

MIND IN NATURE

**JOHN DEWEY,
COGNITIVE SCIENCE,
AND A NATURALISTIC
PHILOSOPHY FOR LIVING**

MARK L. JOHNSON AND JAY SCHULKIN

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Mark L. Johnson and Jay Schulkin

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From Mark, to Scott Pratt,
who has shown me the marvelous breadth
and rich diversity of American Philosophy

From Jay, to Ernie Hook, son of Sidney Hook,
and to Tibor Solymosi, wonderful colleagues

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Preface

This has been a labor of great joy. The two of us have known each other for about ten years. We liked each other's work, learned from each other, and discovered our shared interest in the possibilities for a fruitful collaboration between pragmatist philosophy and recent cognitive science. We published an article on Dewey's idea that our aesthetic sensibility is the common currency of human experience, meaning, and thought. Jay was just about to begin a new book on the wonders of Dewey's great book *Experience and Nature*, and Mark asked if he could tag along on the project. We were both enamored of this amazing treatise. What followed, during the pandemic, was a delightful series of weekly Zoom meetings in which we worked through every chapter of *Experience and Nature*, taking as much time as we needed on any point that we were puzzled about, or wanted to explore in more depth.

The contours of this present book began to emerge from our weekly discussions. We saw Dewey's pragmatism as providing an excellent overarching framework for making sense of a growing body of contemporary scientific research on experience, meaning, mind, thought, consciousness, selfhood, and values. Jay's neuroscience background supplied empirical research that allowed us to expand, enrich, and, occasionally, criticize Dewey's major claims. Along our journey, we came to further appreciate Dewey's naturalistic philosophy for living. It is a philosophy that is non-dualistic, rooted in our embodiment, shaped by experience, and based on fundamental biological and social values.

Our many conversations were such fun for the two of us as we puzzled over the text. What were Dewey's most profound insights about human nature? What does a naturalized philosophy reveal about mind, meaning, and thought? Where was Dewey clear and where not? Even when he wasn't

clear, could we grasp what he was trying to say, and could we carry his thought forward in a way that meshed with cognitive science and neuroscience? Above all, Dewey had a profound grasp of what mattered, or ought to matter, for our lives. He constantly reminds us to pay close attention to the depths of experience, and to cultivate an appropriate critical perspective on the values driving our inquiries and moral deliberations. The result is a naturalistic perspective rich enough to explain how the processes of our biological and social viability shape our experience, meaning, thought, and values, with a clear linkage to the biological, cognitive, and neurosciences that provide a basis for an updated, expanded, and existentially meaningful version of an *Experience and Nature* suited to the twenty-first century.

The result is this book.

Mark L. Johnson and Jay Schulkin

June 2022

1 Introduction: Philosophy, Naturally

Toward a Natural(istic) Philosophy to Live By

In 1925 John Dewey published *Experience and Nature*, one of the most important philosophical works ever written. This sweeping assertion may sound arrogant or perhaps even delusional—completely out of touch with reality. After all, outside of academic philosophy, in the world of generally educated people, who has ever heard of John Dewey, let alone of this particular book? No, he's not the guy who created the Dewey Decimal System, and he's not the Dewey who lost the 1948 presidential race to Truman. He is John Dewey, the American public intellectual who had a substantial influence on philosophy, and especially on educational theory, in the first half of the twentieth century, but whose work fell out of favor and was eclipsed by the linguistic analytic philosophy that arose in the 1930s and still flourishes today. The logical empiricist predilection for linguistic analysis and logical rigor pushed pragmatism in general into the shadows, except in the context of the more scientific dimensions of pragmatism (Godfrey-Smith 1998; Kitcher 2012, 2018; Quine 1951, 1953/1961, 1960). In analytic philosophy, Dewey is typically viewed as an unclear, nonrigorous thinker whose prose is obscure, turgid, and ambiguous. In the European traditions of phenomenology and hermeneutics, Dewey is generally regarded as overly scientific and not existentially engaged. To the contrary, we will argue that Dewey is a model of rigor and precision, where those standards are appropriate, and he is a stellar model of engagement with the affairs of everyday life, arguing that philosophy should arise in response to problems encountered in everyday experience and then reconstruct problematic experiences to make things better. So, we will see that both of these traditional takes on

Dewey's philosophy are fundamentally mistaken, even though one can see how these standard misreadings arise.

The eclipse of American pragmatism by linguistically oriented analytic philosophy lasted well into the 1970s, but the past four decades have witnessed a remarkable renaissance of pragmatist philosophy. This rediscovery of pragmatism began as the result of a heated debate within the American Philosophical Association (APA) concerning what type of philosophy should be presented at annual meetings of the three divisions of the APA. Basically, it was a debate about what philosophy should be and do. In a contentious vote, members familiar with classical American (and also continental) philosophy were admitted to committees responsible for selecting papers for presentation at national meetings of the APA. Some of the stalwarts of American pragmatism—John McDermott, Elizabeth Flower, John Smith, Murray Murphy, Abraham Edel, Philip Wiener, Max Fisch, Sidney Hook, Morton White, and several others—had kept some classical pragmatist writings in print during the years when pragmatism fell out of favor. Then, with the renewed interest in pragmatism in both the APA and in the newly formed Society for the Advancement of American Philosophy in the early 1970s there was a rebirth of interest in classical American philosophy (see appendix).

Against this general background of growing recognition of the exciting new contributions of pragmatist thought to multiple domains of human experience, our main thesis is threefold: (1) that in *Experience and Nature* Dewey presents the most important and compelling naturalistic philosophy ever penned, (2) that a good deal of contemporary science and philosophy supports and enriches Dewey's philosophical perspective, thereby confirming our generous assessment of his work, and (3) that Dewey gives us a profound philosophy to live by. Tracking these three themes, most of the following chapters begin with an interpretation of some of Dewey's most radical views on the nature of experience, mind, thought, selfhood, knowledge, and values. Along the way, we bring to bear contemporary scientific research from biology, neuroscience, psychology, and cognitive science, in order to elaborate, deepen, and sometimes criticize Dewey's central claims. For the most part, we find that relevant scientific research confirms many of Dewey's most profound insights. Finally, we are concerned to work out the implications of this naturalistic philosophy for how we ought to live, and what kind of person we should strive to become.

By a naturalistic philosophy, we mean the view that everything that exists is part of nature, which thereby encompasses all of the natural processes by which things and events come into, persist for a time through, and pass out of existence. A naturalistic philosophy employs empirical methods of inquiry and explanation that have no need to postulate supernatural or transcendent agents, entities, causes, or forces. From a naturalistic perspective, therefore, humans are complex, highly evolved biological and social animals engaging their environments. We are always in and of nature, and we are a pivot, however small, of how some portion of experience is currently unfolding and developing. Our embodied, social animality is not a fallen condition to be endured and lamented; rather, it is the ground of all our experience and meaning, and it is the source of our most glorious achievements.

Some folks will no doubt think that any such naturalism must be, if not nihilistic, at least deflationary about human capacities, dignity, exceptionalism, values, and possibilities for meaningful existence. They ask: Are we merely fancy animals mechanistically driven to perceive, value, and act in habitually established paths of behavior, working out our fragile existence over our short lifespan, only to eventually dissolve into the earth from which we originally emerged?

Our answer to that fundamental question concerning the human condition will be both “Yes” and “No.” The answer is yes, insofar as we are just sophisticated animals who, as Macbeth feared, strut and fret our hour upon the stage, thence to be heard no more. But, the answer is no, insofar as the right kind of naturalism recognizes our capacity to live a meaningful life, a life with value and purpose, yet realized wholly within the natural world. We will argue that a naturalistic approach of this sort is not entirely reductionistic; indeed, it provides a rich account of the development of our human capacities to experience, act, think, create, and value, and it can offer realistic guidance for how we might live a purposeful and morally intelligent life.

Why Dewey?

Why focus primarily on just one philosopher when there are many other respected pragmatist philosophers who have written eloquently and insightfully about many of the issues we take up here? For example, in previous books (Crippen & Schulkin 2020; Moreno & Schulkin 2020; Schulkin 2000, 2004, 2009, 2012) one of us has described the prescient insights of some

of the early classical pragmatists like Peirce, James, Dewey, and Mead, who anticipated later discoveries in science and philosophy. These four understood the profound importance of action in all human perception, valuing, and thinking. With acknowledgment of the significant contributions of these early pragmatists, we have put Dewey center stage, for the following reasons: First, he is the only pragmatist to write about nearly every field of philosophy (e.g., metaphysics, epistemology, philosophy of mind, logic, value theory, ethics, politics, law, aesthetics, education, and social psychology) and to see fundamental interconnections among all of these fields. Dewey ranks with Aristotle for the remarkable scope of his knowledge of philosophy, the various sciences, the humanities, and the arts. Second, Dewey stands out for his grasp of the biological processes responsible for action, as the basis for all “higher” cognition. He anticipates contemporary pragmatists, such as Madzia and Jung (2016), Solymosi and Shook (2014), and Schulkin (2012), who see action as the key to our perception, motive control, and thought. He saw action as a matter of the adaptive adjustment of an organism to its environment and to other people (Engel et al. 2015; Friston et al. 2016; Peters et al. 2017). Dewey presaged the recognition that actions are shaped in part by the need to conserve energy in neural systems (Friston 2010; Sterling 2020), and also by the need to sustain predictive regulation within the animal in relation to its environment. Third, Dewey tenaciously diluted diverse forms of dualism, such as thought versus action and perception versus thought, arguing that “there is simply a continuously ordered sequence of events” (Dewey 1896, 364) via ongoing integration of afferent and efferent processes.

In short, we see Dewey as the best proponent of this view of motivated prediction-based action within a physical and socio-cultural environment. *Experience and Nature* is the fullest presentation of this perspective. C. S. Peirce, outstanding in so many ways, still wanted to keep logic pure, untainted by facts of transactions with others. James, who is so profoundly insightful about human attention, memory, experience, perception, and habit formation, never gave us a good sense of individuals co-evolving together with others—interacting, and transacting—at least not with the depth and scope we find in Dewey.

Dewey developed a philosophy of nature that gives us a sense of being at home in the world and a sense that our evolution is both natural and cultural, insofar as physical and social goings-on are endlessly permeable. Dewey captures insights later developed in Gestalt theory, and also in

Gibson's theory of affordances that shape our perception and action. There are clear parallels between Dewey and Merleau-Ponty in terms of their ontological, epistemological, and aesthetic commitments (Chemero 2009; Chemero & Kaufer 2016; Gallagher 2018), although Dewey's work seems more closely connected to biological accounts of the conditions of animal viability and the basis for adaptive prediction and action. In *Experience and Nature* Dewey is bent on action, presaging the profound implications of our embodiment for perception, attention, action, and values, in a way that is quite compatible with contemporary "enactivist" views (Gallagher 2005, 2016; Gallagher & Zahavi 2007; Thompson 2007; Varela et al. 1991).

Why Bother?

Why care about any of this? Our reply is twofold. First, we are generally better able to resolve problems, meet the challenges we face, and manage the contingencies of our existence, the more we cultivate our reflective intelligence, and the more we draw on the best empirical knowledge currently available concerning our self and our world. Second, anyone who feels the lure of the ancient injunction to "know thyself," will most likely appreciate Socrates' claim that the beginning of wisdom is to recognize one's own ignorance and to use that as a spur to the pursuit of knowledge of self and world. This requires an honest and impartial self-assessment of what it means to be human, that is, of both the limitations and possibilities for the kinds of creatures we are, or might become. Among other things, self-knowledge requires us to understand where our remarkable capacities come from, how they operate in our daily lives, and to what extent we have any control over what happens and who we are becoming. The underlying assumption is that reliable knowledge of self, others, and the world—knowledge that is empirically supported and interpersonally validated—is necessary if we want a nondelusional understanding upon which to stake our life values and projects. We are going to suggest that Dewey is almost without equal when it comes to developing such a naturalistic humanism.

The Structure of Our Argument

In order to appreciate the magnitude of Dewey's contribution to a meaningful and practical philosophical naturalism, it is necessary to understand the broad scope of his views about a number of important topics. Although

a suitably comprehensive naturalistic theory would encompass inanimate nature, living nature (including plants and other animals besides ourselves), and mind, we will here focus primarily on the human condition, because it is about that condition that people are most existentially engaged, and from whence they tend to draw their views about the nonhuman world.

Dewey's project begins from the understanding that experience is the result of the ongoing interactions of an organism and its environments. Consequently, all of our capacities, thoughts, values, and actions arise as dimensions of organism–environment transactions, in a continuous fashion that avoids any ontological or epistemic dualisms. The task of such a nondualistic philosophical naturalism is to construct a suitably rich account of experience that explains how the increasing complexity of the organism, of its biological and sociocultural environments, and of their continuous interactions gives rise to a number of emergent functions, such as perception, movement, object manipulation, feeling, emotion, motivation, critical valuation, language, and reasoning. These emergent functional organizations ultimately issue in what we call mind and self. The resulting self is a joint product of evolution—which gives rise to the basic architecture of our bodies and brains—and the development of individual selves over their lifespan, at both the biological and sociocultural levels of organization.

This book is organized, therefore, around the increasing complexity of organisms and their environments that results in the characteristic emergent functions of human feeling, thought, action, and valuing. We begin with Dewey's account of how experience roots in the ongoing organism–environment patterns of transaction. The comprehensiveness, depth, and richness of one's initial description of experience fatefully shapes what they will count as important, and how they will understand and explain that experience. The primacy of experience cannot be overemphasized, insofar as it will determine what you count as relevant phenomena and what you count as an adequate explanation of those phenomena. Dewey thought it was possible, and absolutely crucial, to begin by describing what he called "generic traits of existence," because he thought such patterns were recurrent features of experience that indicate the conditions influencing everything we experience, think, say, and do.

Based on Dewey's nondualistic, process-oriented account of experience, we then have to explain how we can go beyond situations where things and events just *happen* to us and affect us, to the point where those things

and events acquire meaning and can be taken up into processes of thinking. We therefore need an account of how it is possible to move from the plateau of inanimate material events to the plane of living organic processes, and eventually up to the emergent functions of mind, thought, and language. This move up to the level of meaning is a huge development, often tied to the emergence of language, so Dewey understands mind as a system of shared meanings, or possibilities for meaning, that emerge in a context of social communication.

Meaning is often regarded as exclusively linguistic, arising from communicative practices rooted in a specific natural language. Although Dewey emphasizes the importance of linguistic practices in constituting systems of shared meaning, he also saw that there is nonlinguistic meaning that is present before language acquisition and that reaches beyond our linguistic capacities and achievements. Embodied meaning is one of the hallmarks of a naturalized view of mind, thought, and language. Meaning rooted in biological and social processes becomes the basis for meaning as it operates in abstract conceptualization and reasoning (Feldman 2006; Lakoff & Johnson 1999).

The emergence of these capacities for making and experiencing meaning goes hand in hand with the emergence of mind, which Dewey regards as a system of socially and culturally shared meanings that make possible human communicative interactions. Mind is thus inherently embodied and social, and it is only derivatively individual (Johnson & Tucker 2021; Tomasello 1999). What we traditionally think of as individual minds (or individuals with minds) are actually just occasions of an organism's participation in historically developing cultural systems of meaning.

The acquisition of shared meaning enables thought, conceptualization, and reasoning. However, from a naturalistic perspective, these traditionally "cognitive" faculties are never purely formal or disembodied operations. Instead, they are deeply and extensively rooted in bodily (i.e., sensory, motor, and affective) structures and processes (Di Paolo et al. 2018; Swanson 2003a). Since mind and body are not two ontologically different kinds of reality, all our abstract thinking has to be grounded in bodily processes, operating with body-based meaning (Feldman 2006; Johnson & Tucker 2021). We recruit these body-based structures and processes for "higher-level" abstract conceptualization and reasoning (Lakoff & Johnson 1999; Schulkin 2000). Abstraction is not an act of transcending the body, but

rather an appropriation or exaptation of bodily processes for new uses in new contexts (Gallagher 2005; Johnson & Tucker 2021, chapters 9–10). There is an ontological and epistemic continuity between our mostly non-conscious sensory and motor sources of meaning and our more conscious and reflective cognitive operations. Once again, all of our capacities grow from our embodiment, through brain, body, and environment (Schulkin 2004). Thinking is an action that transforms experience by means of new meanings entertained and used as tools for inquiry and growth of understanding. None of the so-called faculties of mind are either discrete faculties or purely formal operations (Dewey 1925/1981; Tucker 2007). They are not entities of any sort, but rather emergent functions for the remaking of experience, and they are *all* embodied.

With thought being understood as a transformative functional process, knowing becomes an activity of reworking experience through inquiry, rather than some mirroring of a pre-existing mind-independent state of affairs. Knowing is making a new experience, instead of reporting on a pre-made one. It is not an exclusively internal mental operation, but a form of action reaching out into nature and transforming it. Hence, it is always a process of learning the meaning of things and events. Cognition is learning extended over one's lifetime (Tucker 2007). Knowing occurs through the resolution of indeterminacy in a problematic situation, so as to open up more satisfactory functioning in the world (Berlyne 1954; Loewenstein 1996; Miller 1959). Knowledge—as a noun—is a misleading term, since there is never a finally fixed or finished state of knowing or body of knowledge. Knowing—as a verb—signifies the more or less successful reduction of indeterminacy in a problematic situation (Johnson & Tucker 2021). As such, any claim to knowledge must always be subject to critical reconsideration, in light of newly arising conditions.

If mind is a product of social communicative transactions, then how do we understand consciousness within a naturalistic framework? To state the obvious, it cannot be the intrusion of some transcendent mental operation (of a transcendent ego) into the world. Instead, it too must be an emergent function. Dewey treats consciousness as the ability to feel, with awareness, changes in one's body-state, in relation to the organism's ongoing interaction with its surroundings (Damasio 1999, 2010). Consciousness is not a "thing" or "entity" of any sort, but the feeling of qualitative characteristics of situations (Edelman & Tononi 2000; James 1890).

The profound role of qualities, feelings, and emotions in all cognition introduces one of the most distinctive and radical of Dewey's views: namely, that experience is massively shaped by what might be called our aesthetic sensibility. In response to the traditional marginalization, or even denigration, of aesthetic aspects of experience and cognition as being subjective and feeling based, Dewey brings aesthetics front and center in all experience. He thereby reminds us that the basic components and aspects of all meaning are fundamentally aesthetic. Feelings and emotions are not merely subjective private organic processes but rather the shared means by which any object or event can become meaningful to us. Living a meaningful and purposeful life thus becomes an aesthetic and artistic undertaking (Dewey 1934a/1987).

The previously sketched account of embodied experience emphasizes the pervasiveness of values in everything we experience, think, and do. From our opening account of experience, as rooted in organism–environment interactions, we saw that we are motivated at the deepest levels of our being—in basic biological viability and functioning—by organismic values. From a naturalistic perspective, it is values all the way down, and all the way up. All cognition is motivated. All thought is motivated. All knowing is motivated. The motive control mechanisms for basic bodily perception and action continue to operate at the highest level of our thinking and doing (Engel et al. 2015; Tucker & Luu 2012).

We are valuing creatures. Our values arise from our evolutionary development, coupled with our individual development over our lifetime. That we have certain values (biological, interpersonal, and cultural) is a demonstrable fact. However, recognizing which values (as organic habits) are currently driving our thinking and doing is only the beginning of intelligent living. We humans are marked by our ability to reflect on the meaning of our values, and we are able to criticize values, as a basis for transforming our value-based habits. Dewey regards metaphysics as supplying what he called a ground-map of our habits and values, and he regards philosophy as pursuit of the wisdom for living that comes from intelligent management, criticism, and reconstruction of our values. The result is a view of philosophy as the application of human reflective and critical capacities for the intelligent management of our lives. Dewey thus provides a scientifically and philosophically sophisticated naturalistic view of the human condition that provides a critical perspective for the ongoing assessment of our value

commitments. In light of newly emerging conditions, we are able to reconstruct our embedded habits of thinking, valuing, and doing. His naturalism gives us an optimistic outlook, one rooted firmly in the science of human nature and one that is psychologically realistic. It tells us that all the values available to us, and all the possibilities for who we may become, arise from our embodied creaturely nature. Within such a framework, we can find meaning and purpose, not in eternal transcendent values, but in the use of our embodied intelligence for a life well lived.

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