

The Superstition of Necessity

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An item on a test given to ten men in an adult education program: “Fumigants do not burn the skin. True or False?” Half the men answer, “True,” and half, “False.” A surprise: the men are professional pest control workers. They handle fumigants often. A glance shows they have not burned their hands off. In workday reality, they all know the answer.

Hundreds of graduate students have answered the question correctly. If asked what a fumigant is or what it does, they do not know. What a situation! Those who know how to do a job cannot pass a test in their field; those who do not know how to do a job give right answers. Test results can deliver an ironic inversion: those who have learned do not know, and those who have not learned do know.

The workers’ answers raise for learning theory and educational practice problems similar to those raised by John Dewey in early papers on logic.¹ If continuity from question to answer is disrupted, if correspondence between proposition and world is derailed, if identity and contradiction are difficult to define in the play of events, then the institutionalization of logic as an autonomous clearinghouse for careful thinking is arbitrary and possibly pernicious. Dewey’s essay titles between 1903 and 1908 — “The Relationship of Thought and Its Subject-matter” (*MW* 2, 298–315), “The Control of Ideas by Facts” (*MW* 4, 78–90), and “The Logical Character of Ideas” (*MW* 4, 91–7) — identify relationships disrupted by the inversion of knowing and doing among the exterminators.

This essay employs Dewey’s 1893 “The Superstition of Necessity” (*EW* 4, 91–7) to question contemporary uses of theories of learning.² In 1890, Dewey critiqued traditional logic as “a dualistic science,” by which

the general aim of logical processes is to secure a complete and accurate correspondence between what we think and conceive within us, and what we observe and feel without us. The question is then: How are perception and observation logically related to thinking, to conception? Does logic take up its task when these are furnished to it ready-made, thus having a dualistic basis, or do logical processes enter equally into both perception and conception, so that, from a certain standpoint, each has a logical character? (*EW* 3, 75–82)

From Dewey’s standpoint, treating logic as the arbiter of how conceptions correspond to perceptions, of how stand-alone propositions correspond to stand-alone objects and events, is unacceptable. Instead, Dewey’s propositions — or “propoundings”³ — are activities, and perceptions are never separate from engagements. The question is not how two separate worlds are logically connected in ways not contradictory, but how two kinds of activity — pounding the world into shape and propounding the shape of the world — are connected to and consequential for each other. As Peter Manicas writes, “there is no way to disconnect sensing and acting nor to disconnect these from the situation which is changing as the consequence of acting.”⁴

We can apply the same argument to a learning theory separating knowledge from practice: that it is as misleading — for exterminators, poisonous — as a logic separating inferences from conditions of inquiry. Logical necessity and learning function similarly as ways of making connections, and they have been similarly mishandled theoretically and institutionally.

Dewey's problem in 1890: The term "logic" had been erroneously operationalized and institutionalized as "the supreme and legislative science" (*MW* 12, 156), and therefore must be reconstructed in order to make careful judgments for the good of all. These points made Dewey not a logician, but a cultural critic appalled at how dualistic theories of logic and learning were used.

In 1893, Dewey reframed logical necessity by emphasizing its work in inquiry and redirecting experience in real time. A necessary truth, Manicas says, "is one that cannot coherently be rejected."⁵ As such, necessity is a great aid to thinking carefully, but Manicas also reports arguments about how to characterize phenomena, from Aristotle (ontological), to Immanuel Kant (epistemological), through Rudolf Carnap (semantic). Dewey's contribution was to insist that necessity be understood as a tool in the context of its work, that is, in terms of the problems it makes reflexively identifiable, immediately operational, and momentarily resolvable. By the superstition of necessity, a logical operation delivers reality as if on its own terms. By Dewey's necessity, continuity is achieved across a string of activities in the course of an inquiry. Each moment's necessary truth creates a new situation in need of a new resolution. To crib a phrase from Ralph Waldo Emerson: after all is said and done, logical necessity, like everything else, is what happens to it.

The first and main section of this essay develops Dewey's arguments on logic and stretches his critique to issues of learning; that is, "The Superstition of Necessity" can be read as "The Superstition of Learning." Traditional and much modern logic assumes that the laws of inference, if applied precisely, lead to the truth, and U.S. education assumes that learning, if stockpiled in heads, leads to intelligent and productive behavior. Both assumptions are half right, and therefore attractive, but without their other halves, without notice of how they might be invidiously tuned to next events, half right can actually be exactly wrong. For example, if the exterminators say that the statement, "Fumigants do not burn the skin," is "True," then we can say, logically, that they do not know, do not understand, have not learned, cannot learn, and so on; alternatively, if the exterminators can be shown to know that fumigants burn the skin, then using their contradictory positions to diagnose their minds negatively might be a case of a half-right analysis effectively being exactly wrong. Dewey's logic seeks a precision of context and consequence and redefines necessity as it should be used in ongoing inquiry. Learning deserves similar respect for the work it performs.

Although the foundational thinker of U.S. education, Dewey says little about learning by individuals and little positive about learning in school! Across 70 years and 15,000 pages of writing, Dewey uses the word learning about 800 times. Most are in passing, as in "learning to walk," or "learning from Leibniz," and many make

negative contrasts, say, “mere learning” versus the “growth” that comes with engagement in the world. Dewey constantly addresses the purposes of education and how learning might accompany various activities, but he consistently resists isolating learning as a thing. In *Democracy and Education*, he critiques schools that make learning “a direct and conscious end in itself” (MW 9, 176).

The second and final section of this essay asks if the word “learning” — a nice word now hopelessly mired in political jockeying — has become, as Dewey said of logical necessity, a superstition and an obstruction.

DEWEY ON NECESSITY AND LEARNING

Dewey’s account of conditions for connecting judgments is disruptive. At its weakest, necessity means only that when one thing exists, so does another, either simultaneously or sequentially; this is not problematic. A stronger view requires that “coexistence or succession is grounded in some deeper feature of reality which is accessible to introspection, observation, or reflection of a particular kind.”⁶ By dropping every person’s next move into an emergent and precarious future, Dewey complicates millennia of strongly formulated claims to reasoning from propositions to definite conclusions. However the “deeper feature of reality” is imagined, for Dewey, necessity and continuity must report constantly to changing conditions of inquiry.

Whether engaging logic, science, art, teaching, or daily tasks, we push and get pushed in an open-ended series of exchanges. Life keeps coming, and we undertake and undergo. Dewey offers, says John McDermott, “a metaphysics of transiency, in which human life is seen as a wandering, a traveling, a bemusement which rocks side to side, comedy and tragedy, breakthrough and setback — yet, in all, a purposive, even progressive, trip.”⁷ Dewey’s account of continuity is disruptive for taking seriously that life is constantly disruptive. If structure and continuity appear constant, they are ongoing achievements, built with available tools tuned to the moment and well designed for tackling the vicissitudes of already half-made next moments.⁸

Moving from past to future judgments demands more delicacy than can be achieved with overdetermined, prearranged solutions. Logic lacking regard for circumstance and consequence can leave us with nothing to say, out of touch, out of place, without insight or learning. Dewey’s necessity is tenuous and short lived, a way to clean up a past for a present already marching on.

The judgment of necessity...is exactly and solely the transition in our knowledge from unconnected judgments to a more comprehensive synthesis. Its value is just the value of this transition; as negating the old partial and isolated judgments — in its backward look — necessity has meaning; in its forward look — with reference to the resulting completely organized subject-matter — it is itself as false as the isolated judgments which it replaces. Its value is in what it rids judgment of. When it has succeeded, its value is nil. Like any go-between, its service consists in rendering itself uncalled for. (EW 4, 20)

Judgments are usually brought together for a reason. If they illuminate each other for even a moment in relation to some doubt or problem, a new reality appears, again for a moment. A superstition of necessity relies on and necessarily delivers

“something externally made to be what it is” (*EW* 4, 21), and no more: “because fumigants burn the skin,” that’s why. Any exterminator must conclude that the answer is false; any other conclusion is necessarily wrong. Without a superstition of necessity, a logical analysis delivers only a temporary and tentative conclusion, a new judgment under new conditions, a new hypothesis for an exploration of new connections to the now new situation of inquiry. Fumigants can have complex relations to burning, and questions about fumigants can have terrifying relations to job evaluations and estimations of one’s intelligence. The more workable answer to the question on fumigants burning the skin might require hypotheses on why the question is asked or how the answer might be received. R.W. Sleeper makes the nice distinction that for Dewey, “necessity is never a feature of actual relations, the only function of logical necessity being a strictly logical one...necessity is *only* a feature of judgment, an instrumental abstraction useful in the practice of inquiry.”⁹ Translated into our example, the necessary connection between fumigants and burning skin is only a feature, a judgment, a tool for a next analysis.

Real-world knowledge does not conform easily to the simplifying demands of propositions apart from the fray; as with tests, so with logic. In calling necessity a superstition, Dewey was redirecting the dream of knowledge apart from life, of expertise apart from context, of certainty apart from change, to an account of what people actually do and might do better. To Bertrand Russell’s complaint that Dewey’s 1938 *Logic* tells “little about the nature of things before they are inquired into,”¹⁰ Dewey had an answer 45 years earlier: that traditional logic posits the superstition of “something externally made to be what it is,” but a rigorous experimentalism finds its things in the course of inquiry. There is nothing — that is, nothing of interest — before inquiry. Dewey’s 1903 *Studies in Logical Theory* stated a stark choice. There are

but two alternatives: either there is an object “in itself” of mind “in itself,” or else there are a series of situations where elements vary with the varying functions to which they belong. If the latter, the only way in which the characteristic terms of situations can be defined is by discriminating the functions to which they belong. And the epistemological logician, in choosing to take his questions as one of thought which has its own form just as “thought,” apart from the limits of the work it has to do, has deprived himself of these supports and stays. (*MW* 2, 312)

The correct response to the test’s query, “Fumigants do not burn the skin?” is “False.” Case closed. Grade the paper. Next question. But for Dewey, analysis of “the characteristic terms” of the situation is just the beginning. The exterminators know more about fumigants than their test maker and grader, but, for a moment, their wisdom — by better “discriminating the functions to which [the terms] belong” — developed a different conclusion. They might know things the grader does not, perhaps things crucial to creating a classroom where learning can happen. Theorizing more inclusive and emergent contexts of inquiry can reshape the implications of a logically necessary answer.

If necessity holds a superstition of mind “in itself,” what is left after Dewey rejects it? Can people hold the world together without rules governing how judgments necessarily follow one another? The very purpose of thinking, said Peirce

before Dewey, is “the production of belief” about how things are related, so we can “find ourselves decided as to how we should act under circumstances as those which occasioned our hesitation.”¹¹ Without a strong theory of logical connection and continuity, disciplined belief and the modes of inquiry called rationality, science, logic, and learning seem impossible. Dewey accepts the challenge. Because continuity is his most pressing concern, he focuses on how it works inside the situations and functions it serves. With Dewey, we can still insist, if this then that, and necessarily that, but always with regard to the wider context of inquiry. Dewey is not saying — against cause and effect — that anything goes in the realm of judgments, but he insists that we shift the object of precision from the well-formed proposition to the experience propounded by it. A judgment does more than just say something about the world; as an activity in its own right, as a propounding, it alters the world. Tom Burke stresses that, for Dewey, judgments live and die in practice: “one *asserts* the judgment itself (not its sentential expression) by actually conducting oneself in accordance with the predicate *p* in that particular situation *s*.”¹²

Dewey seeks as much certainty, truth, and necessity as is warranted by circumstances, but without promises.¹³ He focuses on conditions for continuing the search. Early twentieth-century intellectuals celebrated logical thought and used the illusion of a primitive mind as a straw-man alternative. Logical necessity, they argued, insured a rationality more accurate and efficient than augury and divination. Against this loaded choice, Dewey suggests that necessity, defined as the ultimate, and not just useful, tool for connecting judgments, is itself an incorrigible proposition symptomatic of the chest-beating claims of Western logic. Everyday conversation proceeds in orderly fashion with under-the-table nuance and over-the-head intricacy that overwhelm theories of logical necessity. Instead of necessary connections delivering the whole truth and nothing but the truth, Dewey offers more than a primitive mentality, where ideas, by stereotype, follow in no required order. Caught between two superstitions — the stasis of mainstream logic, and movement without direction in primitive thought — Dewey offers a third ground, a more grounded ground, less abstract, more concrete, and closer to the realities of experience. He offers an empirical logic based on a natural history of how people use their thinking to do things.

Traditional logicians complain about what Dewey celebrates: that without (a superstition of) necessity, there is no place to stand, think, and reflect. For Dewey, there is no standing still; there never was, and never will be. In activities, connections follow one upon the other, and some are worth notice, reflection, and reengagement. Dewey rejected a philosophy for standing detached, without past and future, without desire and consequence; he engaged life in action and resisted certainties false to experience. The better effort gathers materials for a logic appropriate to situations at hand and awaits consequences. The value of necessity, remember, “is in what it rids judgment of...its service consists in rendering itself uncalled for.” Its value is in what happens to it. Keep moving. Continuities emerge. Test them in practice. Reason carefully. Keep moving.

Dewey's writings on necessary continuities across judgments affirm his view of learning. They are similar phenomena. Judgments connected to each other and inviting new conclusions are a primal site for "learning" — make that "growth"; inference and implication are sites for new connections emerging in specific arrangements between people and their environments. As goes a critique of logical necessity (by what arrangements do fumigants necessarily imply burning?), so goes a critique of school learning (by what arrangements does an awareness of incendiary words from the Latin, *fumas*, imply, *ad captandum vulgus*, knowledge?).

Moving in the world, connections get made, guesses get reflexively confirmed, hypotheses get reformulated. Necessity and learning happen. We make them happen, and they simultaneously happen to us; we undertake and undergo. Dewey's necessity is not just a straight line drawn from premises to firm conclusions, and learning is not a stockpile applied to new situations with definite outcomes. The passage announcing the superstition of necessity announces also the superstition of learning, with only two substitutions making the difference:

The judgment of necessity (*learning*)...is exactly and solely the transition in our knowledge from unconnected judgments to a more comprehensive synthesis. Its value is just the value of this transition; as negating the old partial and isolated judgments — in its backward look — necessity (*learning*) has meaning; in its forward look — with reference to the resulting completely organized subject-matter — it is itself as false as the isolated judgments which it replaces. Its value is in what it rids judgment of. When it has succeeded, its value is nil. Like any go-between, its service consists in rendering itself uncalled for. (*EW* 4, 20)

Both necessity and learning are brought forward in an undertaking, develop in the course of an undergoing, perform a service, and disappear. Necessity and learning throw themselves forward and, with new accomplishments, get rendered "uncalled for."

When Dewey does define learning, he emphasizes, as for logical necessity, that it is secondary to activities more immediately tied to past and future events. Consider an example from his 1895 proposal for a lab school:

The process of learning...conforms to psychological conditions, in so far as it is *indirect*; in so far that is, as attention is not upon the *idea of learning*, but upon the accomplishing of a real and intrinsic purpose — the expression of an idea; [learning is] the product of the exercise of powers needed to meet the demands of the activity in operation...[an artist's, a scientist's, a performer's, or a student's] primary aim is to do his work better, but learning is a necessary accompaniment, the more so as being largely the unconscious effect of other acts and experiences. (*EW* 5, 229; *LW* 1, 238)

Education that addresses the problems of experience gives purpose and allows learning. Genuine education focuses less on who learns how much and more on what can be learned by how many people, exercising their powers across a community of purposes. In *The Public and Its Problems*, Dewey makes the right call: "A more intelligent state of social affairs, one more informed with knowledge, more directed by intelligence, would not improve original endowments one whit, but it would raise the level upon which the intelligence of all operates" (*LW* 2, 366). The democratic question is not who is learning, but what knowledge is made available for all to engage in various ways.

THE NECESSITY OF LEARNING

When the precision of traditional logic is used to defend what is off base in the reality of people's experience, and when the precision of measured learning is used to keep half the students out of the educational system, then logic and learning without regard for context can do great harm. Inference without context and pedagogy without purpose are missteps making claims to logical certainty and educational success rife for political poaching. It is both easy and unfair to label the exterminators for what they have not learned, for how they seem unable to think. When school learning is the mechanism by which those who know are shown to not know, and those who do not know are shown to know, the system is logically, pedagogically, and politically at the service of established biases.

Theories of learning do not have to be fodder for the pathologies of social structure. Learning has rarely been fashioned into an autonomous institution in other cultures or historical epochs, but U.S. schools have built an isolated and unhealthy environment for the word. Learning does not happen just in school; it is not an activity separate from life. A functioning educational system organizes situations for ongoing learning and not just individuals who can show off that they learned already recognized things.

For many children and teachers, demands for learning bring life to a halt. Like the word necessity, the word learning promises too much. We must change its conditions and resituate it in ongoing activities, in practices, that make use of it in time, just in time, for only a time. Criteria for excellence should define what education can do for a community, not what a community can do for only some of its children. High functioning alternative programs I have worked on — in school and after school, inviting curricular and/or social reform — reveal three traits of education when relieved of the superstition of learning:

1. Learning is a subordinate goal of educative activities. Teaching and learning are more about making inquiry and doing things than about taking in, storing, and owning skills and information.
2. Individual learning, even when spotlighted, is erased as a possession and instead applied to next activities. Laurels do not last longer than it takes a next problem to emerge.
3. Students are not the primary site for learning. When, where, and how new information enters a system of inquiry is not determined too rigidly. At any given time, teachers, parents, neighbors, researchers, or policymakers might be learning more than the students, and this might be exactly what the kids need.

What of the ironic inversion: that those who have learned do not know, and those who have not learned do know? Is this a problem of logic? Yes. Necessary inference from question to answer leads to a false impression that right and wrong answers reveal who knows best about fumigants. If tests are about who knows more, necessity, without an account of the situation it serves, can mislead. Is this a problem of pedagogy? Yes. The assumption of a continuity between knowing answers and

judgments about job competence is superstitious. If the pedagogical situation is more about passing the test than developing a community of competent people, evaluation without attention to the situation can mislead. Is this a problem of politics? Yes. If knowledge and action are functionally disconnected and displays of competence dependent on arbitrary measures well correlated by race and class, then a meritocracy built on claims to knowledge invites certain political mischief and injustice.

There is good news. When exterminators who had passed the test became classroom teachers for those who had not yet passed, they consistently found ways to appreciate what was right about wrong answers that appeared to defy logic. Mr. Soto addressed the fumigant problem directly.

Soto: Let me help you out with this one. Every time you get a question, true or false, if the question is false, the answer, automatic, is false.

Class: They burn...

Soto: Whhhh? Because fumigants burn the skin.

Class: ...they do burn...

Soto: ...and so however, the answer is false.

Mr. Soto had to teach what the S.A.T.-select routinely know: the rules of knowledge display. Without test savvy, it does not necessarily follow that knowing the answer to a question means knowing the test's answer. Mr. Soto taught them the game of logical necessity inside a comfortable labor-union classroom. Context counts. Ironic inversions in reasoning are more about problems of context than problems of ability and learning.

1. All citations to Dewey's writings are taken from *The Collected Works of John Dewey, 1882–1953: The Electronic Edition*, ed. Jo Ann Boydston (Carbondale: Southern Illinois University Press, 1981). Subsequent references to selections from *The Early Works, 1882–1898*; *The Middle Works, 1899–1924*; and *The Late Works, 1925–1953* will be cited in the text as *EW*, *MW*, and *LW*, respectively, followed by volume and page numbers.

2. The history of the essay starts with Charles Sanders Peirce in 1877–8 on “The Fixation of Belief,” and “How to Make Our Ideas Clear,” in *Chance, Love, and Logic*, ed. Morris Cohen (Lincoln: University of Nebraska Press, 1998). William James noted in 1879 the satisfaction of connecting propositions in “The Sentiment of Rationality” and in 1890 closed his *Principles of Psychology* with “Necessary Truths and the Effects of Experience,” both in *The Writings of William James*, ed. John McDermott (New York: Random House, 1967). Two years later, Peirce adjusted the argument for a probabilistic world in “The Doctrine of Necessity Examined,” in Peirce, *Chance, Love, and Logic*. Dewey responded with “a different,” temporally loaded, and more radical turn in “Superstition.” For appreciations, see Ralph W. Sleeper, *The Necessity of Pragmatism* (New Haven, Conn.: Yale University Press, 1986); and Tom Burke, *Dewey's New Logic* (Chicago: University of Chicago Press, 1994).

3. “All propositions are but the propoundings of possible knowledge, not knowledge itself” (*MW* 8, 48); see also *MW* 10, 327.

4. Peter Manicus, “John Dewey and American Psychology,” *Journal for the Theory of Social Behavior* 32, no. 3 (2002): 286.

5. Peter Manicus, “Logic and Necessary Truth,” in *Logic as Philosophy*, ed. Peter Manicas (New York: Van Nostrand Reinhold, 1971), 48.

6. Stephan Körner, “Necessity,” in *Dictionary of the History of Ideas*, vol. 3, ed. Philip Wiener (New York: Charles Scribner's Sons, 1973), 352.

7. John McDermott, *The Drama of Possibility* (New York: Fordham University Press, 2007), 157.

8. Dewey's logic of structure and continuity (neither necessity, nor anything goes, but things connected by context and consequence) reflects Charles Darwin's theory of evolution. Darwin, says Dewey, broke down the "system of rigid taxonomy" (necessity), but did not mean that "all division into related kinds is merely a matter of practical convenience without intrinsic logical meaning." In logic and evolution, things connected by consequence over time is a third and richer choice. Dewey did to logic what Darwin did to biology: both restored "an objective status of classification but on a different basis" (*LW* 12, 295). See also Sleeper, *Necessity of Pragmatism*, 151–2. For the same argument by way of Ludwig Wittgenstein, see Jeff Coulter, "Logic: Ethnomethodology and the Logic of Language," in *Ethnomethodology and the Human Sciences*, ed. Graham Button (Cambridge: Cambridge University Press, 1991), 33.

9. Sleeper, *Necessity of Pragmatism*, 36 (emphasis in original).

10. Bertrand Russell, "Dewey's New Logic," in *The Philosophy of John Dewey*, ed. Arthur Schilpp (New York: Tutor, 1939), 139.

11. Peirce, *Chance, Love, and Logic*, 27–8.

12. Burke, *Dewey's New Logic*, 159 (emphasis in original).

13. "Denial of an inherent relation of mind to truth or fact for its own sake, apart from insight into what the fact or truth exacts of us in behavior and imposes upon us in joy and suffering; and simultaneous affirmation that devotion to fact, to truth, is a necessary moral demand involve no inconsistency" (*LW* 1, 52).

Summer readings with Eric Bredo form the backbone of this essay. He and Dave Waddington offered critical comments. A first draft gave D.C. Phillips a headache.