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3 Dewey's pragmatism: instrumentalism and meliorism

Of all the classic pragmatists, perhaps John Dewey best epitomizes how full and varied an intellectual's life could be.[1] An enormously productive scholar and prominent public intellectual whose career spanned over sixty years, Dewey significantly contributed to a wide range of subjects, including aesthetics, education, epistemology, ethics, logic, metaphysics, politics, psychology and religion. Lecturing extensively at home and abroad, Dewey addressed serious moral issues such as war and peace, economic and political freedom, equality for women and minorities, freedom of speech and educational change. Active in political organizing, Dewey played crucial and germinative roles in influential organizations: the American Association of University Professors, the American Civil Liberties Unions and the National Association for the Advancement of Colored People, to list just a few.

Born in 1859 to Lucina and Archibald Dewey, a grocer, Dewey spent his childhood and college years in Burlington, Vermont. After two years of teaching high school, Dewey did his graduate studies in philosophy at the Johns Hopkins University. Taught by Charles S. Peirce, George Sylvester Morris and George Stanley Hall (a pragmatist, Hegelian and experimental psychologist respectively), he completed graduate school in 1884 after two years with a dissertation criticizing Kant's psychology. Reflecting years later, Dewey credited his study of Hegelianism with liberating him from philosophical and personal difficulties, and initiating lifelong attempts to integrate a plurality of experiences (psychical, bodily, imaginative, practical) into dynamic wholes. Dewey and his first wife, Alice Chipman Dewey, had six children and adopted another. Two boys died tragically young (at two and eight). After Alice died,

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Dewey married Roberta Lowitz Grant and they adopted two children. John Dewey died at home in New York City on 1 June 1952 of pneumonia.

Dewey's professional career suffered few setbacks. He held numerous posts (including department chairmanships) at the Universities of Michigan, Minnesota and Chicago, concluding his career at Columbia University (retiring in 1930). Continuously productive, he published 32 books, 605 articles or essays, 126 reviews and 233 other miscellanea (including published radio addresses, prefaces, introductions, forewords, interviews, pamphlets, book chapters, published letters, memorials, work reports, syllabuses, letters to the editor, etc.).[2] Notably, many of his most renowned works were published well after he reached sixty years old.

An enormous number of cultural, personal and intellectual sources shaped Dewey's philosophical views. While space prevents discussion of even a short list of influences (which would include Kant, Hegel, G. S. Morris, G. H. Mead, Jane Addams, F. J. E. Woodbridge and Albert Barnes), something must be said about Charles Darwin and William James. In different ways, their work made *experience* the source and telos of Dewey's naturalistic pragmatism. Darwin's work provided a robust portrait of experience as an organic and transactional process of change. As Dewey remarked in 1909 (the fiftieth anniversary of *Origin of Species*), Darwin's impact upon the course of philosophy's history was revolutionary:

> The conceptions that had reigned in the philosophy of nature and knowledge for two thousand years, the conceptions that had become the familiar furniture of the mind, rested on the assumption of the superiority of the fixed and final; they rested upon treating change and origin as signs of defect and unreality. In laying hands upon the sacred ark of absolute permanency, in treating the forms that had been regarded as types of fixity and perfection as originating and passing away, the *Origin of Species* introduced a mode of thinking that in the end was bound to transform the logic of knowledge, and hence the treatment of morals, politics and religion.
>
> (MW4: 3)[3]

Throughout his career, Dewey undertook to spell out those logical transformations. He began by challenging existing epistemologists' investigations into knowledge (as, for example, the search for static correspondences between names and things) and proposed, instead,

that philosophers focus upon *knowing* as the active, strategic management of dynamic *transitions*:

> The influence of Darwin upon philosophy resides in his having conquered the phenomena of life for the principle of transition, and thereby freed the new logic for application to mind and morals and life. When he said of species what Galileo had said of the earth, *e pur si muove*, he emancipated, once for all, genetic and experimental ideas as an organon of asking questions and looking for explanations.
>
> (MW4: 7–8)[4]

William James's work also gave Dewey a conception of experience which fused, dynamically, both percepts–concepts and relations–relata.[5] More significant, perhaps, was James's lesson that experience was of *moral* moment – experience is what it is because it *matters* to some unique *someone*. Ultimately James teaches Dewey as much about *how* to philosophize (experience *as method*) as about philosophy's subject matter (experience *as stuff*). James drives home Peirce's anti-Cartesian message that philosophical progress can only be made if pragmatism abandons traditional efforts to transcend a human perspective; in this sense, pragmatism must be a humanism. As much as anyone, James showed Dewey how a philosopher might also live his philosophy: James's sense of life was itself vital. He had a profound sense, in origin artistic and moral, perhaps, rather than 'scientific', of the difference between the categories of the living and of the mechanical:

> Some time, I think, someone may write an essay that will show how the most distinctive factors in his general philosophic view, pluralism, novelty, freedom, individuality, are all connected with his feeling for the qualities and traits of that which lives. Many philosophers have had much to say about the idea of organism; but they have taken it structurally and hence statically. It was reserved for James to think of life in terms of life in action.
>
> (LW5: 157–8)

James and Darwin, then, were especially noteworthy contributors to what eventually became Dewey's unique view of experience and nature: a living, changing, transactional drama of organisms-in-environments using the tools of nature, body, mind, and language to accommodate and create personal and cultural change.

DEWEY AS 'PRAGMATIST'

Though famous as an exponent of 'pragmatism', Dewey exhibited relatively little allegiance towards this label, referring variously to his approach as 'radical empiricism', 'humanism', 'naturalism', 'instrumentalism', 'experimentalism', and late in life, 'operationalism'. What really mattered to Dewey was that he make clear that the meanings of terms, concepts or propositions should be judged by their experimental *consequences* (broadly considered) in 'inquiry'. Inquiries may take various forms (scientific, philosophic or, typically, quotidian) but are always conducted from some perspective, draw upon particular histories (such as preceding events, inquiries), to serve particular purposes or ideals. An inquiry's success depends on how well it works – that is, whether or not its fruits (conclusions, judgements, solutions) produce satisfactory experiences. The practical (or non-transcendent) nature of inquiry is central to pragmatism, a philosophy which Dewey emphasized 'takes its stand with daily life' (MW10: 39) and remains committed to the 'actual crises of life' (MW10: 43). Because pragmatism commits to linking meaning-criteria with present and future experience, it is perhaps just as fair to label pragmatism a metaphilosophical *attitude* or *stance* as a doctrine (or theory) of meaning. (By 'stance' I mean that it is more than an academic philosophical position; it is *vision*, a way of approaching philosophy *ab extra*.) Pragmatism's status *qua* stance derives from its acute self-consciousness of the fact that a term's meaning cannot be explicated innocently, that is, without implying specific and future practical consequences. And *those* implications – if one is completely forthright – evince some position about what *will and should* happen. As formulated and asserted, facts imply values; they are entangled. 'The trail of the human serpent is thus over everything', as James put it. From this stance, knowing cannot be spectatorship but is rather a tool (or tactic) of dynamic agency. 'Knowing', Dewey writes, 'is literally something which we do; that analysis is ultimately physical and active; that meanings in their logical quality are standpoints, attitudes, and methods of behaving toward fact, and that active experimentation is essential to verification' (MW10: 367).[6] And because knowing, as a tactic of agency, is present in all areas of life, pragmatism 'should be

applied as widely as possible; and to things as diverse as controversies, beliefs, truths, ideas, and objects' (MW4: 101).

MELIORISM AND THE PRACTICAL STARTING POINT

One term that encapsulates pragmatism's fundamental continuities (knowing and doing, fact and value) is 'meliorism', and most, if not all, of Dewey's work can be profitably understood as guided by a 'melioristic motive'. Meliorism is the view that it is both a logical and moral error to declare that life – presently or ultimately – is either perfectly good or bad; life should be understood as *improvable*, primarily through intelligent, human effort. As applied to philosophy, meliorism suggests that no philosophical questions (even regarding truth and knowledge) can ever be fully isolated from endeavours to preserve and create value; more generally, it means that philosophy's *raison d'être* is to make life *better*. Meliorism is no sentimental faith, but a working hypothesis whose plausibility rests upon observation and experience. Trying out this hypothesis obliges the philosopher (any intellectual, really) to keep alive a dynamic interaction between theory and practice so that results continue to address the problems rooted in daily life. A second key to grasping Dewey's pragmatism is something which may be called a 'practical starting point'. While many take the epitome of Dewey's philosophy to be his instrumentalist epistemology or experiential approach to aesthetics, a more general and revelatory approach might focus instead upon where Dewey believes philosophical activity *starts*. As Douglas Browning puts it:

> Understanding John Dewey's comprehensive and, in its details, dauntingly complex philosophy requires taking account of his view of the three essential phases of experience, namely, (1) the starting point in everyday experience of all of our attempts to enhance the meaning of our lives, (2) the process of the experiential transformation of such experience, and (3) the experience of consummatory achievement. Though much has been written about the last two phases and many scholars have centered their interpretations of Dewey on one or both of them, the first phase has been too often neglected. This is unfortunate, since Dewey's notion of experience, which is the key to grasping the import of each of these phases, is initially shaped at the starting point and carried forward from it.[7]

In works like *Reconstruction in Philosophy* (1920) and *The Quest for Certainty* (1929) Dewey challenges the near universal tendency

of successive generations of philosophers to start with dualistic, theoretical and certainty-seeking assumptions. Not only were such prejudicial frameworks unfounded, they diverted philosophy towards insoluble puzzles and from practical problems. Instead, Dewey argues, philosophy should start from lived experience and pay the kind of careful attention necessary to avoiding such assumptions in the first place.

This chapter cannot, of course, cover the full range of Dewey's thought; instead, it seeks to convey the gist of Dewey's philosophy by presenting four facets of his thought: *mind*, *inquiry*, *growth* and *wisdom*. 'Mind' examines Dewey's *functionalism* and his naturalistic (i.e. interactional–ecological) model of mind. 'Inquiry' follows how a functioning mind moves, *instrumentally*, from doubt to belief. 'Growth' then traces two ways instrumental inquiry is elaborated when applied as a cultural tool: (1) for the growth of children (as *education)*; and (2) for solving public problems (as *democracy*). 'Wisdom', finally, examines Dewey's general view of philosophy: as a cultural and moral enterprise which should eschew contemporary predilections for technical definition or clinical exactitude and return to the pursuit of wisdom. Such a pursuit, Dewey believed, could progress via the criticism of meaning *if* the point of such criticism became consciously ameliorative – anchored, that is, by a *moral* relation to ordinary experience. While philosophy, in Dewey's view, can take forms both technical and abstract, it must not hide beneath these qualities but ultimately prove its worth as equipment for living.

MIND: FUNCTIONAL PSYCHOLOGY

We begin with Dewey's interest in and reconstruction of psychology's elements because this early work initiated lifelong efforts to define and redefine 'experience', a notion that became central to every area of his philosophy.[8] Initially, Dewey hoped psychology could answer the most profound human questions, but he grew to believe that the nature of experience was too rich for the constraints imposed by this (or any single) science. Influenced by study of physiological and experimental psychology (especially of Wilhelm Wundt and G. Stanley Hall, a graduate school professor in whose laboratory Dewey conducted experiments on attention) Dewey published his first book, *Psychology* (EW2) in 1887.

Psychology steered between two prevailing schools: the newer physiological psychology and introspectionism, which arose from eighteenth-century associationism (*à la* Hume and Locke). It was psychology's turn towards evolutionary biology that had the defining impact upon Dewey's outlook. In 'The New Psychology' he wrote:

> The influence of [evolutionary] biological science in general upon psychology has been very great … To biology is due the conception of organism … In psychology this conception has led to the recognition of mental life as an organic unitary process developing according to the laws of all life, and not a theatre for the exhibition of independent autonomous faculties, or a rendezvous in which isolated, atomic sensations and ideas may gather, hold external converse, and then forever part.
>
> (EW1: 56)

This new way of seeing the world – as organisms-in-environments – opened doors for Dewey, empowering his attacks on traditional dualisms not only between mind/body and concept/percept, but those affecting ethics and democracy, such as individual/society. Still, while Dewey clearly preferred physiological psychology to introspectionism, he also criticized its uncritical acceptance of modern-period accounts of experience, viz. as amalgamations of atomized sensations, operating mechanically in cause–effect sequences. A careful student of both Hegel and Darwin, Dewey surmised that such a psychology could never successfully explain a dynamic and living world filled with experienced meaning.

> The idea of environment is a necessity to the idea of organism, and with the conception of environment comes the impossibility of considering psychical life as an individual, isolated thing developing in a vacuum … I refer to the growth of those vast and as yet undefined topics of inquiry which may be vaguely designated as the social and historical sciences, – the sciences of the origin and development of the various spheres of man's activity.
>
> ('The New Psychology', EW1: 56–7)

In retrospect, these writings make clear why Dewey felt compelled to reconstruct psychology. For to fully understand experience, it was necessary to look beyond methods focusing only on the biological and mechanical towards approaches incorporating contextual elements of experience provided by culture and language. Dewey's recognition of this was aided, in no small part, by William James.

While there is not space to present many details of Dewey's efforts to reconstruct psychology, four things are worth considering: the impact of William James; Dewey's critique of the reflex arc concept; his consequent development of an organic, functionalist (or 'ecological') model; and that model's implications for the realist theory of perception.

WILLIAM JAMES AND THE 'REFLEX ARC'

It is impossible to overstate James's influence on Dewey, particularly his *The Principles of Psychology* (1950). Dewey taught the *Principles* to graduate students just after publication, and James's general approach, 'radical empiricism', taught Dewey that appeals to infinite absolutes never instruct us what to do next; indeed, such pragmatic guidance only comes from 'study of the deficiencies, irregularities and possibilities of the actual situation' (MW14: 199). In other words, psychology *could* give an account of intelligent selves with unified consciousnesses *without* appealing to anything transcendent (e.g. the Hegelian Absolute).[9] Dewey singles out the importance of James's *Psychology* in giving his thinking 'a new direction and quality'. It was James's substitution of a 'stream of consciousness' (for discrete elementary psychological states) as well as James's emphatically biological conception of the mind which, Dewey says, 'worked its way more and more into all my ideas and acted as a ferment to transform old beliefs' (LW5: 157).

Dewey's 'The Reflex Arc Concept in Psychology' (1896) was seminal both for Dewey's own development (advancing his conception of experience) and the history of psychology (marking the end of introspectionism and the birth of functionalism). It celebrates how the 'reflex arc' model offered psychologists a more empirical and experimental mode of explanation than did introspectionism's mysterious and unobservable 'psychic entities'. However, it also criticizes the reflex arc for artificially separating events into discrete (and analysable) sequences. 'As a result', Dewey wrote, 'the reflex arc is not a comprehensive, or organic unity, but a patchwork of disjointed parts, a mechanical conjunction of unallied processes' ('The Reflex Arc Concept', EW5: 97). In lieu of the reflex arc's stimulus–response model, Dewey suggested understanding behaviour as embedded in wider 'sensori-motor coordinations', continual

circuits in which organism and environment effect both adjustment and reconstitution. As Thomas Alexander put it, 'What Dewey proposes … is to *start* with the idea of the organism already dynamically involved with the world and aiming toward unified activity' (Alexander, 1987, p. 129). This defend-then-critique strategy toward the reflex arc concept allowed Dewey to show why a new account of experience was needed. After all, an event description premised on a (supposedly ultimate) disjunction promulgated an erroneous picture of experience. Organisms do *not* passively receive a stimulus and only later become active responders; rather, Dewey argued, organisms are already active transactors with environments. Indeed, psychologists themselves are transactors, and once this is recognized, even definitions of 'stimulus' and 'response' can be seen to pivot on whatever pragmatic purposes are guiding the experimental situation as arranged. Psychologists, Dewey said, are seeking to discover 'what stimulus or sensation, what movement and response mean' and such terms 'mean distinctions of flexible function only, not of fixed existence' (EW5: 102).

Several long-term implications of Dewey's paper should be mentioned. First, by applying the holism found in James's psychology, Dewey formulated a model of organic interaction which served every area of his later philosophy. Second, by insisting on functional interpretations of scientific terms (e.g. 'stimulus', 'response'), he laid the groundwork for epistemological instrumentalism – roughly, the view that meaning determination for abstract terms (whether commonsensical, scientific or logical) requires assessing them within an environment which includes the inquirer (including specific purposes, historical circumstances and potential consequences). Psychology and philosophy must *start* amid the flow (or stream) of lived experience and, from that stance, create pragmatic standards of clarity and validity for abstract concepts.

PERCEPTION AND PSYCHOPHYSICAL DUALISM

The implications of the organic and interactional model nascent in the 'Reflex Arc' paper for philosophers concerned with issues of perception and realism were profound. Realists, with whom Dewey argued vigorously in the early twentieth century, argued that perception is primarily a process of passive reception; the function of

cognition is primarily selective, not constitutive. Extending the critique of 'Reflex Arc', Dewey argued that their picture derived from psychophysical dualist assumptions, such as the notion that erroneously pictures the perceiving mind (inner, subjective) as radically separated from a causal world (outer, objective). This 'spectator model of knowing', as Dewey called it (see LW4, MW12), falsifies actual instances of perception which, after all, *start* with an engaged and purposeful creature in an environment constituted by ongoing processes. Perception is always agential; percepts are *taken*, selectively and purposefully, from a perspective. To fully acknowledge this, however, would require philosophers and psychologists to abandon subjectivism as a starting point and the concomitant notion that perceptual episodes are just 'presented' to a waiting, isolated self. Instead, Dewey argued, perceptual experience should be understood as one among many empirically available and natural events in which we are engaged. 'It would be much more correct to say', Dewey writes, 'that the self is contained in a perception than that a perception is presented to a self…[T]he organism is involved in the occurrence of the perception in the same sort of way that hydrogen in involved in the happening – producing – of water' (MW6: 119).

By rejecting an 'inner/outer' model of perception, Dewey also advances a naturalistic metaphysical picture of qualities. Traditional approaches isolated qualities with discrete labels (as 'hard' or 'red' or 'sweet', etc.) and then puzzled over *where* they were! (Are qualities in us? In nature? etc.) Dewey's model argues that qualities are interacting processes taking place *between* organism and environment: a quality is a *transactional event*, not a sensory impingement by some 'raw' external datum.[10]

In sum, a perception is never instantaneous, passive or simply locatable in an individual consciousness; nor is it a case of knowledge. Rather, it is an embodied relation of adjustment between an already-functioning organism and an environment. (Indeed, mind itself is an event – one constituted by a system of meanings and purposes).[11] While a perceptual event (such as flash of light) may be incorporated as an ingredient of *inquiry* (and result in a knowing judgement), it is fallacious to transpose the results of inquiry back upon the initial perceptual event and announce that it is 'original'.[12]

INQUIRY: INSTRUMENTALISM

The organic and interactional (hence 'ecological') model Dewey develops in his psychology proved innovative for subsequent theories of knowledge and learning. For once this ecological picture of things was worked out, a host of traditional epistemological conceptions (premised upon metaphysical dualisms such as mind/world, appearance/reality) became untenable, even nonsensical. 'So far as the question of the relation of the self to known objects is concerned', Dewey writes, 'knowing is but one special case of the agent–patient, of the behaver–enjoyer–sufferer situation' (MW6: 120). This wholesale repudiation of the metaphysics propping up traditional epistemologies required that Dewey invent a new psychology, logic and philosophy of education; over the course of his career, he does.

The overarching approach Dewey devised came to be widely known as 'instrumentalism' or 'pragmatism'. Like his earlier (functionalist) reconstructions in psychology, instrumentalism sought to criticize and mediate traditional divisions entrenched in various areas and move philosophy beyond divisions such as science/religion, empiricism/rationalism and realism/idealism. Dewey's 1912 summary in 'Contributions to *A Cyclopedia of Education*' is worth quoting at length:

> '[Pragmatism] falls in line with the growing influence of the theory of evolution, asserting that reality itself is inherently and not merely accidentally and externally in process of continuous transition and transformation, and it connects the theory of knowledge and of logic with this basic fact. It connects with historic spiritual philosophies in its emphasis upon life, and upon biological and dynamic conceptions as more fundamental than purely physical and mathematical ideas. While claiming to be strictly empirical in method, it gives to thought and thought relations (universals) a primary and constructive function which sensational empiricism denied them, and thus claims to have included and explained the factor that historic rationalisms have stood for. In somewhat similar fashion, it claims to mediate between realistic and idealistic theories of knowledge. It holds to reality, prior to cognitive operations and not constructed by these operations, to which knowing, in order to be successful, must adapt itself.'
>
> (MW7: 328)

Important, earlier statements of Dewey's instrumentalism (and definitive breaks with Hegelian logic) are made in 'Some Stages

of Logical Thought' (1900) which follows Peirce's well-known 1877–8 papers by celebrating science's method of thinking, naming it the 'doubt–inquiry process' (MW1: 173).[13] This account is soon developed in *Studies in Logical Theory* (MW2: 1903), where, along with his Chicago collaborators, Dewey acknowledges a 'preeminent obligation' to James.[14]

In *Studies*, Dewey criticizes transcendentalist logic in detail, and concludes that logic ought *not* assume the existence of either thought or reality *in general* but should content itself with the use or function of ideas in experience. 'The test of validity of [an] idea is its functional or instrumental use in effecting the transition from a relatively conflicting experience to a relatively integrated one' (MW2: 359). Thus, Dewey's instrumentalist position, in effect, abandons any and all psychophysical dualisms as well as any correspondentist theories of knowledge. 'In the logical process', he writes,

> the datum is not just external existence, and the idea mere psychical existence. Both are modes of existence – one of *given* existence, the other of *possible*, of inferred existence … In other words, datum and ideatum are divisions of labor, cooperative instrumentalities, for economical dealing with the problem of the maintenance of the integrity of experience.
>
> (MW2: 339–40)

BEYOND EMPIRICISM, RATIONALISM AND KANT

Though Dewey did not see his instrumentalism as just another move in epistemological debates, it may help readers to see, briefly, how it responds to tensions between rationalism and classical empiricism, and to Immanuel Kant's response to these. Classical empiricists typically insisted that knowledge originates in sensory experience, e.g. the 'blank slate' of the mind receives the external world's replicas as ideas, associates them, and, with luck, comes to reflect nature's structure. Rationalists, in contrast, argued that because knowledge had to be both abstract and deductively certain, it could not originate with the senses but rather from an immaterial faculty, the mind, which could reason unmolested by the vagaries of the senses. Kant's response to this tension was to refuse to assign an originary place to either concepts or percepts, arguing instead that mind and world are together necessary for the creation of knowledge. More important, Kant argued that understanding mind's product

(knowledge) requires an account of what the mind itself contributes as an active and systematic structurer of incoming representations. Dewey's response to this situation in epistemology was to acknowledge the cogency of Kant's criticisms of empiricism and rationalism, while going on to severely criticize his retention of several crucial but unjustified assumptions. Chief among them were Kant's assumptions that knowledge must be certain; that intellect and nature were categorically distinct; and that a noumenal realm of things-in-themselves could be posited. Moreover, Kant claimed that the sensations necessary to knowledge are initially inchoate yet can never be observed as such because they are first structured by mental categories (which render them experience-able). Dewey's response is that Kant never actually offers an argument justifying this fundamental claim.

Significantly, Dewey does more than critique Kant's system; taking his cue from James he insists upon a complete change of standpoint, that of lived experience or 'radical empiricism'. From this standpoint, one may accept as real – as meaningful – that which comes to us as comprehensible, as related, as anticipated, as felt. If you, dear reader, examine your own experience as you read these words you will see that you do not *begin* with atoms of impressions (or ideas) and then associate them together to make meaning out of meaninglessness. Moreover, it seems needlessly baroque to require some vast machinery of categories as a prerequisite for meaning. Perhaps it is most important that your experience's meaning derives, for the most part, *not* from past sensation or inborn structure but from your *prospects* – your future goals, purposes and projected meanings. This idea – that meaning emerges from the co-penetration of future and present – is perhaps the *key* advance pragmatism makes over Kant and earlier modern epistemology. Ideas have significance based upon their power to control, predict or guide the course of future action, not upon their static reflecting of 'reality' (be it sensory or conceptual). Dewey writes, 'When experience is aligned with the life-process and sensations are seen to be points of readjustment, the alleged atomism of sensations totally disappears. With this disappearance is abolished the need for a synthetic faculty of super-empirical reason to connect them'(MW12: 131–2). As a theory of meaning-for-action, pragmatism, like the living philosopher who wields it, *leans forward*. Thus, Dewey's instrumentalism rejects

modern epistemology and, by replacing Kant's mind-centred system with a decentred, dynamic and ecological one, effects 'a reversal comparable to a Copernican revolution'.[15] No longer just a product of evolution, intelligence stands now as a tool or instrument actively guiding evolving creatures. As an epistemology, instrumentalism is completely at home within naturalism.

Given this repudiation of these fundamental pillars of epistemology, one might wonder what becomes of logic and epistemology. For Dewey, these inquiries persist but become more empirical:

> We are trying to know knowledge … The procedure which I have tried to follow, no matter with what obscurity and confusion, is to begin with cases of knowledge and to analyze them to discover why and how they are knowledges. Why not take the best authenticated cases of faithful reports which are available, compare them with the sufficiently numerous cases of reports ascertained to be unfaithful and doubtful, and see what we find?
> (MW13: 60)

This 'inquiry into inquiry', as Dewey defines logic in 1938, amounts to the systematic collection, organization and description of empirical discoveries about the conditions of genuine inquiry; the pragmatic aim of this new logic is fundamentally ameliorative: to provide a general and 'important aid in proper guidance of further attempts at knowing' (MW10: 23).

INQUIRY, KNOWLEDGE AND TRUTH

In many works, Dewey details the elements and processes of active thinking and problem solving. I shall briefly mention three key elements: the pattern of inquiry, knowledge and truth. Regarding inquiry, if one examines how people actually solve problems, a pattern of inquiry is manifest and prevalent. Dewey details a five-phase pattern in 'Analysis of Reflective Thinking' (LW8) and the *Logic* (LW12). Explicitly disavowing the traditional opposition between reason and emotion, Dewey argues that inquiry initiates with a phase in which there is (1) a *feeling* that something is amiss. This feeling is unique, a *particular* doubtfulness whose singular and pervasive quality helps direct subsequent stages of inquiry. Next, because what is initially present is indeterminate, (2) a *problem* must be carefully formulated; problems do not preexist inquiry, as

frequently assumed.[16] Next (3) a *hypothesis* is constructed, imaginatively utilizing both perceptual facts and theoretical ideas to forecast possibilities consequent on the execution of various operations. Then, (4) one *reasons* about the meanings involved in the hypothesis' central ideas, ferreting out unnoticed conflicts and consequences that might require revision of the hypothesis or even the problem's formulation. Finally, (5) one takes *action*, actually evaluating and testing the hypothesis to reveal whether the proposal satisfactorily converts an indeterminate situation into a determinate one which may prompt the inquiry to conclusion.

This 'pattern', Dewey was careful to note, is descriptively schematic and one should not expect most *actual* inquiries to present phases in ways so discrete and straightforwardly sequential. Moreover, he cautioned that his pattern was not meant to describe how people *always* think but rather how they would think if they followed more exemplary kinds of inquiry, like those found in the empirical sciences.

Given this account of inquiry's process and function in helping organisms adjust to their environment, it is not surprising that Dewey shunned philosophers' typical idol-worship of terms like 'knowledge' and 'truth'. 'Knowledge, as an abstract term, is a name for the product of competent inquiries. Apart from this relation, its meaning is so empty that any content or filling may be arbitrarily poured in' (LW12: 16). As for 'truth', Dewey defined it mainly as a way of coaxing interlocutors to pay some sympathetic attention to his theory of inquiry. 'Like knowledge itself', Dewey writes, 'truth is an experienced relation of things, and it has no meaning outside of such relation' (MW3: 118).[17] Here, Dewey directs attention back to the *process* of inquiry; within that process, 'truth' is a label describing what *that* inquiry has accomplished for *those* purposes. Indeed, logic and epistemology might remain cognizant of this 'if', Dewey quips, 'we were always to translate the noun "truth" back into the adjective "true," and this back into the adverb "truly"' (MW3: 118). For instrumentalism, then, truth and knowledge are adjectival not nominative terms, because as Peirce told us, inquiry goes on indefinitely. 'There is no belief', Dewey writes, 'so settled as not to be exposed to further inquiry' (LW12: 16). In other words, following Dewey, a better way to explain the honour which has been attached to 'truth' and 'knowledge' is to see these concepts in the same light

as a tool or piece of equipment: they have proved useful or reliable enough to be counted upon as resources for further inquiries.

A SOCIOCULTURAL MATRIX

Consistent with Peirce and James before him, Dewey conceives of logic and inquiry – indeed, philosophy – as emerging from and returning to lives which, for creatures like us, includes a sociocultural matrix. 'Logic is a social discipline [and] every inquiry grows out of a background of culture and takes effect in greater or less modification of the conditions out of which it arises' (LW12: 27).[18] Accordingly, epistemologies must be formulated much less narrowly, that is, in ways sympathetic to and ameliorative of the social and political realm in which every epistemologist lives. Epistemology, no less than philosophy itself, performs a cultural-critical function: 'The life of all thought is to effect a junction at some point of the new and the old, of deep-sunk customs and unconscious dispositions, that are brought to the light of attention by some conflict with newly emerging directions of activity' (LW3: 6). As he turned his attention to the conflicts around him (in education, ethics, politics, art, and religion), Dewey's functionalist view of mind and his instrumentalist approach to knowing provided him with the transactional tools he needed to help effect such junctions.

GROWTH: EDUCATION AND DEMOCRACY

It is perhaps still fair to say that Dewey is better known as an educator than as a philosopher. Yet if one reflects upon his career, it is clearly a mistake to categorically separate these two roles. In 1916 Dewey reflected that *Democracy and Education* (MW9) 'was for many years that [work] in which my philosophy, such as it is, was most fully expounded' (LW5: 156). In *Democracy*, Dewey went so far as to place *all* of philosophy within the sphere of education. Such a claim, Dewey knew, would sound odd to many, but it reflected his conviction that philosophy was rapidly being appropriated by a specialized class using increasingly technical language. A recovery of the philosopher's role as engaged and critical citizen could be aided, Dewey thought, if philosophers tried to see their subject matter from the perspective of education. Education offers a vantage ground

from which to penetrate to the human, as distinct from the technical, significance of philosophic discussions … The educational point of view enables one to envisage philosophic problems where they arise and thrive, where they are at home and where acceptance or rejection makes a difference in practice. If we are willing to conceive education as the process of forming fundamental dispositions, intellectual and emotional, toward nature and fellow-men, philosophy may even be defined *as the general theory of education* (MW9: 338).

Throughout his career, Dewey was active in education: devising curricula, reviewing and administering schools, running departments, participating in collective organizing and lecturing on many aspects of education. Moreover, his creation of the University of Chicago's Department of Pedagogy and Laboratory School gave Dewey the chance to experiment with nascent theories of psychological functionalism and instrumental logic. These schools also became sites of democratic expression by the local community.

SOCIETY, THE CHILD AND CONTINUOUS LEARNING

Application of functionalism to education can be traced back to Dewey's 'Reflex Arc' paper. That critique demonstrated that psychology had misinterpreted human experience as a sequence of fits and starts, rather than a circuit of continuous activity. Since learning is a specific kind of experience it should be understood analogously: learning does not occur in fits and starts but as a progressive and cumulative process where inquirers can move beyond the dissatisfaction of doubt toward the satisfaction attending the resolution of problems. The paper had also shown that the subject of a stimulus (analogously: the pupil) is never a passive recipient of sensation, but an active agent inhabiting a larger environmental field. Such fundamental facts demanded, Dewey argued, that educators abandon pedagogies that pictured blank slates awaiting inscription-by-curriculum. 'The question of education', Dewey writes, 'is the question of taking hold of [children's] activities, of giving them direction' (MW1: 25).[19]

Dewey's philosophy of education emerged in the 1890s amid a fierce debate between educational 'traditionalists' and 'romantics'. In numerous articles and books such as *My Pedagogic Creed* (1897),

The School and Society (1899), *Democracy and Education* (1916), and *Experience and Education* (1938) he advanced an interactional model that sought to bypass the debate by assigning privilege to *neither* society nor child. While he agreed with the romantics' emphasis upon the child as indispensable starting point for pedagogy – and maintained that education must attend carefully to children's habits, powers, instincts and personal histories when designing curricula – Dewey also insisted that the child could not be the *only* starting point.[20] The needs, values and interests of extant groups (family, community, nation) were also indispensable – but *not* singularly authoritative – starting points.

Dewey's opposition to traditionalists' authoritarian discipline and the pedagogy of memorization was more fully-fledged. While he agreed that there was a need to pass along content (facts and values), he argued strenuously that schooling should not indoctrinate the child but rather serve to *incorporate* a unique individual into a changing society which also belonged to that child. Following lifelong friend and colleague G. H. Mead, Dewey argued that the child's 'self' was, in large measure, an emerging construct of both personal and social experience; no child's words, deeds or interests could be understood as existing in isolation from their social context. To reflect these facts of social psychology, schools needed to become communities in their own right which could reflect and shape the needs and interests of children and their society: 'The school cannot be a preparation for social life excepting as it reproduces, within itself, the typical conditions of social life' (EW5: 61–62).[21]

DEMOCRACY THROUGH EDUCATION

I hope that I have made clear the continuities between Dewey's functionalism, instrumentalism and educational philosophy and may now expand upon a further continuity between these views and his view of democracy. As intimated above, Dewey's efforts to connect school with society were motivated by more than just his desire for better pedagogy. Because individual ethical responsibilities arise from and return to the social realm, such responsibilities can only be developed in schools which enact the structures of social and democratic life. Democratic life consists not only of vocations and economic self-sufficiency, but of compassionate problem

solving, creative expression, and civic self-governance. The full panoply of roles a child will assume in life is vast; once this fact is appreciated, it becomes incumbent upon society to make education its highest political and economic priority:

> There will be almost a revolution in school education when study and learning are treated not as acquisition of what others know but as development of capital to be invested in eager alertness in observing and judging the conditions under which one lives. Yet until this happens, we shall be ill-prepared to deal with a world whose outstanding trait is change.
>
> (LW17: 463)

Democracy, in Dewey's view, went much deeper than a form of government. 'Democracy', Dewey writes, 'is not an alternative to other principles of associated life [but] the idea of community life itself' (LW2: 328). As the lives of individuals-in-communities change, conflicts and needs arise which require intelligent administration; we need to make sense out of new experience. Education is our means. Education 'is that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience' (MW9: 82). Put otherwise, creative experimentation was germinative of America's political identity. Thus, to fulfil their roles as citizens and participate fully in the development of American democracy, students needed training in the habits (empirical, imaginative and fallibilistic) which had made experimental science so successful. Dewey called these habits and attitudes 'intelligence'.[22]

Regnant in all three spheres just mentioned – science, education, and democratic life – is Dewey's philosophical naturalism (the ecological model discovered via radical empiricism); such a naturalism places its hope not in immutable laws (of logic, nature or God) or ultimate ends, but in the capacity of human beings to learn from life and reinvest in it. In 'Creative Democracy: The Task before Us' (1939) Dewey writes:

> Democracy is the faith that the process of experience is more important than any special result attained, so that special results achieved are of ultimate value only as they are used to enrich and order the ongoing process. Since the process of experience is capable of being educative, faith in democracy is all one with faith in experience and education. All ends and values that are cut off from the ongoing process become arrests, fixations. They strive to fixate

what has been gained instead of using it to open the road and point the way to new and better experiences.

(LW14: 229)

COMMUNICATION AND DEMOCRACY

Dewey's vision of democracy-as-process makes no transcendent appeals for explanation or justification; because experience is the source of both method and value, the educational process is pivotal for eventual success or failure. Developing abilities to communicate – critically, empathetically, imaginatively – lies at the heart of the educational mission. Our age is, depending one's standpoint, either blessed or cursed with rapid and torrential volumes of information. This places, arguably, a new magnitude of strain on the formation of knowledge and wisdom. Dewey's life spanned the rise of the telegraph, penny newspaper, radio and television, and he was alert to the epistemic and political misuses to which such media could be put. In works like *The Public and its Problems* (LW2) he expressed concern with the general American tendency to fix belief by preferring authority over critical debate and inquiry. Such anti-inquirential habits could be traced, as we have seen, to authoritarian pedagogical methods; they could also be linked to popular communicative practices such as advertising or corporate and political propaganda. Of course, these practices have mushroomed since Dewey's day. Pursuit of a genuine democracy, then, relies even more upon educators and journalists – indeed upon anyone with a critical education – to reveal and debunk deceptive or authoritarian methods of persuasion and demand sceptical and independent thinking. Only culture-wide vigilance, starting in the schools and spreading outward, can ensure the kind of free and open communication which makes inquiry productive and mitigates the persistent threat of social and economic factionalization.

WISDOM: PHILOSOPHY AS EQUIPMENT FOR LIVING

Dewey's late period saw no slackening in intellectual output. Works of startling range, freshness and systematic depth – such as *Experience and Nature* (1925), *The Quest for Certainty* (1929), *Art as Experience* (1934), and *Logic: The Theory of Inquiry* (1938) – were all written after Dewey's sixtieth birthday. What is worth highlighting about this

period is how Dewey reformulated his conception of experience to make explicit the connection between philosophy and the search for wisdom. He desired to show why and how philosophy (including metaphysics) was, in function, a kind of *criticism*. And, while such criticism did its work at inordinately general levels of abstraction, it could nevertheless be motivated and oriented by the human need to create value in natural and cultural arenas.

To show how philosophy based in experience could constitute wisdom, he sought to explain how philosophical abstractions could emerge from and return to a world already replete with values. The key, discussed earlier in connection with perception, involved a correction of philosophy's starting point. Dewey singled out as especially pernicious the tendency of philosophers to initiate their inquiries with terms and concepts imbued with the results of previous inquiries. They assume what we may call a 'theoretical starting point', and the result, Dewey complains, 'is invariably the desiccation and atomizing of the world in which we live or of ourselves' (LW6: 7).

In *Experience and Nature* Dewey confronts this starting point anew, developing his own starting point which he calls, alternately, the 'experiential', 'empirical' and 'denotative' method. This involved preliminary critical work to deracinate long-standing associations of 'experience' with various traditional starting points, each initially assuming a variety of entities (e.g. 'impressions', 'ideas', 'minds', 'virtues', etc.). In response to this critical survey of previous views, he calls for philosophers to 'go behind the refinements and elaborations of reflective experience *to the gross and compulsory things of our doings, enjoyments and sufferings* – to the things that force us to labor, that satisfy needs, that surprise us with beauty, that compel obedience under penalty' (LW1: 375–6, my emphasis). Dewey's call does more than reiterate his concord with James's 'radical empiricism'. He makes, in effect, a fundamental announcement of the preferred method and purpose for philosophy. He stresses philosophy's essentially *melioristic* role by pointing directly at the *problematic* nature of the starting point: 'A philosophy which accepts the denotative or empirical method … points to the contextual situation in which thinking occurs. It notes that the starting point is the actually *problematic*, and that the problematic phase resides in some actual and specifiable situation' (LW1: 61). In other words, philosophy arises in *our* world, *our* world needs healing, and

so philosophy must be conducted with conscious intent to return its products to the stream of common life. This continuity – of philosophy and everyday life – is *the gist* of the denotative method: 'As a method', Dewey writes, 'denotation comes first and last' (LW1: 371).

It is worth noting that *Experience and Nature* is arguably Dewey's most 'metaphysical' work, one which offers an account of 'generic traits of existence' as part of an extended theory of experience-and-nature. Despite many critics' prima facie assumptions about such a project – e.g. that it must be foundational, essentialist, and so it must contradict pragmatism's basic creed, etc. – careful reading shows that it was intended and expressed as an empirical enterprise, open to experimental test, emerging from a value-laden world, and aiming to 'render goods more coherent, more secure and more significant in appreciation' (LW1: 305).[23] Philosophy is criticism, and metaphysics, as Dewey put it, is the 'ground map of the province of criticism' (LW1: 309).[24] But metaphysical mapmaking (as Dewey conceives it) is a form of inquiry; to have any value as inquiry it must remain connected to the exigencies present in ordinary experience. It must serve a philosophy conceived as criticism-for-wisdom.

CONCLUSION

At this writing, a three-decade trend of reinvigorated interest in Dewey's philosophical work continues. Critical interest takes various forms (monographs, critical editions, articles, conference presentations) across multiple disciplines. One benefit has been a renewed attention to the classical pragmatists' original writings. This has helped limit the damage that heterodox interpretations (such as those of Richard Rorty) have had upon those encountering Dewey for the first time. As Richard Bernstein put it, 'There are still many thinkers who take Rorty's idiosyncratic version of pragmatism as canonical – and what is worse, they accept his tendentious readings of the classical pragmatists as authoritative' (Bernstein, 2010a, p. 127). While the jury is still out as to whether the consequences of Rorty's integration of the 'linguistic turn' with pragmatism (sometimes called 'neo-pragmatism') will succeed in displacing pragmatism, one may safely say that a rough consensus exists that Rorty's creative interpretations of classical pragmatism have been judged, on the whole, as misleading.[25]

Beyond such internecine debates, interest in Dewey's writings may stem from the example he set to concertedly apply theory to practice while insisting that practice can also modify theory. This mutual and dialectical influence of theory and practice were hallmarks of both experimental science and instrumentalism–pragmatism. It is unsurprising that in today's more technocratic academic milieu, Dewey's approach – open to dialogue, open to correction – seems exciting, fresh and applicable beyond academic contexts. Dewey's scholarly work consistently reached beyond the problems of philosophers to practical affairs calling for amelioration, many of which persist today.[26] This can be seen in the application of Deweyan pragmatism to issues involving animals and the environment, health care, psychiatry, public administration, political theory, aesthetic and literary criticism, communication theory, education and technology. If pragmatism is correct to suggest that the test of an idea's meaning and value lies in action, then it is more than likely that the twenty-first century will continue to look to John Dewey's pragmatism as philosophical equipment for living.

NOTES

1 Some of the ideas in this essay draw upon works by Hildebrand 1999, 2003 and 2008. Biographical material is gleaned primarily from Dykhuizen, 1973.

2 Figures tabulated from *The Collected Works* and the Supplementary Volume 1 and reported to me by The Center for Dewey Studies, Southern Illinois University Carbondale, Carbondale IL 62901. The Center's catalogues also include over 23,415 items of correspondence.

3 Abbreviations EW, MW and LW indicate volumes from the *Early*, *Middle* and *Later Works* in the critical edition of Dewey's works (Southern Illinois University Press). As abbreviated here, the series (EW, MW or LW) is followed by volume then page number.

4 See Browning, 2007.

5 Particularly James's 1890 *Principles of Psychology* (James, 1950).

6 Defending his right to dismiss certain traditional philosophical problems because of pragmatism's practical emphasis, Dewey took pains to clarify that this did not mean that all knowledge was therefore crudely practical – driven by immediate, mean, or pecuniary aims. He writes, 'my pragmatism affirms that action is involved in *knowledge*, not that knowledge is subordinated to action or "practice"' (LW14: 13).

7 Browning, 1999, p. 2. See also Browning, 1998, Myers and Pappas, 2004, Myers, 2001, Pappas, 2008, and Hildebrand, 1999, 2003 and 2008.

8 Early formulations of 'experience' enabled Dewey to pivot from existing conceptions of mind-as-container (or substance) toward mind as process, in transaction with both social, linguistic, and natural environments.

9 Dewey expressed dissatisfaction with idealism's formalistic presumption in the essential unity and perfection of Reality. Such a presumption, Dewey complained, obstructs our capacity to conduct moral inquiry in a genuinely empirical and experimental way. Thus, it obstructs truly actionable conviction and results in pessimism. See e.g. 'Anti-Naturalism in Extremis' (LW15: 46–63).

10 See LW1: 198–9 and LW2: 51.

11 Mind, Dewey argues, *emerges* as sentient beings evolve and symbolize experience. Mind is 'minding', the habitation and use of a system of meaningful signs, 'an agency of novel reconstruction of a pre-existing order' (LW1: 168). This 'process' view of mind is advanced in *Art as Experience*: 'Mind is primarily a verb. It denotes all the ways in which we deal consciously and expressly with the situations in which we find ourselves … [In] its non-technical use, "mind" denotes every mode and variety of interest in, and concern for, things: practical, intellectual, and emotional. It never denotes anything self-contained, isolated from the world of persons and things, but is always used with respect to situations, events, objects, persons and groups' (LW10: 268, 267). Consciousness, too, is a verb – the rapid transitioning of qualitatively felt events. If we understand mind as a vocabulary of meanings, then consciousness can be pictured as the reconstruction and realization of those meanings for the purpose of the direction and reorganization of experience. Consciousness is 'that phase of a system of meanings which at a given time is undergoing redirection, transitive transformation' (LW1: 233).

12 James had referred to this illegitimate transposition as 'vicious abstractionism' and Alfred North Whitehead named it the 'Fallacy of Misplaced Concreteness'. See Dewey, MW6: 110, James, 1975a and Whitehead, 1997.

13 See Peirce, EP1: 109–23. Peirce's 'Fixation' paper sets the quest to know into a natural and biological explanatory framework and argues that reflective inquiry (a more expansive phrase than the traditional 'reasoning') arises from demands faced by organisms. Experience of those demands is named 'doubt', their satisfactory resolution, 'belief'.

14 James was extremely pleased with the Chicago School, which in turn pleased Dewey greatly. In a 1903 letter to James, Dewey gives him the

credit, commenting, 'I have simply been rendering back in logical vocabulary what was already your own' (Perry, 1935, p. 526).

15 See *The Quest for Certainty*: 'The old centre was mind knowing by means of an equipment of powers complete within itself, and merely exercised upon an antecedent external material equally complete in itself. The new centre is indefinite interactions taking place within a course of nature which is not fixed and complete, but which is capable of direction to new and different results through the mediation of intentional operations' (LW4: 232).

16 'The way in which the problem is conceived', Dewey notes, 'decides what specific suggestions are entertained and which are dismissed; what data are selected and which rejected; it is the criterion for relevancy and irrelevancy of hypotheses and conceptual structures' (LW12: 112).

17 This relation (or function) is valuable for inquiry, of course; Dewey retains this sense by using 'warranted assertibility' or 'warrant' in lieu of 'truth'.

18 Cf. Peirce: 'Logic is rooted in the social principle … We must not stop at our own fate, but must embrace the whole community. This community, again, must not be limited, but must extend to all races of beings with whom we can come into immediate or mediate intellectual relation' (Peirce W3: ch. 62, EP1: 149).

19 Dewey wrote *How We Think* (1910, MW6: 105–352) primarily to show teachers how to apply instrumentalism to education. The book argues that because the process of learning is akin to the process of thinking, education's intellectual side can be most effectively accomplished by equipping children with scientist-like habits. 'The native and unspoiled attitude of childhood', Dewey writes, 'marked by ardent curiosity, fertile imagination, and love of experimental inquiry, is near, very near, to the attitude of the scientific mind' (MW6: 179).

20 Even today, many conflate Dewey's position with the romantic or 'progressive' view, despite Dewey's consistent resistance to the romantic/progressive's overweening emphasis on the child's interests/desires.

21 One proposal Dewey had for integrating society and school (in 'Democracy in Education' (ME3: 229–339)) involved organizing pedagogy around community-based 'occupational projects' (such as the creation of a meal, from the growth of ingredients on up). Such projects, not to be conflated with rigid vocational education, gave the student a direct involvement with experimental inquiry and impressed the need to 'take an active share in the personal building up of his own problems and to participate in methods of solving them' (MW3: 237).

22 As Richard Bernstein points out, Dewey preferred to talk about 'intelligence' rather than 'reason', not least because of the philosophical

propensity to set reason apart from emotion, desire and passion. 'He preferred to speak about intelligence and intelligent action. Intelligence is not the name of a special faculty. Rather, it designates a cluster of habits and dispositions that includes attentiveness to details, imagination, and passionate commitment. What is most essential for Dewey is the *embodiment* of intelligence in everyday practices' (Bernstein 2010a, p. 85).

23 Richard Rorty's criticism of Dewey for his metaphysical efforts are the most prominent, though they are heterodox for many respected scholars of the American philosophical tradition. See, e.g. Rorty, 1998b; see also Hildebrand, 2003.

24 In 'Context and Thought' Dewey adds, 'Philosophy is criticism; criticism of the influential beliefs that underlie culture; a criticism which traces the beliefs to their generating conditions as far as may be, which tracks them to their results, which considers the mutual compatibility of the elements of the total structure of beliefs. Such an examination terminates, whether so intended or not, in a projection of them into a new perspective which leads to new surveys of possibilities' (LW6: 19). On the issue of Dewey's metaphysics as 'ground map' see Sleeper, 1986 and Sleeper, 1992, p. 184. See also Ortega y Gasset, 1969, p. 121: 'Metaphysics is not a science; it is a construction of the world, and this making a world out of what surrounds you is human life. The world, the universe, is not given to man; what is given to him is his circumstances, his surroundings, with their numberless contents.'

25 A good sampling of this consensus can be found in Saatkamp, 1995.

26 To list just a few problems which have endured from Dewey's time until ours, consider: the competition between religious and secular forces to shape laws and define cultural identity; the struggle by individuals to live meaningfully and beautifully in roles designed by an increasingly industrial and corporate world; the challenge to democratic communication amidst torrents of fragmented information streams; obstacles to fairness and social justice faced by minorities; last, but not least, an increasingly urgent need to apply broadly experimental and scientific thinking to social problems – along with the need of familiarizing populations with those methods.