Functionalism as Reflecting and Knowing: John Dewey's Epistemology in the *Logic*

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> Re·flec·tion /rəˈflekSH(ə)n/: *noun*. the mode, operation, or faculty by which the mind has knowledge of itself and its operations, or by which it deals with the ideas received from sensation and perception.[1]

> Knowl·edge /'nä-lij /: *noun*. 1a(1) : the fact or condition of knowing something with familiarity gained through experience or association; (2) : acquaintance with or understanding of a science, art, or technique; b(1) : the fact or condition of being aware of something; (2) : the range of one's information or understanding; c : the circumstance or condition of apprehending truth or fact through reasoning; d : the fact or condition of having information or of being learned.[2]

The last chapter in John Dewey's *Logic: The Theory of Inquiry* is titled "The Logic of Inquiry and Philosophies of Knowledge."[3] In that chapter, Dewey reviews the central claims distinguishing his epistemic claims from traditional definitions of knowledge and the accounts of knowledge he explored in the preceding chapters. In highlighting his distinctions, Dewey formulates reflection and knowledge in terms that are importantly different from the standard definitions that serve as the epigrams to this essay: reflection and knowledge become the functions of reflecting and knowing. The shift to "activate" the terms is important not only to Dewey's philosophy but also to his philosophy of education.

In the last chapter of *Logic*, Dewey is at least as critical of traditional epistemology as he was in *Quest for Certainty*, where he pointed to the abstraction of theory as, essentially, a nice party trick or mental exercise but not connected to living or solving actual social problems.[4] His critique of standard epistemology, however, should not be taken to mean that Dewey is somehow opposed to knowledge as an area of inquiry. Indeed, even when criticizing epis-

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temologies from Plato to his time, he was specific in his claim that there were *some* constituent elements offered in each of the competing epistemologies that represent knowing, if only they would be understood functionally. Regarding the history of various epistemologies, Dewey notes that he has "held that *all* of them have laid hold of *some* actual constituent of knowing, but have failed to place it in the context in which it actually functions."[5] Indeed, it is that context that he calls "the controlling factor of my entire view," that is, "the function of a *problematic* situation in regulating as well as evoking inquiry."[6] To paraphrase David Hildebrand, the point of highlighting particular situations is that there is a social value in us reflecting on our ideas, experiences, and interests so we improve and grow as we move forward.[7]

To explain and situate Dewey's view of reflection in his epistemology, this paper proceeds in three parts: (1) Dewey's general theory of knowledge is detailed in relation to the final chapter in *Logic*; (2) reflection is considered as a key *function* in knowing; and (3) brief links to education are offered, with emphasis on the distinctions between Dewey's functional epistemology and what I am calling "traditional pedagogy."[8] While these issues have been explored before, this paper highlights Dewey's epistemology as it is found in the last chapter of *Logic*, makes connections between this last chapter and clarifying ideas about reflection found elsewhere in Dewey's writings, and considers the role reflecting and knowing play in formal schooling.

DEWEY'S GENERAL THEORY OF KNOWLEDGE

Dewey's general theory of knowledge requires linkages and transactions between otherwise extant logical principles and actions in the world. Dewey's goal in the last chapter of *Logic* is "to consider some of the main types of epistemological theory which mark the course of philosophy with a view to showing that each type represents a selective extraction of some conditions and some factors out of the actual pattern of controlled inquiry" (*Logic*, 154). As Dewey does in other writings, he explains the traditional elements philosophy proffers, critiques central claims, and provides his alternative. In this case, he points out how logical theory is necessary but, if disconnected from actual experience, is meaningless in anything other than an academic exercise. As he notes at the

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beginning of *Logic*, "the general character of knowledge as an abstract term is determined by the nature of the methods used, not *vice-versa*" (*Logic*, 11). Said differently, philosophy tends to be so preoccupied by answers to questions as to fail to question the questions. Similarly, schools reinforce epistemic proceduralism that artificially reifies knowledge as transferable information from teacher to student. While some transmission of knowledge takes place in Dewey's vision of teaching, the focus of inquiry is *not* primarily on the teacher (or standardized content) but on the student's transactional inquiry. Knowing is the functional process toward which inquiry continually strives.

Dewey argues that traditional epistemology "ignores the fundamental considerations which define reflective operations and which constitute their actual force in inquiry: the occurrence of existential problematic situations, and the occurrence of existential operations which are directed by ideas and whose consequences test the validity of ideas" (*Logic*, 531). At least some of the fundamental considerations ignored by traditional accounts of knowledge include the ecology of human living, that is to say, human organisms in and as environmental transactions and the mediating role experience plays in both reflecting and knowing. To clarify these problems, Dewey outlines what he calls "traditional empiricism and rationalism," "realistic theories of knowledge," and "idealistic theories of knowledge" and counters each view as he discusses it. Instead of re-stating his characterizations and rebukes point-by-point, I offer a brief account of the differences among the three areas Dewey explores.

TRADITIONAL EMPIRICISM AND RATIONALISM

Traditional empiricism and rationalism are considered together in this section of the chapter because each requires the "selective emphasis of one of two subject-matters that are formally involved in any complete act of inquiry" (*Logic*, 516). Traditional empiricism insists on the necessity of the immediacy of perception and the isolation in atomistic form of that perception. This point is counter to Dewey's idea that the "immediately given is an extensive qualitative *situation*" (*Logic*, 517, emphasis in original). On Dewey's view, traditional empiricism decontextualizes genuine conditions in inquiry and interprets them as non-functional (*Logic*, 517). This is different from, but no less problematic

than, traditional rationalism's insistence on the necessity of extant subject-matter. Dewey points to Kant here in noting that Kant "affirmed that conception without perception is empty and perception without conception is blind" such that uniting the two is required for knowing. "However," notes Dewey, "his doctrine held that the two materials proceed from two different and independent sources, not seeing that they emerge as cooperative conjugate functions in those processes of inquiry by which problematic situations are analyzed with a view to transformation into unified situations" (*Logic*, 518). For Dewey, this problem led to the dissolution of conjoint, associated living because it fomented an atomistic individualism giving rise to both authoritarianism *and* relativism. The totalitarian state emerges when human relations are subordinated to, say, "Make America Great Again" slogans and community is sacrificed to, say, the hyper-individualism of "selfies." Neither function as problem-solving communitarianism; both function as a Kantian privilege of perceptual material, such that, as Dewey criticizes, "everything which can lay claim to be knowledge is but of phenomenal appearance" (*Logic*, 518).

Dewey also highlights how positivism is an offshoot of traditional empiricism and credits it with promoting scientific inquiry, freeing itself from "dubious psychological theories about sensations" and the epistemological dogmas relating to particulars (*Logic*, 519). The logic of positivism, however, suffers from a hyper-focus on proofs; it has "place for hypotheses which at a given time outrun the scope of already determined facts" (*Logic*, 519). Positivism's disregard of speculation, its over-reliance on scientism versus scientific hypothesis-testing, means that it eschews the history of science and is a shortcoming. Dewey notes that "positivism, in spite of its claims to be strictly scientific, has been in some respects the heir of an older metaphysical view which attributed to ideas inherent truth-falsity properties" (*Logic*, 519-520). On Dewey's view, authentic or actual inquiry uses ideas as operational means. Ideas are functional rather than structural and logical rather than ontological.

REALISTIC THEORIES OF KNOWLEDGE

Realistic theories of knowledge offer much to Dewey's account but run into difficulty insofar as they reify objects, both existential and ideational.

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Realistic theories of knowledge are correct to use objects in the process of continual inquiry. The problem is when the objects used in continual inquiry are regarded as somehow static or "as is." Objects are understood prospectively or retrospectively. The retrospective object is the outcome of a settled inquiry. The prospective object is part of inquiry itself. It is, to use Dewey's term, "undergoing inquiry." The warrant of the assertion made as part and product of this inquiry is related to the change or modification that comes about from its use, that is, its function. Dewey puts it this way:

> Were it not that knowledge is related to inquiry as a product to the operations by which it is produced, no distinctions requiring special designations [like objects] would exist. Material would merely be a matter of knowledge or of ignorance and error; that would be all that could be said. The content of any given proposition would have the values "true" and "false" as final and exclusive attributes. But if knowledge is related to inquiry as its warrantably assertible product, and if inquiry is progressive and temporal, then the material inquired into reveals distinctive properties which need to be designated by distinctive names. (*Logic*, 118)

As Thomas Alexander notes, referring in part to some of Dewey's earlier work in epistemology, "the problem with the traditional assumption that Reality is what it appears to a knower is that it 'leaves out of account what the knowledge standpoint itself is *experienced as*.'"[9] I will return to this point shortly.

Dewey's realism is transactional realism.[10] His realism is what Jim Garrison calls a "reconstructed combination" of two pragmatist views.[11] Dewey took Charles Sanders Peirce's pragmatic maxim (all things are fixed by their consequences) and William James' view of constructed essences as part of ongoing human inquiry. In 1986, R.W. Sleeper described Dewey's transactional realism as follows:

> Dewey's pragmatism is . . . a radical form of realism—transactional realism in which instrumentalism plays a subordinate role

> . . . and thinking entails active involvement with independent reality, an involvement that is causally efficacious. Even *reflection* is a means of conducting transformational transactions with the world, a means of changing or reconstructing the world.[12]

Note that Sleeper parallels Dewey's active terminology and stipulates that reflection is itself pregnant with the possibility of social action. Just as "mind," for Dewey, was primarily a verb, reflection was also an action. More will be said about this below, but it is important to highlight that reflection, like judgment, is inter-dependent with warrantability: not just anything counts as reflection. Without epistemic link or connection to problem-solving that leads to settling a problematic situation, reflection will not achieve the transformation to which Sleeper referred and for which Dewey advocated.[13]

IDEALISTIC THEORIES OF KNOWLEDGE

Dewey approaches his critique of idealistic theories of knowledge by breaking the subject down into three sub-headings: perceptual idealism, rationalistic idealism, and absolute idealism. It appears that Dewey is concluding *Logic* by drawing the most contrasting views possible to describe why his functionalism better explains human knowing. His overarching point is that the various forms of idealism decontextualize inquiry and reflection, thus severing them from actual human existence. Locke and Berkeley spar over perception, for example, but both separate mind and nature from epistemic achievement insofar as an object of knowledge is equated to a book or language while knowing means understanding what is written in the book or spoken in the language. "The distinctive logical feature of perceptual idealism," writes Dewey, "is the identification of the relation which constitutes knowledge with that of signifying" (*Logic*, 527). Furthermore, Dewey points out, directly perceived entities are taken by perceptual idealists as evidence "of something beyond themselves." "The theory thus affords an exemplification of what happens in the theory of knowledge when certain logical conditions are isolated from their inquiry-context." I quote Dewey at some length because, as he argues:

> It is worth noting that by dropping the assumption that pri-

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> mary "ideas" or qualities are mental, the theory can be given a purely realistic epistemological version. For then it follows that qualities and the signifying relation between them exist *in rerum natura*, and that both are directly apprehended. This version, however, neglects and denies the following traits of the inquiry-context: (1) That qualities as indicative or signifying are deliberately selected for the purpose of inquiry out of a complex that is directly had in experience; and (2) that the existence of the problematic situation to be resolved exercises control over the selective discrimination of relevant and effective evidential qualities as means. When these considerations are noted, it is at once clear that the signifying property is not inherent but accrues to natural qualities in virtue of the special function they perform in inquiry. (*Logic*, 527-528)

Dewey illustrates this point by exploring the claim or adage that where there is smoke, there is fire. Where common sense assumptions petrify into unthinking habits, we say something like, "Of course, where there is smoke, there is fire." It becomes a truism. But, as Dewey points out, not only is there an instance of fire without smoke (combustion) but also the accepted truism fails at contextual understanding: an uncontrolled forest fire is different from a contained fire in a home fireplace. The "situation" of the uncontrolled forest fire means that the unstable reality is approached retrospectively (that is, based, at least in part, on other wildfires), prospectively (that is, given previous experience with wildfires—did dropping powdered flame-retardant work better than trenching or dropping water from air tankers?), immediately, and with an eye toward resolution or stability. While the wildfire example may be extreme, I will show momentarily how a more mundane event characterizes "situation" and reflection. Before then, let me conclude the review of Dewey's refutation of the various idealisms.

Rationalistic idealism fares no better than perceptual idealism because it emphasizes an *a priori* imposition of a pattern of inquiry. While it is true that rationalistic idealism acknowledges that judgment is a necessary, mediating feature in knowing, it does not allow for individual, qualitative contexts as evocative

of analysis. The result, according to Dewey, is that there is no consideration of "the existential *operations* of observation" or "the directive experimental function of conceptual subject-matter" (*Logic*, 530). Specific human contexts are subordinate to hypostatized thought as though strictly mental activity is divorced from experience. "Thought," then, is not something done in the concrete actions of inquiry but is divorced from such operations and is considered antecedent. While this may seem to be a truism too, Dewey takes one element from rationalistic idealism as helpful and productive: the role of mediation in achieving knowledge. "It's strong point," writes Dewey, "is insistence upon the presence of *reflection* (which is the mediating aspect of inquiry) in all knowledge and an accompanying implicit or overt criticism of all immediate theories of knowledge" (*Logic*, 530, emphasis in original). The problem is that rationalistic idealism takes reflection as something that "descends upon existence out of the blue and operates in a wholesale manner." On the contrary, Dewey is asserting that experiential transactions are emergent—naturally, if not problematically. As Tom Burke puts it, "thinking (reflection) does not take place solely inside the cranium. . . . [an individual] is an organism/environment system, so what is 'in' the agent is nonetheless as likely to be in an environment as in an organism."[14] Dewey's entire *Logic* is an effort to outline or establish the function and contextual roles humans play in evolutionary epistemic progress: reflection is the central mediating force for us to make sense of, understand, and (to greater or lesser degrees) successfully navigate existence.

REFLECTION AS FUNCTION IN DEWEY'S EPISTEMOLOGY

Consistent with the previous point, and very early in *Logic*, Dewey establishes reflection as function. A few pages into the introductory chapter, he clarifies logical subject matter as follows:

> The theory, in summary form, is that all logical forms (with their characteristic properties) arise within the operation of inquiry and are concerned with control of inquiry so that it may yield warranted assertions. This conception implies much more than that logical forms are disclosed or come to light when we *reflect* upon processes of inquiry that are in use. Of course it means

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> that; but it also means that the forms *originate* in operations of inquiry. To employ a convenient expression, it means that while inquiry into inquiry is the *causa cognoscendi* of logical forms, primary inquiry is itself *causa essendi* of the forms which inquiry into inquiry discloses. (*Logic*, 3-4)

While I am unconvinced that *causa cognoscendi* and *causa essendi* were ever employed as "a convenient expression," Dewey's point is nonetheless that reflection provides space for individuals to bracket the concrete and deal with it or interpret it "in terms of possibilities represented symbolically."[15]

During the writing of this paper, I awoke one morning with a sharp pain in my left shoulder. The pain represented a change to an otherwise comfortable or normal physical existence. With such pain came reflection: What could be done to mitigate or alleviate the situation? What could possibly have caused the pain (to avoid it in the future)? Would a martini help numb the pain, even though it was before lunch time? I was not, as Raymond Boisvert notes, "a disinterested observer seeking to 'know'" what the pain in my shoulder was but was instead "an interested party seeking useful information."[16] Dewey addresses this point directly in the last chapter of *Logic*. "In inquiry," he writes,

> immediate qualities are discriminated with reference to use as signs or indications of a possible inferred conclusion. For example, a pain is directly had. It is interpreted as a [shoulder ache], and thereby judged to be a singular or specified kind. The pain, in conjunction with a set of other observable qualities, is taken to constitute an *object* of which it is an evidential mark. In this capacity, the pain-quality *represents* an object. (*Logic*, 523)

Dewey is setting out the broad conditions of inquiry and the role of reflection therein. With an undesirable situation, what follows as inquiry and reflection is the process of moving from an indeterminate (and painful) situation to a resolved one on a continuum of knowing. As Felix Kaufmann puts it, rules "of inquiry are not ultimately established, but continually on probation."[17] This, of course, points to Dewey's principle of continuity but also to the power of

reflective capabilities of humans. Borrowing an analogy from Burke, reflection acts like a clutch-and-transmission system. Hilly terrain, icy roads, and traffic congestion each require the driver of a manually operated car to adjust to context, to disengage and engage the clutch depending on judgments made in real time. The conduct of the driver is mediated by past experience and (partly as a result) future possibilities—but done so in the moment and of necessity. "The value of reflective thought," argues Burke, "lies in it allowing one to scope out possibilities on the basis of results of past actions and thereby avoid troublesome alternatives and choose more promising ones."[18]

Reflection for Dewey was a function.[19] Accordingly, reflection and knowledge are transformed into the Deweyan terms "reflecting" and "knowing." Where the standard definition of reflection commits the mereological fallacy, Dewey does not ascribe to "mind" any independence from the body-environment-experience nexus. For knowing, while unsettled situations should become stable, there is no final correspondence or a "spectator." The importance of the shift is, I argue, more than symbolically "activating" the terms. Reflecting and knowing more accurately indicate Dewey's transactional epistemology.

BRIEF LINKS TO EDUCATION

In characterizing the problem Dewey had with "intellectualists" and professional philosophers, Hildebrand notes the following: "Sidetracked from the problematic and lived situation that instigated inquiry in the first place, philosophers institutionalize their practice . . . into an ontology with eternal permanence."[20] Teachers are rarely different from this characterization. They, too, institutionalize their practice, even if hegemonically so. This point raises at least two issues: (1) the superstructure and metanarrative of schooling; and (2) the specific epistemic responsibility of teachers.

For the first point, I argue that schools are structured to support a version of traditional epistemology. If schools are not truly foundationalist, insofar as they expect students to amass "pure" knowledge via the spectator theory of knowledge (STK), then they are epistemically reliabilist insofar as they require only correct answers to questions without justification. While much more time

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could be spent on distinguishing the variations of epistemology within schools, one point seems clear in relation to Dewey's *Logic*: it is rare that schools provide emergent contexts for the development of reflecting and knowing in Dewey's functional parlance.[21] In terms of the superstructure of most schools, this only makes sense. Order, discipline, and time-on-task expectations do not support inquiry that is varied, serendipitous, and transactional. Save the unique examples within some schools, the reality in most schools in the U.S. is that traditional expectations have been so deeply entrenched prior to teachers and students entering the hallways that the task of changing schools is Sisyphean. Epistemologically, it is as though STK is a given in schools. Knowledge-as-"outcomes" is already constituted in curricula, and the role of the teacher is to dispense information to students. Students are receivers (or spectators) of knowledge, not agentic or transactional inquirers into it. Marginalized or dismissed is student inquisitiveness. This is what Alexander meant when he argued that the traditional assumption that Reality is what it appears to a knower is that it "leaves out of account what the knowledge standpoint itself is experienced as."[22]

For the second point from above, when prospective teachers enter their coursework as education majors (or for certification), they do not enter without ideas and experiences that inform what they want to do and how they want to do it. The problem is that there is virtually no critique in the culture from which they came. They were reared as spectators (and often spectate in their college classes, too), and even when some prospective teachers profess wanting to "engage" their students in "active" learning, this approach still tends to be a canned version of traditional schooling. As Dewey puts it in *Experience and Education*, otherwise well-intentioned teachers use "devices of art to cover up obviously brutal features."[23] Fear of losing a job, fear of being reprimanded, and fear of standing out as "different" are common excuses teachers give for not challenging an established school structure they otherwise understand to be problematic.

It is in this sense that I wish to force the provocative point that teachers, *regardless of the superstructure*, have functional epistemic responsibilities to their students. At the risk of being perceived as another in a long line of people who blame teachers, I nonetheless claim that teachers are in positions of power they

may not even understand. I am asserting that teachers already have space and control over what goes on in their classrooms and that they should utilize this power to demonstrate epistemic engagement. Beyond the power that could be actualized from teacher shortages in the U.S. and the power that comes from a pandemic-induced reorientation of what constitutes schooling, teachers should reconsider their pedagogy by engaging in Dewey's transactional realism. There is, of course, no guarantee that teachers who enter such epistemological discourse will value Dewey's notion of warranted assertibility over, say, "certainty" in the form of Pearson-supplied scripted curriculum. Still, by championing the intellectual and practical possibilities of the very teachers I risked blaming a moment ago, I am urging a movement among teachers to claim school spaces for themselves and their students in ways that are grounded in Dewey's *Logic*: make schools places for reflecting and knowing.

To envision classroom practices that specifically endorse warranted assertions would mean that students *and* teachers no longer search for or operate under the assumption of "the correct answer" in Common Core curriculum terms. Instead, students and teachers make assertions connected to solving problems that are gauged and judged within the bounds of human experience via reflecting. This not only represents an epistemological shift but also shifts power away from the traditional quest for certainty and places power within the contexts of student/teacher living—contexts not divorced from social realities beyond school. Traditional epistemology and the entailing power structure that supports it may be largely to blame for the general lack of inquiry found within U.S. classrooms. Students as testable objects themselves, and whose role it is to gather discreet bits of data and information, are repeatedly subjected to a classroom sphere where the only evidence of relation is between teacher- and curriculum-imposed artifacts and superimposed goals. It appears the "view from nowhere" is precisely the view most educators and educational policy makers repeatedly expect. Dewey's epistemology is a possible "out," then. It represents a way students and teachers might develop relations in less contrived ways. By shifting the roles of teachers and students so that both groups are inquirers into problems they face, achieving goals and grades is replaced by perpetual

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investigations of meaningful, unfolding variation.

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6 Dewey, "Experience, Knowledge, and Value," 44.

7 See David L. Hildebrand, *Beyond Realism & Anti-Realism: John Dewey and the Neopragmatists* (Nashville, TN: Vanderbilt University Press, 2003), 101ff. https://doi.org/10.2307/j.ctv16b78d6

8 By traditional pedagogy, I mean compliance with state-mandated goals, pre-packaged curriculum, and standardization.

9 Thomas Alexander, "The Aesthetics of Reality: The Development of Dewey's Ecological Theory of Experience," in *Dewey's Logical Theory*, ed. F. Thomas Burke, D. Micah Hester, and Robert B. Talisse (Nashville, TN: Vanderbilt University Press, 2002), 16. Alexander is citing John Dewey, "The Postulate of Immediate Empiricism," *Journal of Philosophy, Psychology, and Scientific Principles* 2 (1905): 393-399. This quote can also be found in John Dewey,

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19 As Dewey noted in 1917, "The recognition that reflection is a genuine factor within experience and an indispensable factor in that control of the world which secures a prosperous and significant expansion of experience undermines historic rationalism as assuredly as it abolishes the foundations of historic empiricism. The bearing of a correct idea of the place and office of reflection upon modern ideal-isms is less obvious, but no less certain." See

John Dewey, "The Need for a Recovery of Philosophy," in *Creative Intelligence: Essays in the Pragmatic Attitude*, ed. John Dewey (New York: Holt, 1917), 25.

20 Hildebrand, *Beyond Realism & Anti-Realism*, 64.

21 There are, of course, positive instances of teachers doing excellent work. See, for example, Doris A. Santoro and Lizabeth Cain, eds., *Principled Resistance: How Teachers Resolve Ethical Dilemmas* (Cambridge: Harvard University Press, 2018). The point I am making is that most teachers nonetheless face considerable institutional barriers to enact Dewey's functionalism.

22 Alexander, "The Aesthetics of Reality," 16. The sociality of experience mitigates against relativism.

23 John Dewey, *Experience and Education* (New York: Collier Books, 1938), 19.