

A DEWEYAN PERSPECTIVE
ON SCIENCE AND
EDUCATION IN PANDEMIC
TIMES

ORSOLA IERMANO
University of Rome "Tor Vergata"



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The coronavirus pandemic has forced the whole world to deal with the experience of a sudden transformation of everyday life, which in turn has predictably brought to the surface a huge range of problems related to our way of living. Some of these problems are connected to the complex relationship that we usually have with power, science, and truth. At the height of the spread of the virus, we were all subjected to some radical political decisions, such as the suppression of the right to freedom of movement during the lockdown, which were justified by the risk of an imminent catastrophe, at least according to part of the medical community. It is difficult to establish whether the lockdown actually represented the only viable measure for facing the situation. Certainly, it has been an object of controversy among contemporary intellectuals – I am thinking above all of Agamben,¹ who has been criticized by several voices for his opposition to the measures adopted by governments in order to contain the

¹ See: Giorgio Agamben, *A che punto siamo? L'epidemia come politica* (Macerata: Quodlibet, 2020).

infections. It is equally understandable that every political choice is always made on the basis of hypotheses/forecasts and inevitably entails some risks. However, it is also true that “when there is not much time to decide... the best scientific hypotheses available ... will necessarily be incomplete, provisional and divergent.”² The reason why scientific hypotheses related to the pandemic show the same degree of incompleteness is that they have arisen, and continue to arise, from the pandemic itself.

In his theoretical masterpiece *Logic: The Theory of Inquiry* (1938), John Dewey highlighted how the operative tools in any process of inquiry are developed from the process itself, namely within what this American philosopher would define as an “inquiry” (LW 12, 32).³

² Mauro Dorato, Hykel Hosni, and Angelo Vulpiani, “Incertezza e politica.” *Il Manifesto*, May 4, 2020, <https://ilmanifesto.it/incertezza-e-politica/>.” The translation is mine.

³ Citations of John Dewey’s works are to the thirty-seven-volume critical edition published by Southern Illinois University Press under the editorship of Jo Ann Boydston. In-text citations give the series abbreviation followed by volume number, and then the page number. For example: (LW 10, 12) is page 12 of *Art as Experience*, which is published as volume 10 of *The Later Works*. Series abbreviations for *The Collected Works*: EW *The Early*

Indeed, when one is faced with a problem, one designs some strategies to overcome the problem by reasoning about experiences, while processing them over and over, in relation to one's aims, in order to find out which are the most effective. However, one is able to discover the best strategy only if the conditions are suitable for verifying the working hypotheses formulated on reality, and this certainly requires time. According to Dewey's essay *The Sources of a Science of Education* (1929):

Science does not emerge until these various findings are linked up together to form a relatively coherent system – that is, until they reciprocally confirm and illuminate one another, or until each gives the others added meaning. Now this development requires time, and it requires more time in the degree in which the transition from an empirical condition to scientific one is recent and hence imperfect. (LW 5, 10)

Works (1882–98), MW *The Middle Works* (1899–1924), LW *The Later Works* (1925–53).

Dewey's words appear decidedly appropriate in this moment, which we could rightly define as one of "transition." The search for certainties that common sense has obsessively conducted in an illusory attempt to bridge the abyss generated by the fear of death is therefore quite senseless. The impossibility of such a task becomes evident simply by looking at new phenomena. By borrowing the words of Peirce, whose teaching was of great inspiration to Dewey, as he himself explains in *Logic*, we could argue that "there are three things to which we can never hope to attain by reasoning, namely, absolute certainty, absolute exactitude, absolute universality."⁴

I therefore agree with those who claim that it would be appropriate to train ourselves to adequately weigh hypotheses and forecasts, as well as to tone down our hopes and rash enthusiasm with regard to alleged imminent transformations of the way we inhabit the planet following

⁴ Charles Santiago Sanders Peirce, *Pragmatism and Scientific Metaphysics*, The Collected Papers of Charles Sanders Peirce, vol. 5-6, eds. Charles Hartshorne and Paul Weiss (Cambridge, MA: The Belknap Press of Harvard University Press, 1935), 265. On Dewey's recognition of his indebtedness toward Peirce, see: (LW 12, 3-5 and 17-20, specifically 17 n. 1).

the coronavirus experience.⁵ A change of lifestyle would require a reflection on experience of a sort that is quite inconceivable for common sense, except in the radical perspective of a complete renewal of the logic governing human-environment interactions. But a renewal of this kind could never come about simply by introducing sudden changes to established habits from the top down. It is no coincidence that, when we are faced with the emergence of an unknown problem and of the need to adapt to the new situation (such as the coronavirus pandemic), what prevailed was actually blind chaos. On the one hand, the emergency triggered a race for the formulation of often divergent scientific hypotheses, which generated a feeling of anguish due to the uncertainty of the situation and, in some cases, a certain mistrust in medical science. It must be noted, however, that the latter has allowed public opinion to approve decidedly fanciful and sometimes even surreal

⁵ On the topic of hope and of its connection to possible post-pandemic scenarios, I refer to: Carlo Cappa, "Epidemie, ovvero per un senso della misura." *Filosofia in movimento*, March 29, 2020, <http://filosofiainmovimento.it/epidemie-ovvero-per-un-senso-della-misura/>.

theories that, in turn, have in some cases led individuals to embrace uncritical forms of denialism. This has even resulted in disturbing hunts for plague-spreaders, bringing back to life terrible ghosts from our past. What has been obsessively requested from science is a guarantee that science cannot provide. But if people continue to make such a request, it is because there is a general misunderstanding as to what “science” is – and this is hardly a new phenomenon.

In *The Sources of a Science of Education*, with reference to the way common sense understands science, Dewey writes:

Science is of value because it puts a stamp of final approval upon this and that specific procedure. It is very easy for science to be regarded as a guarantee that goes with the sale of goods rather than as a light to the eyes and a lamp to the feet. It is prized for its prestige value rather than as an organ of personal illumination and liberation. It is prized because it is thought to give unquestionable authenticity and

authority to a specific procedure to be carried out.
(LW 5 and 7)

In this specific case, Dewey was certainly referring to procedures to be implemented in the classroom, which in his opinion young teachers tend to face with the attitude of those looking for ready-to-use recipes, owing to their fear of making a mistake or ambition to have “the maximum prospect of success” (LW 5 and 7).

Nonetheless, even beyond the educational context in relation to which they were expressed, these words are certainly suitable for describing the attitude that has governed common sense since the beginning of the pandemic and which has been expressed through a quest for guarantees that has inevitably resulted in failure. Now, it is clear that the search for truth characterizes the life experience of every human being; according to Peirce, “every man is fully satisfied that there is such a thing as truth, or he would not ask any question.”⁶ However, probably because it has been blinded by the all-encompassing

⁶ Peirce, *Pragmaticism and Scientific Metaphysics*, 211.

influence of fear, in the rush to quell the generalized anxiety created by the condition of uncertainty common sense has ignored the distinction between truth and certainty during this emergency.

The quest for certainty, or for an incontrovertible truth, is considered by Dewey an error of common sense which, by misunderstanding the relationship between knowledge and action, leads the present back to the past, thus avoiding the acceptance of a reality which is also permeated with uncertainty, instability, and darkness. We read this in his book *The Quest for Certainty* (1929). Dewey here explains the reasons why it is necessary in his opinion to develop a more adequate theory of experience, in order to grasp the complexity of reality: a theory which necessarily takes into account the elements of indeterminacy that characterize reality.

Yet the search for certainties, which are invoked with the aim of reconstructing a horizon defined in the actual and present moment, can be interpreted in a twofold way. On the one hand, it is related to a natural tendency towards relative stability, namely to the need for the kind of balance

necessary to continue daily life. On the other hand, if we look at its consequences, the quest for certainty can be read as a culturally determined and historically situated habit of delegating responsibility by renouncing the critical habit, which in turn coincides with capacity to express autonomous and sensible judgments in relation to the context (LW 8, 130-156 and 279-342). If people have looked with serious interest even at the most extravagant hypotheses, this is probably due to a certain widespread inability to inhabit the uncertainty, which is nevertheless the constitutive modality of the experience of life, as well as a never-ending resource for human development. However, to accept uncertainty is to admit that one is fragile and continually exposed to death. This is difficult to digest, especially in an age like ours in which one is induced to rely on ready-to-use remedies to deal with any kind of problem, as those young teachers of whom Dewey speaks would have preferred to do. But ready-to-use remedies severely impair the creative ability to imagine possibilities that are unexplored in practice, both individually and collectively.

This need for trust – which echoes the patient-doctor or child-parent relationship – has been expressed in exemplary fashion, in my opinion, by the people’s acceptance of the new rules of daily life imposed by governments to prevent the spread of coronavirus: measures that were probably necessary and that correspond to what “had to be done” according to the authorities, who also have the duty to defend citizens’ right to health.⁷ Probably out of necessity – although we cannot be sure – people willingly entrusted the authorities with control over their own bodies. There was also a refusal to disobey: indeed, people decided to adapt unconditionally to the situation in the name of the danger. In accordance with the evolutionary matrix of his thought, however, Dewey reminds us in his *Logic* that “adaptation” is mandatory: “Upon the biological level, organisms have to respond to conditions about them in ways that modify those conditions

⁷ On this topic, see the interesting contribution by Angela Condello: “Post-coronial Studies. Immergersi in un laboratorio normativo,” *Labont – Center for Ontology*, April 29, 2020, <https://labontblog.com/2020/04/29/post-coronial-studies-immersi-in-un-laboratorio-normativo/>.

and relations of organisms to them so as to restore the reciprocal adaptation that is required for the maintenance of life-functions. Human organisms are involved in the same sort of predicament.” (LW 12, 66).

However, the way in which “human organisms” adapt to the environment is mediated by the species-specific characteristics that define them as such. Moreover, owing to its specificity, the human being lives and develops in a naturally cultural environment “since his activities are encompassed in an environment that is culturally transmitted” (L.W., vol. 12, 49). This means that humans experience the world through a series of filters (“customs, traditions, occupations, interests and purposes”: LW 12, 66), which co-determine the pragmatic response to the problems that arise in experience, namely a response mediated and expressed by and in linguistic communication.

The world experienced by human animals is defined by Dewey as “common sense.” Now, “common sense” manifests its particular logic during the inquiry of problems, which in turn are qualified as “problems” through language. The logic that prevailed with the acceptance of the rules

imposed by governments during the coronavirus emergency seems to me to coincide with the choice to decline any responsibility for the health of the body, of society, and of the planet, and to entrust this responsibility to the authorities (whose decisions were actually based on nothing more than mere hypotheses), in order to at least save ourselves. The fear of death essentially acted as an inadequately treated “impulse.” As Dewey teaches us in *Art as Experience* (1934), an impulse is a “movement of the organism in its entirety” (LW 10, 64). When it is not properly treated, because “it is in a hurry” or “it rushes us off our feet,” an impulse “leaves no time for examination, memory and foresight” and narrows “the world down to the directly present” (MW 14, 137),⁸ thus obscuring the general context in which the current problem has gradually developed.

Conversely, it is a desirable educational goal for each human being to provide an adequate treatment of impulses, based on intellectual elaboration, which in turn is informed by a critical and self-correcting logic. The reason for this is

⁸ *Human Nature and Conduction*.

expressed in *The Sources of a Science of Education*: “Preoccupation with attaining some direct end or practical utility, always limits scientific inquiry. For it restricts the field of attention and thought, since we note only those things that are immediately connected with what we want to do or get at the moment” (LW 5, 8).

It is precisely the correctness of logical habits or habits of inquiry that characterize the broad and anti-dogmatic perspective of science, which frees thought. But this can only be understood if we do not bend Dewey’s thought to inadequate interpretations, as it was already pointed out in 1963 by Aldo Visalberghi.⁹ These habits determine the quality of the experience of life in relation to the whole – what Dewey defines as the “living creature” – of which the human animal is part and of which it should also take care.

It follows that a logic of inquiry adequate for an understanding and evaluation of the complex dynamics involved in the situation that has arisen with the virus

⁹ See: Aldo Visalberghi, *John Dewey* (Florence: La nuova Italia, 1963).

would have at least safeguarded us against two useless and harmful illusions. Firstly, it would have cautioned us against the belief that we can “save” ourselves by locking ourselves up in our homes and delegating all responsibility for the health of our body, by relying on impossible guarantees. Secondly, and more importantly, it would have spared us the illusion of being able to avoid a critical engagement with our responsibilities toward the health of the ecosystem of which we are part as organisms and whose vitality we do not cease to damage through our daily choices, starting from the indifference we show toward the actual sustainability of our patterns of consumption. As has been recently highlighted by African philosopher Achille Mbembe, the pandemic has first of all reminded us that we are not the only inhabitants of planet Earth:

We are criss-crossed by fundamental interactions with microbes and viruses and all sorts of vegetal, mineral and organic forces. More accurately, we are partly composed of these other beings. But they also decompose and recompose us. They make and unmake us, starting with our bodies, our

environments and our ways of living. The pandemic has revealed not just the complexity and fragility of the structure and content of human civilizations, but the vulnerability of life itself, in all its anarchy and diversity – from the bodies that house it and the breath that diffuses it, to the nourishment without which it would wither away. This fundamental vulnerability is the very essence of humanity.¹⁰

However, we share our evident “vulnerability” with every other being that contributes to the general breath of the living creature. And yet, owing to what Dewey calls “compartmentalization” in *Art as Experience*, namely activity motivated by the purpose of disguising the disorder that always exists in human affairs (LW 10, 26-27), we are somehow prevented from having a clear vision of the unity of the whole.

Still, there are two exceptions to this: the enjoyment of the communicative experience of art, which according to

¹⁰ Achille Mbembe, “The Weight of Life: On the Economy of Human Lives,” *Eurozine*, July 6, 2020, <https://www.eurozine.com/the-weight-of-life/>.

Dewey always arises as a critique of the fracture between the real world and the ideal world, and the dimension of care, which – it is reasonable to assume – originates from the kind of educational reconstruction that operates through the education of thought.¹¹ John Dewey's philosophy is still an inexhaustible source of inspiration, particularly for the kind of pedagogical reflection which affords the possibility to launch educational projects that can have a virtuous impact on the development of society, by operating from the ground up. Significantly, one of Dewey's most important philosophical efforts is precisely his suggested reform of logic. This fits perfectly with the vision of a radically transformative process affecting society and culture, such as democratization. As rightly pointed out by distinguished scholars of Dewey's work,¹² the democracy envisaged by the American philosopher must be understood as a way of life

¹¹ See the contributions in: Nando Filograsso and Roberto Travaglini, eds., *Dewey e l'educazione della mente* (Rome: Franco Angeli, 2004).

¹² I am referring in particular to Larry Hickman and Giuseppe Spadafora, who in their studies have sought to emphasize how the idea of democracy as a regulatory ideal of social development permeates Dewey's pedagogy both as a means and as an end (see notes 13 and 14 below).

toward which we should strive, rather than as an exportable political and institutional model, or a habit, or – we might say – a rule perpetually at work in everyday life, in the individual-society relationship and the organism-environment one.¹³ As is known, a vision of democracy like the one envisaged by Dewey could not ignore the necessity to restructure education in a way that would allow it to regain its transformative role with respect to human thought, in conformity with the pragmatist matrix of Deweyan instrumentalism. Indeed, it is precisely the education of thought that represents the goal to aim for in order to lead society and culture toward democratic progress.

¹³ For an in-depth study on democracy as a way of life and on the possibilities of forging it in education, see Dewey's treatise *Democracy and Education* (MW 9, *passim*), together with the following works: Giuseppe Spadafora, *John Dewey. Una nuova democrazia per il XXI secolo* (Roma: Anicia, 2003); Teodora Pezzano, "La scuola laboratorio di Dewey: la sperimentazione dell'individuo per la democrazia," *Nuova Secondaria Ricerca* 2 (October 2013): 75-80; Giuseppe Spadafora, "Democracy and Education di John Dewey. Il senso e le possibilità della democrazia," in AAVV, *John Dewey e la pedagogia democratica del '900*, eds. Massimiliano Fiorucci and Gennaro Lopez, 59-76 (Rome: RomaTre Press, 2017).

During the development of his pedagogical contribution to the history of human civilization, Dewey was therefore reflecting on the possibilities in terms of social development connected with the virtuous development of heuristic abilities, since inquiry is the mode of action of the evolutionary instrument of thought. As Dewey intended to show in his *Logic*, inquiry is the constitutive mode of living for the human being, it is functional to life. Indeed, the behavioral models that are at work in human beings' relationship with the environment, and without which life would be impossible,¹⁴ arise always from an inquiry. Dewey points out that these models – that Hickman would define as the “technologies” operating in transactions with the environment¹⁵ – are the result of an “effective integrated interaction of organic-environing energies” (LW 12, 39), and therefore their constant and progressive advancement could have been the keystone in the process of democratization of society and culture. The focus must thus

¹⁴ “Since life is impossible without ways of action sufficiently general to be properly named habits” (LW 12, 19).

¹⁵ See: Larry Hickman, *John Dewey's Pragmatic Technology* (Bloomington-Indianapolis: Indiana University Press, 1990).

be on habits of inquiry, in order to awaken people's consciousness to the recognition of the inexorable unity of the living creature. Indeed, according to Dewey's continuism, "what exists co-exists" seamlessly, as it is written in the *Logic* (LW 12, 220). Since habits of inquiry are functional to keeping the subject-world relationship in balance, which in turn is an intellectual distinction that is not admissible in ontological terms, they radically permeate experience. It follows that the American philosopher's mature interest was at that time focusing on the idea of a reform of logic capable of engaging with the real processes of thought. Dewey's logic takes into account the psychological factors that permeate these very processes.

One of the fundamental purposes of education – as Dewey already clearly suggests in *My Pedagogic Creed* (1897) – is to take care of the process of formation of habits, since these correspond to certain social functions.¹⁶ As is widely known, the Deweyan theory of habits is indebted to

¹⁶ (EW 5, 84-95, specifically 86): "These... habits must be continually interpreted... they must be translated into terms of their social equivalents – into terms of what they are capable of in the way of social service."

William James's psychology¹⁷ and to Peirce's reflection. From the latter, in particular from its specific attention to the development of logic, Dewey draws the most relevant feature of his thought: the inseparability between social reform and logical reform. Both Dewey and Peirce think that common sense is vitiated by a manifest tendency to neglect the teachings of modern science and to misunderstand their meaning. And this has real effects, or practical consequences. According to Dewey, science is the awareness of the logical implications of all knowledge (see: LW 5, 2-13);¹⁸ hence, it is this very lack of awareness that hinders the development of society and culture: a development imaginable only within the context of the shared construction of a democratic process. Indeed, it is the method of intelligence that informs the dynamics of the latter. In other words, according to Dewey's views, the intellectual tools which are appropriate to democracy must

¹⁷ See: William James, *The Principles of Psychology* (London: David de Angelis, 2017).

¹⁸ *The Sources of a Science of Education*.

be forged through education, since it is a real-life experience and a testing ground of theories.

As highlighted by the philosopher Matthew Lipman, creator of the “P4C” practice, education can even be called in Deweyan terms a “laboratory for rationality.”¹⁹ Dewey writes that rationality is “an affair of the relation of means and consequences... and it is reasonable to search for and select the means that will, with maximum probability, yield the consequences which are intended” (LW 12, 17). Therefore, it is a capacity that derives from the intelligent ability to negotiate solutions to common problems that welcome the contribution of everyone within a community (or better, within a linguistic community). In Dewey’s *Logic*, the ideal end of inquiry as a social practice is called “warranted assertibility” (LW 12, 17 and 24): it coincides with that temporary haven which contains the wealth of the world, for it is a shared belief and is guaranteed as the result of valid procedures, tested via subsequent inquiries. It is a

¹⁹ “P4C” stands for *Philosophy for Children/Community*. It is an educational movement founded by Lipman in the 1970s. On the topic, see: Matthew Lipman, *Thinking in Education* (Cambridge, UK: Cambridge University Press, 2003), especially 22.

responsible effort aimed at improving the current conditions of individuals, societies and cultures. In this sense, the aspiration for the “warranted assertibility” is a form of care that never ceases to operate, despite our awareness of the fragility of existence.

The socially shared ambition toward the judgement of “warranted assertibility” would be the result of the community adherence to the “method of intelligence”: a habit of thought that would reconnect real forms of citizenship to ideal ones. Inspired by Peirce, who believed that the aim of inquiry is to provide ever new material for future inquirers, since “we ought to construct our theories... by leaving room for the modifications that cannot be foreseen but which are pretty sure to prove needful,”²⁰ Dewey is convinced that the moral task of society as a whole is to put pupils in the most favorable conditions for the development of correct habits of inquiry, precisely in relation to the good, beauty, and truth. He thus believes that we must train educators, who select carefully objects or

²⁰ Peirce, *Pragmatism and Scientific Metaphysics*, 376.

practices that attract attention and orient desire, since this is “the forward urge of living creatures” (MW 14, 172).²¹

It is at school, then, that the world begins to change, since school is the founding institution of society, the one which, in Dewey’s view, determines its characteristics in one sense or another. Therefore, education must be everyone’s concern, and only this is related to moral conduct (See: MW 14, 172).²² It is necessary to trigger a virtuous circle in the educational context that, through the development of interests,²³ leads people to desire the good of the individual, of the community, and of the environment in which life necessarily takes place. This also means aiming for the possession of a wider set of tools suitable for that purpose; above all, it entails the ability to express the potential of thought in the best possible way, which in Dewey’s view can be achieved by having the logic

²¹ *Human Nature and Conduct*.

²² “Habits as Social Functions” in *Human Nature and Conduct*.

²³ For an in-depth study on the concept of interest and in support of a theory of interest in Dewey’s work, see: Matteo Santarelli, *La vita interessata. Una proposta teorica a partire da John Dewey* (Macerata: Quodlibet, 2019).

underlying social action conform to the experimental model of modern science. The Deweyan perspective makes controlled inquiry, whose procedures are tested by a community, the highest model of human development,²⁴ by recovering the implicit political dimension and the existential direction that logic already had in Pierce's reflection, according to which:

Logicality inexorably requires that our interests shall not be limited. They 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. It must reach, however vaguely, beyond this geological epoch, beyond all bounds. He who would not sacrifice his own soul to save the whole world, is, as it seems to me, illogical in all his inferences, collectively. Logic is rooted in the social principle... It interests me to notice that these three sentiments seem to be pretty

²⁴ On the idea that inquiry is a model for human development, see: Maura Striano, *Per una teoria educativa dell'indagine* (Lecce: Pensa Multimedia, 2019).

much the same as that famous trio of Charity, Faith, and Hope, which, in the estimation of St. Paul, are the finest and greatest of spiritual gifts.²⁵

It is clear that Dewey (who was trained in Peirce's school of "logical socialism")²⁶ never failed to highlight the social framework and the practical-existential aims of inquiry. He thus based his model on the educational ideal of the scientific community of inquiry, while insisting on the value of science as a source of enlightenment and liberation for human action. This original and positive vision of science is the distinctive trait of Dewey's approach to the designing of educational practices. Moreover, it is a vision that, as we have seen, is decidedly far from the idea of science as a mere tool of domination, an idea that is given much credit within our cultural tradition, and which is also traditionally linked

²⁵ Charles Santiago Sanders Peirce, *Principles of Philosophy and Elements of Logic*, The Collected Papers of Charles Sanders Peirce, vol. 1-2, eds. Charles Hartshorne and Paul Weiss (Cambridge, MA: The Belknap Press of Harvard University Press, 1932), 654-655.

²⁶ See: Carlo Sini, "Attualità del socialismo logico di Peirce." *Cultura e scuola* 70, no. 2 (April-June 1979): 129-139.

to the perspective that science is both benevolent and malevolent. Through science, we can dominate nature, but we can also be dominated by power. It is also true that every new discovery can be transformed into an instrument of either good or evil. The recent pandemic has reawakened such beliefs in people's consciousness. But the kind of science conceived by Dewey is rather suited to reconstructing the unity of experience mentioned above, through its methods of inquiry based on the care of the vitality of the whole. Both as a means and as an end, the category of care is at the center of the pedagogical domain and derives its contemporary meaning from its ability to interweave the insights about care offered by the various human sciences.²⁷ In this sense, it informs the training process and it gradually shatters the rhetoric of the inevitable end of the world. Its effects are extended to life as a whole, insofar as it is responsible for the vital relationship that we maintain with each part of the whole as organisms

²⁷ On the pedagogical notion of care, see: Franco Cambi, *La cura di sé come processo formativo* (Rome and Bari: Laterza, 2010).

and according to which every choice made has consequences
on the whole process of development.