imagination." (AE 267)

Perceptions were not given. They were elicited in response to something problematic in the environment. Perception was a felt response of the live organism to changes in the near environment, a relay between environment and organism, and not an inner show for a Cartesian homunculus. "Unless there were something problematic, undecided, still going-on and as yet unfinished and indeterminate in nature, there could be no such events as perceptions." (EN 283) For an empirically oriented thinker the evidence of enjoyment and suffering prove that nature includes finalities. The fact that they happen proves that they can happen, that nature makes no objection to the physical reality of finalities or consummations. Consummation is a natural quality, a natural way for experiences to end, and not merely some conventional agreement. "If experienced things are valid evidence, then nature in having qualities within itself has what in the literal sense must be called ends, terminals, arrests, enclosures." (EN 82) These afford the empirical meaning of "good." Philosophers do not have to fly to the transcendent. The finalities that dignify life are natural and occur in nature.

Dewey was alert to anything that seemed to confirm that "human hopes and purposes find a basis and support in nature." (AE 28) These hopes were not just a

[4] The elimination of subjectivity was a priority for Carnap. He could not simply abolish experience and still be an empiricist. But he could de-subjectify that experience, which he proposed to do by "a transition from material to structure." Rudolf Carnap (1925), cited in A.W. Carus, *Carnap and Twentieth-Century Thought: Explication as Enlightenment* (Cambridge: Cambridge University Press, 2007), 168.

conventional, cultural, subjective, arbitrary concoction. Art, for instance, could "[stir] into activity resonances of dispositions acquired in primitive relationships of the living being to its surroundings." (AE 29) Art did deliberately what any organism does instinctively in response to need. The intervention of consciousness added "regulation, power of selection, and redistribution," but this built on and raised higher powers long prepared in the evolution of life. What other satisfaction could there be for him in his refrain that our efforts are no less "the doing of the universe, and they in some way, however slight, carry the universe forward . . . our endeavors are significant not only for themselves but in the whole"? (EN 340) Apparently that is meant to be reassuring. In our pursuit of what is preferable and good we continue the course of nature. It is not just us; it is nature acting though us. To convert the unfulfilling to the fulfilled is "the manifest destiny of [the] contingency . . . and generic uniformities in nature." (EN 341)

He fought with relativism, the notion that art could be anything, that its history was arbitrary. No, he said. It was objectively constrained, a response to objective conditions that had to be respected, however much latitude they held out. "Underneath the rhythm of every art and of every work of art there lies, as a substratum in the depths of subconsciousness, the basic patterns of the relations of man and his environment." (AE 151) Art was natural. The attraction of beauty, the repulsion of the ugly, was natural, our evolved human nature. "There must be, in spite of all indifference and hostility of nature to human interests, some congruity of nature with man or life could not exist. In art the forces that are congenial, that sustain not this or that special aim but the processes of enjoyed experience itself, are set free." (AE 185) Our aspirations belong to nature, and are, for the consistent naturalist in philosophy, a phase of nature itself. "Nature signifies nothing less than the whole complex of the results of the interaction of man, with his memories and hopes, understanding and desire, with that world to which one-sided philosophy confines 'nature.'" (AE 152)

It reassured him to think that "the same natural processes which generate goods and evils generate also the strivings to secure the one and avoid the other, and generate judgments to regulate the strivings." (EN 345) It seemed to address the worry that the valuable qualities that make life worth living are completely arbitrary and not worth defending, for instance, from totalitarianism. Ends, finalities, consummate satisfactions were neither arbitrary creations of private fantasy, nor eternal forms, nor fetishistic figments of false consciousness. Empirically, they were "projections of possible consequences." Such ends were also means employed as plans, where Dewey called them ends-in-view. The objectives of conscious endeavor were not ideal endpoints, but working parts of working plans that entered into the organization of action and were indispensable to the materialization of what they posit.

We learned this use of ends from the arts. "Apart from the processes of art," Dewey said, "there is no basis for introducing the idea of fulfillment, realization, into the notion of end nor for interpreting antecedent operations as potentialities." (EN 105) Humanity's long practice with the arts have taught us the difference between how a thing is and how it can be transformed. Dewey's idea of "art" is closer to Greek *techne* or Latin *ars* than to our idea of "fine arts." He explains that "art" means action that deals with materials and energies, assembling and refining to a new satisfaction. (EN 288) He described the "history of human experience" as a "history of the development of arts" (EN 314), and said that "the *idea* of art as a conscious idea—the greatest intellectual achievement in the history of humanity"—was born in our first experience with the supplement of artifice. (AE 26)

The arts taking over, introducing their inventions, converting the precarious to the stable and enhancing our control of experience, was not an *unnatural* event, not a sheer artifice foisted upon physical matter by an invader or exile. Human art is a continuation of human nature, and human nature a continuation of nature overall. The arts and their changes are as "natural" or "physical" as any

occurrence in nature. "Art is a continuation, by means of intelligent selection and arrangement, of natural tendencies of natural events." (EN 315) Dewey somewhat melodramatically thinks that makes art "the complete culmination of nature," and that science "is properly a handmaiden that conducts natural events to this happy issue." (EN 290) Science is an art, its practice is an art; it is simply another name for "the intelligent factor in art," that is, technology. (EN 298)

The important distinction in this neighborhood is not artificial versus natural or physical versus conventional. It is the distinction between modes of experience that are infused by art and those that remain deficient, unreconstructed, and an entrenched source of problems. Art again leads the way in distinguishing these. Dewey cites Matthew Arnold, "Poetry is the criticism of life." Yes, and not just poetry. The vocation of art is the criticism of life. "For art fixes those standards of enjoyment and appreciation with which other things are compared; it selects the objects of future desires; it stimulates effort . . . [It supplies] the meanings in terms of which life is judged, esteemed, and criticized." (EN 168-169)

The great lesson of modern thought was to universalize technology's artisanal perspective and treat all objects as indications of potential and none as finalities. We had to learn the difficult lesson of attending not to the *what* of experience—do we like it or not—but the *how* of its changes, how to control it. We turn away from those admirable (or terrible) qualities, and attend to the relations by which they are generated and through which they can be controlled and modified. Those relations are the proper object of science. As Dewey put it in *The Quest for Certainty*, "Reduction of experienced objects to the form of relations, which are neutral as respects qualitative traits, is a prerequisite of ability to regulate the course of change, so that it may terminate in the occurrence of an object having desired qualities." (QC 84)

Dewey thought that most of the problems of modern philosophy (and many of the problems of modern society) arose from an incomplete, uneven institutionalization of this shift. We retained the idea of knowledge as the apprehension of the objectively real. If the proper objects of knowledge were mathematical and mechanical, it seemed to follow that nature was mathematical and mechanical and barren of consummatory qualities, which led to problems of subjectivism, relativism, and nihilism. The fatal premise, carried over into modern philosophy from antiquity, was that science grasps "reality in its final, self-sufficing form." (EN 113)

To relieve ourselves of practically the whole syllabus of "problems of philosophy" we needed to denounce the cataleptic phantasy of the Stoics, and acknowledge that "the objects of science, like the direct objects of the arts, are an order of relations which serve as tools to effect immediate havings and beings." (EN 113-114) The sciences were arts, they made instruments that mediated from where we were currently to conditions that we envisioned as preferable. They did not reveal the truth about things in themselves. They did not concern with things in themselves. They concerned things in relation, relations that always include us. That was "application"—in science, in philosophy, anything: To achieve a more extensive interaction of events with one another, overcoming distance, revealing new potentials previously hidden, opening the way to new beginnings and new ends.

Dewey is not tempted by the nominalism that Wilfrid Sellars and Richard Rorty urge as the alternative to an exploded myth of the given.[5] At the same time, we should not expect him to be tempted by the epistemological given. In what could pass as an epitome of Sellars' thesis Dewey says "I know nothing of a perceptual order apart from a conceptual order." Yet he affirms this in a way that suggests his eventual

[5] See Wilfrid Sellars, "Empiricism and the Philosophy of Mind," in his *Science, Perception, and Reality* (London: Routledge & Kegan Paul, 1963); and Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton, NJ: Princeton University Press, 1979).

divergence, since, for Dewey, perceptual and conceptual are "aspects, analytically arrived at, of the one existing reality—conscious experience."[6] He anticipates Sellars' "Myth of Jones" (Jones is the mythic inventor of the idea of inner experience): "This world of inner experience is dependent upon an extension of language which is a social product and operation." (EN 143) He describes experience as "full of inference. There is, apparently, no conscious experience without inference; reflection is native and constant."[7] "In a proper conception of experience," he says, "inference, reasoning, and conceptual structures are as experiential as is observation." (L 38) The same goes for knowledge. He writes against "the belief that there is such a thing as immediate knowledge," or that it is "an indispensable precondition of all mediated knowledge." All knowledge "involves mediation"; an "inferential function is involved in all warranted assertions." (L 139)

When Dewey says, "the immediate existence of quality" is "the point of departure and the regulative principle of all thinking," Colin Koopman detects a "quasi-foundationalist formulation," and criticizes Dewey's account of inquiry for reliance on "a deficient characterization of indeterminacies as given." He thinks Dewey "lacked a full appreciation of the problematic of givenness" because "it was not until later decades that this problematic was rigorously laid out in all its thorny detail."[8] Sellars' paper is certainly thorny. It had to be, to be taken seriously by the logical empiricists he wanted to refute. But the argument does not require Sellars' rebarbative clarity. It was already known to readers of Kant, or Hegel's *Phenomenology*, to say nothing of T.H. Green's withering analysis. Rorty pointed out how Sellars' critique of givenness was "presaged by Green." He also notices "Dewey's often-cited tribute to Green" and agreement with "the Kant-Hegel-Green critique of empiricism." Rorty goes so far as to say that Sellars merely reformulated Green's (and Dewey's) "central point against Hume in modern dress."[9]

Sellars's argument refutes the idea of the *epistemological* given, the sensuous given that is tendered as the *fons et origo* of scientific knowledge. Dewey is obviously not lapsing into *that*. Even if Sellars' argument can be generalized from sensation to other putative forms of cognitive immediacy, such as intellectual intuition or the *cogito* (as Robert Brandom has insisted that it does[10]), the argument still does not touch anything Dewey's is trying to say about experience, or even about the place of the immediate and given in knowledge. In a striking passage he says, "The immediately given is always the dubious . . . it is a cry for something not given." (EN 283-284) Experience begins not with presence but absence—precarious loss, stability lacking. *That's* the sort of experience we learn from. Not "red here now."

In a sentence that would set Rorty's teeth on edge, Dewey wrote, "A universe of experience is the precondition of a universe of discourse." He says of experience, "Without its controlling presence, there is no way to determine the relevance, weight or coherence of any designated distinction or relation. The universe of experience surrounds and regulates the universe of discourse but never appears as such within the latter." (L 68) How does experience "control" discourse? By holding it to a logic of inquiry in which the feeling of problems and consummatory, aesthetic satisfaction were the beginning and end of knowledge.

[6] John Dewey, "Psychology as Philosophic Method," *The Early Works* (Carbondale: Southern Illinois University Press, 1969), 1:172.
[7] Dewey, "Need for Recovery in Philosophy," *Middle Works*, 10:6.
[8] Colin Koopman, *Pragmatism As Transition: Historicity and Hope in James, Dewey, and Rorty* (New York: Columbia University Press, 2009), 76, 78, 203; Dewey, cited in ibid., 80.
[9] Thomas Hill Green, *Hume and Locke* (1874; New York: Thomas Y. Crowell, 1968); Richard Rorty, *Philosophy and the Mirror of Nature*, 49n; and *Consequences of Pragmatism* (Minneapolis: University of Minnesota Press, 1982), 80, 88n.
[10] Robert Brandom, "Vocabularies of Pragmatism," in *Rorty and His Critics*, ed. Robert Brandom (Malden, MA: Blackwell, 2000).

Inquiry was a response at once logical and natural, stirred into motion by the feeling of difficulty, or a problem. A problem had to "be felt before it can be stated," Dewey said. "If the unique quality of a situation is *had* immediately, then there is something that regulates the selection and the weighing of observed facts and their conceptual ordering." What he called "the immediately given" was "an extensive and qualitative *situation*." (L 517) From this given, felt qualities emerge as the result of operations of observation aimed at bringing problems into focus and developing hypotheses on how to address them. The given is not sensation or impression. It is the feeling, distinct yet obscure, of problem and difficulty.

A feeling for problems was a condition of prosperous inquiry. The most urgent problems of knowledge were often to find the problems, find what was making some situation problematic, illuminating a path to solution. It took the right feel. There was an art to it. Dewey said little about what problems were supposed to feel like, but we don't miss it. The point was not to unveil a mystery but to acknowledge an experience (difficulty, problem) we all feel. We could also ask why a certain audience feels a problem at a certain time. As historical, that must have a genealogy, which would expose its contingency and probably compromised politics. Dewey says nothing about that, though I am unsure how troublesome the lapse is, since merely to make the criticism confirms what Dewey is saying. The critic must feel something is wrong, something not working right in Dewey's argument. To criticize Dewey for not making a problem of the feeling of a problem is tacit concurrence that a problem is ultimately a matter of feeling and simply given (or not). Genealogical inquiry can investigate why others felt a problem when they did, but we cannot perform the genealogy upon ourselves because we cannot problematize the feeling of a problem without implicitly acknowledging that it is not really a problem at all. The feeling of a problem, given leave to develop its tendency, is the matrix of inquiry and the beginning of knowledge.

Experimentation, inquiry, and experience begin with feeling, immediate in the sense that any felt quality is. Nothing can "mediate" a felt quality because nothing is comparable to it. That is the nature of qualities. There is no comparison. Each one is different. So it is with the range of feeling that prompts inquiry. Like Bergsonian intuitions, these feelings do not give reasons for belief; they are rather an impetus to inquire, a lure to look into the problem we feel, like a pain that sets us in motion. Philosophy becomes logocentric or rationalistic in the way that it has traditionally fallen to empiricism to criticize when the theory of knowledge turns away from perception toward discourse and formal representations cut loose from control by experience. Philosophy then becomes useless for helping people find the problems they feel.

Not to feel problems is a kind of art. It is the art of Rorty's therapeutic (anti-)philosophy, as it was the art of Wittgenstein's philosophical analysis. Deflation and debunking seem to me latently nihilistic. An alternative is to bring art to the problems one feels, to become good at selecting problems, selecting what to inquire into, and how to organize the experiments. One does not want to eliminate problems but to become good at them, for life without problems is probably not life at all. The art of experience is the art of knowledge, which is also the art of art: To make learning by experience artful, disciplined, productive, creative, and aesthetically consuming.

MIRACLE AND THE MIRACULOUS:
A PRAGMATIC APPROACH

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ABSTRACT: This paper offers a critique of the conceptions of miracle that dominate discussions in contemporary apologetic and atheist/agnostic Anglo-American philosophy of religion, and a pragmatic alternative. I identify three melioristic tensions that the contemporary conception of miracles risks leading to and go on to suggest how American pragmatism may help those bothered by these tensions to (at least to some extent) mitigate them. I develop the argument via a contrast between conceptions which see miracles as isolated events of which we are mainly spectators and a pragmatic conception of "the miraculous" which is a general feature of human life that becomes maximally manifest in processes where we, as attentive participants, manage to direct events so that richer, healthier and more flourishing lives become possible. With the help of these contrasts, I explain both which kinds of melioristic tensions I see with currently dominant conceptions of miracles and how pragmatism can help us articulate those tensions and at least to some extent come to terms with them better than before. The result is a call for a broadened – rather than entirely reconstructed – philosophical discussion of miracles and their place in religious commitments.

Background and purpose

Philosophers of religion in the Anglo-American tradition have long debated miracles and their potential evidential role within cumulative arguments for the existence of God. Are we rationally entitled to believe in the occurrence of miracles, past, present and future? More importantly: do such events rationally vindicate belief in God? Most of the time, these debates circle, at least since David Hume's *An Enquiry Concerning Human Understanding*, around events that involve a violation of at least one law of nature.

The purpose of this paper is to, first, shift attention from the epistemological question at the core of this debate towards what I will call *melioristic tensions* that are part of the broader range of consequences of appealing to miracles as understood in the current debate to support belief in God. I believe that debaters not only ignore, but that they may even contribute to, these tensions. Second, I propose that a pragmatic approach inspired primarily by John Dewey and his notion "the religious" offers means to articulate and, to some extent, mitigate those tensions through a shift of attention from *miracles,* conceived of as events, towards *the miraculous*, conceived of as a potential feature of human life that becomes maximally manifest whenever we engage in *participatory quests that terminate in consummation*. Such a shift of attention would, I suggest, have positive consequences for our ability to actually in-habit the world religiously, particularly because it helps us reduce the melioristic tensions that I return to below. To develop this approach, I draw heavily on Dewey's thought.[1]

The method employed here is pragmatic in a rather straightforward sense. When encountering some debate, philosophers are, I believe, well advised to not just rush in and ask which side is right; occasionally, we should pause and ask which valued elements that are at stake within the debate, and whether there are ways to safeguard those values that both sides – due to shared presuppositions – tend to neglect. In this specific case, I take the valued element at stake to be *religious ways of in-habiting the world that include, as one constitutive part, acknowledgement of life's miraculous character.* These ways of in-habiting the world are, arguably, important to many people, yet also questioned at least since the Enlightenment. I will particularly discuss those (apologetic) positions that claim that appeal to miracles is a promising strategy for those who wish to safeguard this valued element, but the critique, if successful, is a critique of the entire debate, and not just of one side within it.

I will suggest that a pragmatic approach helps us see ways in which apologetic affirmations of miracles conceived as events in which we only partake as spectators, can – rather than functioning as a mainstay for religious ways of in-habiting the world – actually be a source of serious *melioristic tensions* that undermine

[1] I talk of the approach as pragmatic although I primarily draw on the work of Dewey to develop my position. Since this paper has no exegetical ambitions whatsoever, I still avoid calling the developing position 'Deweyan' or 'Dewey's'.

confidence in the very same ways of in-habiting the world that they were intended to support (I develop the notion of "melioristic tensions" in the next section).

Two *caveats* before I start. First, I do not claim that the proposal offered here is the only conceivable way to mitigate the melioristic tensions I identify, or that everyone will accept it as superior to every alternative. Partly for the simple reason that people are different, partially because this is not the way philosophical arguments typically work, and partly because I do not take philosophy (or any other single intellectual or practical endeavor) to be the ultimate arbiter of what we are entitled to do, believe or think. The argument developed here points to certain melioristic tensions that I believe a good many religious believers will recognize, and suggests one way of handling them without assuming that everybody will find that suggestion helpful.

Second, I will mainly focus on the philosophical debate that typically takes a third person-perspective by asking what the aggregate amount of miracles entitle us to rationally claim about God, rather than what individuals who have been through some life-shattering experiences, like surviving accidents where many others perished, are rationally entitled to claim. Towards the end of this paper, I will, however, have something to say about the more individual perspective, and how it relates to the pragmatic approach I advocate.

In-habiting the world

Before I begin, I want to clarify what I mean by "in-habiting the world" and how I relate that activity to the notion of "melioristic tensions", pragmatic philosophy in general, and pragmatic philosophy of religion in particular.

Pragmatism has, ever since its inception, aspired to be a *mediating* philosophy (James 1995, lect. 1). This implies that it is neither religious nor anti-religious, but pluralistic: struggles to satisfy deeply felt moral and existential needs lead people in diverse directions, some more religious and some more secular. These directions develop and become valuable as part of people's efforts to *in-habit the world* in the sense that Dewey has in mind in the following quote: "[t]hrough habits we also in-habit the world. It becomes a home, and the home is part of our every experience" (Dewey 1958, 104). Making the world a home means, both metaphorically and quite literally, creating a space for thought and action within which we feel a relatively high degree of familiarity and safety, and where that familiarity and safety help ensure tolerance towards others and a willingness to face and engage in challenges and problems that we come across. These engagements need not have an ultimate *telos*; hopefully, though, they help us in-habit the world more confidently than before, which, in turn, makes us more willing to engage in new challenges, and so on.

However, our sense of familiarity and safety is occasionally threatened, particularly when clashes and tensions arise within a person's or a group's ways of in-habiting the world, and/or between different persons' and groups' ways of in-habiting the world. In this paper, I call such clashes *melioristic tensions*. Meliorism is, in pragmatism, the in-between position between optimism and pessimism which sees progress and improvement as *possible* and within our reach, but also as such that they can only come about through means such as careful reflection, painstaking effort and constructive cooperation with as many "fellow inquirers" as possible (cf. Pihlström 2013; Koopman 2009).

Melioristic tensions, on my definition, are tensions that arise in situations where we experience that in order to preserve some valued element in our lives (that helps us confidently in-habit the world), we seem forced to make commitments and adopt habits of thought and action that jeopardize our ability to preserve or accomplish *other* elements that we also value. In other words, they arise in problematic situations where established habits of thought, action and judgment seem to partially undermine, rather than support, our opportunities to make progress. Thus understood,

melioristic tensions threaten our ability to confidently in-habit the world, and it is only natural that philosophers should ponder the question whether they can help us think through, in a systematic fashion, the different consequencs that may ensue from adopting a position or a claim as a guide for conduct.[2]

Debating miracles

Hume makes two claims concerning miracles. First, by way of *definition*, he suggests that a miracle is an *event* where at least one law of nature is violated. By 'law of nature' he means, faithful to his empiricism, stable regularities of experience that we become accustomed to throughout life. Hence, it is a law of nature that dead people remain dead, that knifes cut and that lost limbs do not grow back out again. The sudden death of a seemingly healthy person does not, however, violate any law of nature, since we are familiar with this happening from time to time (Hume 1951, 119).

Second, by way of *rational evaluation*, Hume argues that it is very hard to frame a rationally defensible argument for a belief that some specific miracle has occurred, and even more difficult to use it to argue for some other belief (for instance, belief in the existence of God). The difficulty lies in reconciling what Hume takes to be the incompatible tasks of (a) establishing that something is a law of nature and (b) demonstrating that this alleged law of nature was violated at some specific time and place where it should have applied. The more evidence you amass for (a), the more likely it will seem that the testimony about the alleged miracle was erroneous, consciously manipulated or exaggerated, not least since reports about miracles become less frequent as cultures become more 'advanced' (Hume 1951, 121ff). Hume thus concludes that we should be skeptical of any and all claims that a miracle has occurred, and contemporary thinkers such as J. L. Mackie, David Saunders and Richard Dawkins reach similar conclusions. Dawkins, for instance, suggest that our human "appetite for wonder" can and should be satisfied by the natural phenomena that we, through science, can investigate and explain in more and more sophisticated manners (Mackie 1982; Dawkins 1999; Saunders 2002). Miracles become spectacular, law-governed, natural events.

In line with the pragmatic approach outlined above, I take these critics to suggest that a religious way of in-habiting the world *cannot* be reconciled with habits of thought and action that we have developed in science and elsewhere lest we commit intellectual suicide by rejecting substantial parts of a modern scientific worldview. Apologetic responses, on the other hand, seek to show that these problems can be overcome without any substantial reconstructions of our current habits of thought and action.

One apologetic strategy is to argue that we should reject Hume's first move, i.e., the definition of miracles as violating laws of nature (e.g. Peterson et al. 2009, chap. 9; Lewis 1960). I will have something to say about this strategy below, but I will focus on the mainstream approach in what follows. Hume's definition is attractive from an apologetic point of view for the simple reason that it is the violation-requirement that makes miracles "spectacular evidence" for God's existence (Mackie 1982, 19), and hence make them seem like promising resources for attempts to safeguard our ability to confidently in-habit the world religiously.

Richard Swinburne questions Hume's one-sided emphasis on *testimony* which, he holds, leads Hume to frame the clash in terms of a quantitative weighing of testimonies. In many cases, Swinburne claims, we can actually bypass questions about testimony entirely by consulting traces and physical evidence of miracles – such as X-ray documentation of a miraculously fast disappearance of cancer tumors (Swinburne 1989, 136).

Alvin Plantinga and a number of Muslim philosophers argue for a modification of Hume's absolutistic conception of laws of nature as allowing for

[2] Purely theoretical clashes that create no practical problems regarding how to act or how to coordinate our ways of in-habiting the world with others' are, from this perspective, significantly less pressing.

no exceptions: the clash can be handled if we instead take laws of nature to chart statistical regularities. If you add to this the view of God as the author and upholder of all laws of nature, then the occurrence of violations of laws of nature is not at all the intellectual stumbling-block that Hume took it to be (Plantinga 2011; cf. Bigliardi 2014; Swinburne 2004, chap. 11).

Stephen T. Davis and Nancey Murphy represent the most pragmatic form of defense of belief in miracles; in Murphy's case, it is even explicitly based on Quinean holism. On a holist basis, Davis and Murphy criticize Hume's simplistic view of the justificatory relation between miracle and religious belief. *Pace* Hume, they hold that it is not just the case that miracles justify belief in God; belief in a God capable of performing miracles *also* justifies the claim that miracles occur (Davis 1999; Murphy 1999). Religious believers' epistemic position is hence, Murphy and Davis argue, stronger than Hume, and other critics who start from an agnostic or outright skeptical position, think.

Melioristic Tensions in the Current Debate

Before I go on to develop a pragmatic approach that can function as a critical contrast to the contemporary miracle-debate, I want to identify the melioristic tensions that the presuppositions underlying the current debate tend to generate. I will then go on to argue that a pragmatic approach that subsumes miracles under the notion the miraculous would enable us to come to terms, at least to a significant extent, with those tensions.

A shared presupposition that structures the contemporary debate is the view of the human knower as primarily a *passive spectator*: the human task with regard to miracles is to form beliefs on the basis of events that she records but does not partake in, or affect, in any way. In the debate on miracles, passivity and distance are no contingent features of this epistemology; it creates a space where God's agency can manifest itself and become detectable in specific events free of human interference. This is an example of the form of epistemological thought that Dewey characterized as *spectator theories of knowledge*: the ideal knower is detached from the phenomena she studies (Dewey 1929, chap. 1). Even alternative views of miracles such as Dawkins' mirror this kind of spectator conception through a focus on naturally existing phenomena and events. I will call the shared conception the *event- and passivity-centered conception of miracles*.

Dewey argues that such *spectator theories of knowledge* estrange human beings from the world in which they actually live by denigrating ordinary ways of being in and acquiring knowledge about that world, ways where *participation* and (I would add) *cooperation* play crucial roles. (Dewey 1929, chap 1; Dewey 1986; Alexander 1987, 197). The result is a set of dichotomies (theory/practice, knowing/doing, etc.) that hampers our ability to confidently in-habit the world. Dewey suggests, instead, that observation and participation are phases within larger processes of experiencing, acting and undergoing that together result in new knowledge and insights (Dewey 1958). Against, this background, I now wish to look closer at the consequences – in the form of melioristic tensions – of an event- and passivity-centered conception of miracles and of their role in a religious way of in-habiting the world.

A first melioristic tension arises primarily in relation to miracles as alleged violations of laws of nature. Let us take the swift recovery of a fatally ill cancer patient (who has not refused any therapies or treatments offered to her) as a standard example of a miracle, and let us assume that the reports about the recovery have not been manipulated in any way.

Within the framework of the contemporary miracle-debate, we can hold either (i) that this swift recovery was indeed a miracle (and hence a sign of supernatural agency), or – retaining Hume's terminology – (ii) that it was the work of some as yet unknown laws of nature. Let us assume that doctors and researchers engage in an inquiry into this case and that the inquiry results not just in new theoretical insights, but, more importantly, in the

taking of important steps towards new and improved therapies that eventually enable us to save patients who previously had no hope of recovery.[3] Ideally, isolated events can be integrated in ways of understanding that offer them a new significance, and these processes of understanding may well terminate in a situation where people may lead longer, healthier and more flourishing lives than before.

It would be a serious mistake to portray such quests for natural rather than supernatural explanations as the result of a narrow-minded naturalistic inability to take the possibility of supernatural events seriously: there is reason to think that very many people of both religious and secular persuasion would consider such a *participatory quest* not just one among several, but actually the only, adequate response to this situation. I call this a 'participatory' quest to underline both that it is a process in which human beings are active participants yet not in full control of the outcome since it is undertaken in interaction with an environment, and also because it is, typically at least, a process where a number of people partake.

In popular debates over religion, atheists sometimes seem to imply that a commitment to the possibility of miracles *inevitably* causes religious believers to back away from and even prevent others from engaging in participatory quests like the one described above. I have never seen any convincing arguments or firm evidence for that allegation, and for the sake of this argument, I will assume that such reactions are very rare and more or less always avoided. I am more interested in the kind of melioristic tensions that may arise when alleged violations of laws of nature are appealed to in arguments for God's existence.

Briefly stated, the root of the melioristic tension is this: given Hume's definition of miracles, whenever we come across a *real* miracle, our quest for new knowledge and new therapies lead to naught. Whenever we come across a merely *apparent* miracle – that is, the events turned out to be fully explainable in terms of laws of nature after all – it is, however, quite possible that we will find ways to use the newfound insights into the natural process to develop new therapies. Perhaps we find out (at first rather coincidentally) that a therapy becomes much more effective when combined with other treatments, for instance, and when repeated, similar positive results follow, so that eventually, this combination of treatments become the new standard method to treat this particular form of cancer. The paradox lies in the fact that the logic of most apologetic uses of alleged miracles forces us to say that whenever we manage to develop new therapies that relieve suffering, the original event – the alleged miracle – has lost its *religious (and apologetic) significance* – it was no miracle after all.

A second melioristic tension arises from the fact that very many of the stories about alleged miracles are tradition-specific: particular miraculous events occur or have occurred in the setting of a particular religious tradition, and so on, are taken to justify tradition-specific doctrines and/or claims about the sacred status of some religious authority, such as Jesus or the Buddha, and/or some disciple. This means that claims about miracles, when treated as evidence for the existence of some divine being, are significantly weakened once we learn that similar events are appealed to in *other* religious traditions as evidence of the existence of other divine beings or to justify incompatible beliefs about the divine.

Dewey takes this to point to one of the great plights of both religion and apologetic philosophy of religion: the tendency to encourage *sectarian approaches* that pit religious traditions – and even branches of the same tradition – against one another, and, even more so, believers against non-believers. As already Hume pointed out, similar events are appealed to in religious traditions that are incompatible with one another. In order to win converts, some committed believers even

[3] A parallel case could be made, I think, with regard to the opposite of miracles, that is, cases where the outcome is unexpectedly bad. Here, too, we should engage in an energetic quest to discover laws of nature that may explain this unfortunate course of events, and find methods to avoid that similar things happen in the future.

consider it a religious duty to question the genuineness of the alleged miracles of other religious traditions. The contemporary miracle-debate does little to combat and question such sectarian tendencies, since its event- and passivity-centered conception of miracles typically leads it to concentrate on just the kind of spectacular events that typically underpin some *specific* religious way if inhabiting the world.

Now, for many philosophers of religion, such sectarian tendencies are unproblematic. I would suggest, though, that a significant problem with them is that they do not sit comfortably with the experience that many of the most significant accomplishments that have occurred in the last centuries – e.g., the growth of modern science, the gradual breakthrough of democratic governance and impartial systems of jurisprudence – are cooperative in nature, and require broad coalitions and relations that involve a basic trust across dividing lines between religions and religious and secular individuals. These accomplishments are what Dewey called truly "ecumenical" in that men and women of good will can participate in and benefit from them (almost) regardless of religious of secular religious commitments, and I will return to their significance below.

A move in the direction of a religious pluralism could arguably go some way towards mitigating the second melioristic tension (though the divide between religious and secular people would still be as marked as before). Similar sectarian tendencies surface, however, typically in a third melioristic tension as well, namely, one that emerges from the undeniable fact that miracles occur against a solid background of *lacks* of divine intervention where the absence of interventions seem to offer "spectacular evidence" *against* God's existence. Certainly, Swinburne is right to respond to such objections by pointing out that without such a solid background, *human* life would be impossible, but Maurice Wiles is, arguably, equally right to point out that divine interventions could have occurred much more frequently (and in more dire circumstances than presently) and still not threaten our basic confidence in the uniformity of nature or the importance of human agency (Swinburne 2004; Wiles 1993). The image of God as an agent who intervenes in such a patchy manner in our lives seems hard to combine with our moral sensibilities.

Of course, there are many responses to the problem of evil and I cannot discuss them all here. I will concentrate on one recent response that is currently very much discussed in analytically oriented journals on philosophy of religion publishing in English (such as *Religious Studies* and *International Journal for Philosophy of Religion*), and that claims to have a simple and elegant response to problems connected to patchy divine interventions, namely, the approach of *skeptical theism*.

According to skeptical theist responses to the problem of evil, humans are in no position to determine whether God is or is not justified in allowing the massive amounts of evil and suffering that we see. We cannot know whether there are goods and evils unknown to us that God takes into consideration, and we cannot know whether we have fully understood the complex relations between different goods and evils that we have come across. Given these limitations and God's unlimited powers, it is actually anything but surprising that God's interventions look patchy, random and even morally dubious from *our* point of view (e.g. Bergmann 2008). From the skeptical theist's point of view, then, the fact that God's actions *seem* to occur in response to relatively petty ailments and in a random fashion offer no good ground for a critique of appeals to miracles – after all, this is only what we should expect given our limited cognitive abilities.

The skeptical theist response is, however, problematic in several respects. First, as long as you retain belief in miracles as violations of the laws of nature, you still have to handle the melioristic tension described above. Second, even if we opt out of that tension by adopting the minority position which holds that miracles only occur *in accordance with* the laws of nature, we are, given skeptical theism, left completely in the dark with respect to the question of how to discern

miracles. Even the most horrendous event could, for the skeptical theist, be a miracle in the sense that it promotes some of God's unknowable plans. Third, the above problems illustrate that once you have embarked on the skeptical route, it becomes difficult to leave it at the appropriate time (Rowe 2006). If we should be so skeptical about our ability to distinguish good events from bad, then how can we be confident that the teachings of our religious tradition are really *good* in the first place? How could we confidently draw on its rites, myths and symbols in our attempts to in-habit the world?

Significantly, Bergmann and Rea respond to this challenge by admitting that the ensuing skepticism is indeed a real problem, but only for those (agnostics and atheists, say) who lack a firm grounding of their commitments in revelations from God. Hence, it is revelation that underpins and safeguards a religious person's ability to confidently in-habit the world (Bergmann and Rea 2005).

The upshot of this defense is that religious believers with a privileged access to *genuine* revelation have at their disposal very important normative resources that secular people and adherents of other religious traditions lack. The defense of the possibility of religious ways of in-habiting the world boils down to a defense of a *particular* religious way of in-habiting the world, and thus it reintroduces the second melioristic tension discussed above by drastically reducing the number of people we should be prepared to consider fellow inquirers. In addition, the strategy adopted by Bergmann, Rea and other skeptical theists has the further inconvenience that if consistently applied, it will also make us skeptical about the status of any and all events classified as miracles: if we are not in a position to know why certain events occur, it seems implausible to hold that we could know that certain events are good or bad in the first place, and thus whether an event was a miracle or not.[4]

To summarize, I think we can say that while the first melioristic tension is, arguably, the most serious one, the second and third form of melioristic tensions also add stone to the burden, not least because attempts to come to terms with one of them can easily make the other worse. Now, I willingly admit that as long as we treat the question: *are there certain events that are such that they can rationally be taken as support for the belief that there is a God?*, then my suggestion that appeals to miracles such as those that we find in the current debate probably cost more than they taste will probably look strange. Once we broaden our focus, however, and see that this is neither an academic nor an isolated question, but part of a strategy aiming to enable people drawn to religious ways of in-habiting the world to do so more confidently than before, we cannot brush aside melioristic tensions, such as the above-mentioned, as irrelevant.

A pragmatic philosophical approach to the miraculous

The miraculous is, I suggest, a general feature of human life, namely, that processes that terminate in consummation are a real (and not just a theoretical) possibility in human life. It is a feature that becomes maximally manifest in the processes where we *find ourselves already participating and, in attentive interaction with the environment, manage to direct events in such a fashion that richer and more significant lives become possible.* Dewey writes:

> There are two possible worlds in which esthetic experience would not occur. In a world of mere flux, change would not be cumulative, it would not move toward a close. Stability and rest would have no being. Equally it is true, however, that a world that is finished, ended, would have no traits of suspense and crisis, and would offer no opportunity for resolution. Where everything is already complete, there is no fulfillment (Dewey 1980, 16–17).

[4] I have developed this critique of skeptical theism in significantly more detail in (Zackariasson 2015).

The first world would, at the most, be a world of chaotic impressions which would not even qualify as *experiences* in any humanly interesting sense. Since meanings are always developed through *interaction* with the environment, the second world, too, would lack sense: where nothing that we do makes any difference, our responses become inconsequential. Dewey continues:

> The live being recurrently loses and reestablishes equilibrium with his [sic!] surroundings. The moment of passage from disturbance into harmony is that of intensest life. In a finished world, sleep and waking could not be distinguished. In one wholly perturbed, conditions could not even be struggled with. In a world made after the pattern of ours, moments of fulfillment punctuate experience with rhythmically enjoyed intervals (Dewey 1980, 17).

The very fact that human thought, habits and practices exist is all the proof we need that *our* world is unlike the worlds that figure in Dewey's examples. Our world is a world where a *human* life, with its typical oscillation between rest and struggle, equilibrium and lack of equilibrium, is possible, and religions can, Stuart Rosenbaum suggests, be seen as ways of acknowledging and giving expression to this feature of life:

> In all of the diverse niches in which humanity has managed to survive there have been myriad threats, the most daunting of which have been beyond human control. But even the most daunting of these natural threats have alternated with conditions beneficial to human flourishing. Hurricanes, tornadoes, and floods punctuate seasonal periods of growth and harvest; bitter winters give way to romantic springs and summers; times of sickness and death yield to times of health and vigor. In such natural contexts, religions bring a perspective to the vicissitudes of human lives, families, and communities that support the larger human hopes that keep humanity oriented toward a better future (Rosenbaum 2009, 403).

It is hence a typical feature of human life that we can adapt to and occasionally control both beneficial and threatening elements of our environment. But that is not all: Rosenbaum perceptively links religion to the fact that human beings also need to *give expression* to life's miraculous character, Here, we begin to trace a pragmatic understanding of the value of religious ways of in-habiting the world.

I will speak of 'relate', here, as the ability to both be able to respond in various ways to the situations we encounter *and* to give expression to what it is to be a human being living under existential conditions such as ours. That means that we need habits of thought and action that enable us to respond adequately, both individually and collectively, to existentially significant encounters with success, failure, goodness, evil, birth, illness, recovery, suffering and death (the list could, of course, be further extended). Elements that typically constitute a religious tradition, such as narratives, rites, myths and symbols, have emerged in our struggles to in-habit the world, and they have both shaped and been shaped by our concrete questions about how we should in-habit the world *in a way that fully acknowledges life's miraculous character*. I believe that secular thought-systems and ideologies can function in a similar manner, but I will not make much of that thought here, but concentrate on religious ways of in-habiting the world.

I want to suggest, then, that religious traditions offer a range of *paradigmatic responses* to the situations of existential significance that beings living under our existential conditions inevitably meet (cf. Davies 2011), like, as I listed above, when we encounter success, failure, goodness, evil, birth, illness, recovery, suffering and death. For religious persons, it becomes important to seek to integrate these paradigmatic responses in habits of thought and action, and processes that lead to consummation works as a kind of confirmation of the adequacy of these paradigmatic responses and a confirmation that they are supported by forces that work for the good. As William James writes: "[Leo] Tolstoy does well to talk of it as *that by which men live*; for that is exactly what it is, a stimulus, a faith, a force that reinfuses the positive willingness to live even in full presence of the evil perceptions that erewhile made life

seem unbearable" (James 1982, 187; James' emphasis). Such "real effects" on our conduct is, James points out, what pragmatism would expect from a God that is real and not an illusion (James 1982, 516f). The Deweyan point I wish to make here is that this force should not be denied or downplayed; the melioristic suggestion is rather that such a force primarily plays out and becomes manifest in concrete situations where we manage to integrate elements of the paradigmatic responses into our lives and find strength to live with and accept our frequent failures. There is hence no need to think to think of it as primarily discernible in cases where we are passive spectators.

So far, my discussion has primarily aimed to pin down the generic features of talk of the miraculous, and thus construed, Nazism too, to take an extreme example, has a conception of the miraculous, though we would consider it cruel and inhuman (just as we would consider certain religious sects' identification of some events as miracles cruel and inhuman, by the way, like when the Tsunami on Boxing day 2004 was interpreted as a righteous God's way of punishing tourists from gay-friendly nations for those nations' wickedness). The kind of melioristic tensions that I am interested in here concern, I believe, those who would agree that the paradigmatic responses of many (though not all) religious traditions and secular counterparts seek to capture and give expression to a couple of central insights about what it is to be human in a world such as ours. The arguments that follow will primarily appeal to those who recognize these insights and their centrality in many people's religious commitments.

The first insight arises directly out of the fact that there are always elements of contingence in human life and endeavors; occasional strokes of luck are intermingled with cases where even meticulously planned actions fail miserably. Illness strikes some of us while others remain healthy, and so on. This does not imply that we would be just as well off if we stopped planning ahead or began ignoring hazards in our surroundings, but the realization brings about the first important insight I wish to discuss: *that neither accomplishments nor failures are ever fully deserved*.

This dependence on conditions partially outside our control instils a sense of what Dewey calls natural piety, and one of its important aspects is that personal accomplishments and failures cannot have the final word as regards my own or someone else's worth – at each step, there are contingent factors that occasionally benefit us, and occasionally work against us. These factors are, however, at an aggregate level, not forever unpredictable or in principle unknowable: through participatory quests, they can become known and increasingly taken into account. Both religions and secular traditions seek to capture and transmit this insight in narratives, rites, myths and symbols that portray life and its constituent goods as *gifts* rather than something we have *earned*, as well as in warnings against self-righteousness and calls on us to help those who fare ill.

The second important insight balances the first, and arises out of the realization that although we are always to a certain extent at the mercy of contingence, we are also what David Schmidtz calls *persons*: "beings who make choices and who are accountable for the choices they make" (Schmidtz 2006, 38). The insight dawning on us, then, is that *we are responsible both for what we do, the way we do it, and for what we choose not to do*. If we use the best possible methods of inquiry and plan carefully, we can do much more good than if we just rush ahead to do whatever comes first to mind, no matter how good our intentions may be.

This sense of responsibility is often expressed, both within and outside religion, in Golden Rule-style formulations about your obligations towards others (but also, importantly, about others' responsibilities towards you). Needless to say, individuals and religious traditions have very often failed to convert such teachings into concrete practice (Runzo 2001, 187), and the same holds true for secular traditions and ideologies as well. All the same, such moral imperatives have power over us because, I would hold, our experience of what it is to be

human and lead a life that oscillates between equilibrium and lack of equilibrium with the environment leads us to acknowledge them.

Miracle and the Miraculous

When combined, the insights sketched pragmatically entail a form of meliorism: *adequate* responses to life's miraculous character are those that call on us to take action against injustice, suffering, hate, cruelty and inequality, regardless of whether it is directed towards us or others. No one *deserves* to be in that kind of situation, no one is *entitled* to treat others like that, it is (as a rule) *possible* for us to do something about it, and we are hence *accountable* if we do nothing – or act so unwisely that we fail to improve matters. Failure to feel at least *compelled* to take action in these situations would thus, from this perspective, comprise a failure to acknowledge life's miraculous character.[5]

The pragmatic suggestion is that the miraculous becomes manifest in the kind of participatory quests that arise out of an acknowledgement of life's miraculous character and is intelligently conducted in accordance with our best knowledge. The starting-point of such participatory quests *can*, but need not, be the kind of spectacular events that the current debate concentrates on. The pragmatic conception of the miraculous is hence significantly broader than the conception of miracles both in that it is much wider and in that it includes entire processes that encompass not just events but also our responses to those events, and so on and so forth. The miraculous functions as a support of our efforts to religiously in-habit the world when we find, in concrete situations, that the paradigmatic responses transmitted by some religious tradition are *adequate* in the sense that they give our responses a direction that enables us to lead more significant and richer lives than before. This does not, as Dewey was keen to point out, signal a lack of piety but is rather a very pious way of responding to *all* situations that we find ourselves in.

Participatory quests of this kind not only *acknowledge* life's miraculous character; at the same time, they help make that character maximally manifest. Ideally, they terminate in new habits of thought and action that make richer and more significant lives possible, and if not, this signals a need for a renewed quest. From a pragmatic point of view, our ability to respond adequately to life's many different situations offers a much stronger support for religious ways of in-habiting the world than any isolated events, however, beneficial, ever could.

Here, the connection to Dewey's notion "the religious" should be obvious. Dewey defines the religious as a dimension of any experience which brings us closer to some ideal state (Dewey 1934, 9ff). Strivings to acknowledge and make life miraculous character maximally manifest thus typically take a characteristically democratic and emancipatory direction. Pursuit of egoistic desires, no matter how intelligently performed, will thus, on this account, not qualify as *religious* pursuits at all, since they fail to acknowledge life's miraculous character.

Still, it could be objected, I expect, that the pragmatic approach misses something important here connected to alleged miracles' ability to provide "spectacular evidence". It is, for instance, quite common for people who have survived a serious illness or an accident where several others perished to speak of their rescue as a gift from God. Are they rationality entitled to think like that or are they not? a critic might ask.

In response to such an objection, I would like to point out, first, that this is actually not quite the question at the centre of the current debate, where focus is instead on the kind of aggregate of events that seem to violate laws of nature, and what they, taken as a whole, entitle us to claim about God. Yet, I believe that

[5] There may be many reasons why such impulses to act are not discharged, like if we do not know how to make a difference or if we live in a society that severely punishes those who, for instance, help a persecuted minority. Thus I prefer to say that we would at least feel *compelled*.

there is an interesting continuity between these individual persons' responses and the pragmatic approach's focus on the miraculous that deserves further exploration. Let me illustrate by way of an example where a person inexplicably survived a car crash in which many others perished.

I think it is quite natural for this person to speak of the event in terms of a miracle and one way of seeing whether she is earnest about that characterization would be to check whether she fully acknowledges that she in no way deserved to survive by, for instance, committing her life to the work for improved road safety. A religious life orientation may, for this person, offer adequate ways to both express and constructively channel the sense of guilt that she likely experiences into a project where her survival *makes a positive difference for others* – and here, we recognize what I had to say above about important insights that we find in many religious and secular traditions.

Hopefully, this person's work will, eventually, carry fruit. That success will, however, depend on a great many factors that together constitute a comprehensive process involving cooperation with many others. The spectacular event – the survival – is here 'only' part of a process that only in its totality makes life's miraculous character maximally manifest. In fact, similar comprehensive processes could even result from accidents where no one survived, and members of the families of the victims take action to ensure that such accidents will not happen again. This goes to show that the occurrence of some alleged miracle is not even a necessary condition for the initiation and consummation of participatory quests that make life's miraculous character maximally manifest. Individuals who have experienced drastic events may very naturally come to talk of them as miracles, but I believe that pragmatism helps us see the extent to which the miraculous is a feature of human life that can be made manifest not only in response to such events, but to more or less *any* event in human life.

This means that rather than taking a stand within the current debate on miracles, pragmatism suggests a perspective where this debate's central topic gradually comes to *wither away* once we learn to appreciate the way the miraculous is a potential feature of very large parts of human life. The very spectacular character that, according to Mackie, promised to make miracles "spectacular evidence" for the existence of God, might actually drives in a direction where we become less sensitive to the manifold of ways in which religious attempts to confidently in-habit the world – in ways that very often transcend, rather than reproduce, sectarian tendencies – find support in everyday actions and interactions in a wide array of human practices.

Against this background, I think we are now in a better position to understand my claim that a pragmatic approach can help people in-habit the world religiously more confidently than before. First and foremost, confidence in religious ways of in-habiting the world does not depend on the occurrence of events that will forever frustrate participatory quests into their causes and thus attempts to learn from them. Once the spectator- and evidence-oriented conception that dominates the current debate is abandoned in favor of a focus on the miraculous, this melioristic tension withers away.

With regard to the second melioristic tension, the pragmatic approach enables us to acknowledge that many of the most remarkable achievements in human history are ecumenical in the Deweyan sense that they have grown out of joint participatory quests open to people of many religious and secular persuasions, and it would be odd indeed to hold that these are only of secondary religious importance, compared to some spectacular events, past and present. This opens for a form of religious pluralism where we hopefully can see how adequate responses to life's miraculous character can grow out of different religious traditions and their rites, myths and symbols, but also from secular ideologies. This is not tantamount to a form of religious relativism, because not just any paradigmatic responses

can be consonant with the insights I discussed above, but it means that pluralism only becomes problematic when participatory quests become impossible or our different participatory quests clash in some ways.

Now, the third melioristic tension I identified concerns the problem of evil. It would, of course, be absurd to suggest that a pragmatic approach would *solve* the problem of evil; arguably, this is not a problem that we should attempt to solve at all. However, I believe that pragmatism can help us better understand and appreciate the character of the problem of evil. Let me explain how.

From a pragmatic angle, the problem of evil should not be construed so much in a spectator-like fashion concerning why God does not do more, but rather in the agent-oriented form of a gnawing suspicion that we deceive ourselves when we come to believe, talk and act as if life has a miraculous character that we can make manifest: in fact, our efforts will, in the end, turn out to have made no real difference at all. Such suspicions are strengthened whenever civilized communities slide back into barbarism and authoritarianism, when aggression and warfare replaces peaceful coexistence, when scientific results becomes sources of death and destruction, and so on and so forth. When even our best efforts to resolve a problem generate new and larger problems or just come to naught, and no way to restore equilibrium with the environment presents itself, this is cause for despair and skepticism about the miraculous character of human life, and thus also a threat to our ability to confidently in-habit the world religiously.

Now, as several pragmatists have pointed out, the only promising response to this kind of gnawing doubt is, arguably, some kind of will to believe-like response where we commit ourselves to projects that seek to shape reality in ways that make richer and more significant human lives possible (James 1956; Koopman 2009; Pihlström 2013). Just as the problem is shared across life orientations that seek to acknowledge life's miraculous character, so is, arguably, the solution one that requires people of many confessions to join forces and engage in joint participatory quests. This further underlines the need to steer clear of sectarian tendencies and suggests, once more, why a shift of focus towards the miraculous and its emphasis on participatory quests should be a promising option that deserves further attention.

Concluding remarks

In this paper, I have identified some melioristic tensions that suggest that the contemporary defenses of religious ways of in-habiting the world that appeal to miracles risks generating melioristic tensions that ultimately harm rather than support our ability to confidently in-habit the world in religious ways. The main problems with affirmations of miracles as isolated events are, from a pragmatic point of view, more of an existential and moral than an epistemological character.

Pragmatism suggests that people bothered by these tensions should consider the possibility to shift the focus of these discussions towards the miraculous. Such a shift is justified if people bothered by the melioristic tensions discussed above find ways, by means of this new focus, to articulate and to some extent come to terms with experienced problems and tensions outside philosophy proper. The limitation of such an approach is, of course, that its appeal is limited to the people who actually *experience* those problems and tensions. Neither the problem-description nor the proposed solution I have offered here will gain universal assent. I believe that this is something pragmatists should accept and even endorse as part of a general commitment to pluralism: there are simply no master arguments or final answers, least of all in philosophy. But that does should not prevent us from trying to come to terms with certain problems and suggest ways to resolve concretely experienced tensions wherever possible.[6]

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