

classified them into practices of different types, and have made it difficult to understand the history of philosophy. The theory of the subject recognizing through practices has equated the "idea of total and universal practice" with logic; it has driven the theory of practice (the socio-morphism or dogmatism of "historical materialism") to the extreme and has made an eclectic mixture of it and the reflection theory of knowledge. Strangely, it insists that empirical knowledge and science that come from the most direct reflection of objects have no logic themselves. Logic or logical thought should not be turned into an independent entity, taken as a general world view, separated from each concrete knowledge or technology of thought, or reduced to the specific elements within the subject who recognizes through practices. Theoretical thought is, in essence, the form of empirical science itself, elements of thought in science, or elements of thought that grasp sensuous data as empirical science. Logic plays the most significant role in the empirical science of nature and history, and even the perception of the most direct objects already has, in this sense, some element of thought. Objects appearing in other forms are nothing but the products of interpretation, abstraction, and derivation.

Critical advocates of natural scientific materialism, who acknowledge objective being as object of recognition and absolute truth, emphasize the "most universal practice" as subjective activity facing this objective being beside conventional practice and observation, analysis and synthesis, hypothesis and deduction. They argue that natural science can develop in the right direction under this "most universal practice" or logic of the materialistic dialectic as the most universal generalization. Facing such arguments, I must point out that the object of natural science is nothing but the reality or the sensuous world, mediated by human practices as a whole to human beings. We cannot have any object as the object of activity that is not given to our sensuousness. We, even as simple human labor in general, have objects given to our sensuousness upon which to act. Sensuousness develops only as a product of human activities, but that does not mean that we consciously act on the outside of human activity or the "being" outside of our sensuousness; rather, our intentional activities mediate objects from our intentions to our sensuousness. Objects outside human activity only possibly exist and are not objects of our sensuousness, sensuous activities, and practice. Our intentional sensuous activity acts only on objects as realistic beings, and possible beings become realistic and appear in the relations of realistic being by our acting on them, which is the only way for possibility to become inevitability. We cannot argue about the inevitability of events and beings that have never engaged our sensuousness. The inevitability of events and being can be confirmed only if the change in objective reality (all changes of human practices, including scientific experiment and observation) are realized as forecasted by this possibility (or inference in accordance with known inevitability). Natural science will grasp the inevitable relations in nature. Although natural scientific objects are realistic and sensuous beings or the products of human practices, natural science treats them as separated from human practices. Practical disinterest mediates its objects to itself. If such mediation is also empirically investigated, natural science could be at the same time social science or historical science. The object of natural science is nature, not the practices that act on natural science and mediate its

objects to it. Most natural scientists have many reasons to dismiss all the historical practices of human beings, to think solely of the practices of researchers (experiments, observations, and deductions), and to conclude that only their own practices can develop science. However, their experiments and observations, and even more, the objects of experiments and observations, are actually the products and elements of sensuous activities of all human beings. The scientific presumption of natural scientists can develop only by means of the inclusion of given and confirmed objects, and is, therefore, restricted by the stages of sensuous activity.

Researchers in real society are not like naïve students. They truly know that their practices are founded on the whole of social practices: they grasp the fact that national budgets, the support or non-support of researchers, business fluctuations, cabinet policies, and social convulsions directly affect their research. What they do not know is to conceive of objects as practices. The restrictions that these practices place on the subjects of researchers are only a part of the overall framework; the restrictions of practices (the totality of human society) limit the objects of natural science, and the development of these practices is reflected in the subjective activities of researchers. This ignorance of researchers permits them to be absorbed in research that is relatively independent of the real world. However, this is no disadvantage for natural science, but an advantage. A natural scientist that has leaned historical materialism, stopped separating objects from practices, grasped objects as objective and absolute, and conceived of them as practices in reality and in sensuousness practice would comprehend every practice as an object and alter the perception of society and the real world. He would change his view of natural scientific recognition. The fact that he would materialistically reach the innermost essence of natural science does not change the quality of empirical and positive recognition of natural science and does not add anything to natural science itself. Advocates of “the practical copy theory of knowledge,” who see practices not in objects but only in the recognizing subject, create practices (or contexts of the real world) that are reflected abstractly in the subjects of natural scientists and the idea of “the most universal and general practice” that gives natural science “the most universal and correct logic.” However, the problem is not the orientation of the recognizing subject. If we changed the recognizing subject, objective reality would never change. Only changed objects can alter reality and the consciousness of researchers. The theory of practicing, recognizing subjects acknowledges objects beyond practices in objective form and concentrates solely on changing consciousness. In this case, where does natural science find its objects in research, if “the most universal and general practice” is only an idea and differs from realistic, universal, and total practice, or the whole practice of previous and present human beings? How can natural scientists use “the most universal and correct logic” whose realistic validity is impossible to prove and that remains a pure idea?

Natural scientists will accept a variety of philosophical thoughts, since they are not aware of the essence of the recognition process unique to natural science. The person who knows the nature of his research objects and theoretical thoughts needs no more “philosophy.” In the era of imperialism, natural science is affected inevitably by transcendentalism or empirio-criticism, from which only the

proletariat with anti-imperialistic practices can, some says imaginarily, be exempt. Lenin's view that empirio-criticism is "only a temporary euphoria" or a growing pain is worthy of careful consideration. Natural science has its own quality that must be protected. It is empirical and positive recognition and the mediation of reality to thought. To advocate natural scientific materialism means to stick to this quality, to gain from it, and to remove every attempt to impose idealistic aspects on natural scientific arguments that displace them from realistic objects, practices, and sensuousness.

I do not at all deny the party-identity or class-identity of knowledge. However, the empirical sciences of nature and history employ the restrictions of class-identity and party-identity, though they are limited already by historical human practices as a whole. The sciences are proficient in grasping class and party objectively and realistically in the historical development of a whole sensuous world. The truth is the very positive and empirical science, i.e., materialism. If materialism has class-identity, it is because it can conceive of human activity as objective; it knows the significance of practical critical activity; and it is associated with a social group that can emancipate itself only through a practical critique of objective reality. I would like, in the long run, to see the end of the activities of those who make practices and objective activities abstract and idealized, equate the significance of practical activities with recognition or interpretation, and want to "lead" empirical scientific recognition "critically." I once expressed my wish that the nonsense of the "sense of class" of the pseudo-leftist "modern philosophers" was not the expression of "their classness." I wish this was an excessive worry. Modern philosophy is not the idealistic representative of nature and the ideality of study; however, it is the idealistic representative of practice, history, and human existence. I sincerely wish the philosophy of "subject recognizing through practices" would never become a notion of only the leftist-opposition to idealist modern philosophy. Materialists must, as they should, conceive objects, reality, and sensuousness as products of human practices, and human practices as object, reality, and sensuousness by which to develop an empirical and positive science that grasps nature and human beings as realistic objects. We must overcome modern philosophy from the standpoint of materialism or science. We do not oppose modern philosophy as "philosophy," but we set realistic human practices and the objective grasp of practices (the eighth thesis) against idealism or a variety of ideologies that do not acknowledge reality as it is.

### Additional statement

I have made an effort to argue faithfully, realistically, and analytically rather than declaratively or excitedly; however, my readers will determine if I have achieved my goals. Lukacs' viewpoint, which I refer to in this article, means nothing but "the standpoint that the realistic recognition of objects is possible only by meditation of self-interpretational, self-reflective human beings or classes and that consciousness should be methodologically sophisticated or the cause of recognition"; therefore "the standpoint that objects and objective activities are not conceived as they are and the principles of the

recognition process that recognize them as they are not understood. Lukacs presents other arguments, but they are not presented here. Thus, Lukacs' viewpoint is provided in the above explanation. "The viewpoint which does not permit the dialectic of nature itself" is only a one-sided characterization of Lukacs' previous argument. Those who emphasize this side of Lukacs' arguments—such as the Deborin school—relative to the natural dialectic are materialists who are still caught in intuition.

Second, if I point out the similarity of some arguments with those of Lukacs, the labeling of the former is not my concern. When I analyze arguments, it is important for me, whether they are idealistic or not, that they grasp objective reality as it is. I wish to eschew meaningless labeling in my use of Lukacs.

Some could take from this article the impression of the "denial of the acknowledgment of nature itself." However, please remember that the recognition founded by practices is materialistic recognition, which develops in accordance with sensuousness and experience (nature independent of the human or human practices independent of human consciousness) and yields objective products. The acknowledgement of consciousness in a development stage or process and principle of consciousness are different from the acknowledgement of objective being, and theory begins always after development and with its products.

#### Afterword by the translator

Tadashi Kato (1906–1949) was an influential Japanese Marxist philosopher, who was mostly active before the Second World War. He was the Japanese translator of Friedrich Dannemann's *Die Naturwissenschaften in ihrer Entwicklung und in ihrem Zusammenhänge* and Friedrich Engels' *Dialektik der Natur*. Most of his articles are contained in his three-volume collected works.<sup>51)</sup>

In this translated article, he explains Marx's First Thesis on Feuerbach and argues the difference between materialism and idealism. According to him, idealism deals with the complete logically possible world, but materialism conceives of the realistic objective world as human practice. This comparison of the possible world and realistic world itself is very popular.

We have, for example, the flame problem of AI (artificial intelligence): AI must decide to work in a mathematically and logically complete world, which is an unlimited possible world, but it cannot calculate and simulate all the possibilities in the restricted time allotted to carry out its works.<sup>52)</sup> This kind of argument has something to do with the philosophy of science's elemental criticism of the inductive method of natural science.<sup>53)</sup>

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51) *Kato Tadashi Chosakushu [Collected Works of Tadashi Kato]*, Vol. 1-3, Nagoya: Unite, 1989-1991.

52) Cf. Denett, Daniel C. (1990) *Cognitive Wheels: the Frame Problem of AI*, in: *The Philosophy of Artificial Intelligence*, New York: Oxford Univ. Press (ed. by Margaret A. Boden).

53) Cf. Okasha, Samir, (2002) *Philosophy of Science: A Very Short Introduction*, New York: Oxford Univ. Press.

Moreover, we can go back to the time of ancient Greece for the origin of this comparison. Plato argued that the true world is not the sensuous world in permanent variation, but the world of Ideas, which can be grasped by human reason and endures permanently beyond time and space. For him, the real sensuous world is a mere copy or icon of the world of Ideas.<sup>54)</sup> On the contrary, Aristotle denied the world of ideas, which exists elsewhere than the real sensuous world and pointed out the difficulties of Plato's theory.

Aristotle utilized the concepts of *energeia* and *dynamis* to overcome these difficulties and to understand the relations of form and matter from a different viewpoint. According to him, all things, regardless of whether natural or artificial, move to realize their forms, to actualize themselves (*energeia*), or to attain their fundamental essences. His view of the world is teleological, where all things are energized to actualize their telos of existence (the world of self-actualization).

However, we have now another means to argue about the beings of the sensuous world and permanent variation without depending on the superiority of form to matter or on teleology as in Aristotle. One of the most important results of recent developments in cognitive sciences is that the relations between human innate endowments and *a posteriori* expressions can be explained non-teleologically. For example, evolutionary psychologists use the concept of modularity of mind: a mind may, at least in part, be composed of innate neural structures or modules that have distinct established evolutionarily developed functions. Human beings have not learned language *a priori* as instinct, but they have modules of mind that develop in some, but not all, social relations into the ability to command language.<sup>55)</sup> They have a kind of plasticity that makes the human itself variable in their intercourse with society and other environmental relations; they learn through the environment and this intercourse.

Because of the development of information technology, which has learned from contemporary cognitive sciences, AI today has the ability to overcome the flame problem. It can correct its innate models and parameters through newly collected data, which has been made possible by significant advancements in computer performance, the use of big data, machine learning, data assimilation, and so on. AI can have mutual relations with the real sensuous world in this way, employ it to decide among actions, and contribute to our society (smart city or smarter planet).<sup>56)</sup>

Marx's critique of economics provides good examples of the substitution of form with social relations and enables us to understand the sensuous world as human practice and deny the necessity of the

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54) A compact explanation of the origin of such argument is Martin Gottfried (1961) *An Introduction to General Metaphysics*, London et al: George Allen & Unwin.

55) Tomasello, Michael (1995) 'Language is Not an Instinct,' *Cognitive Development*, 10, pp. 131-156.

56) Viktor Mayer-Schonberger and Kenneth Cukier (2013) *Big Data: A Revolution That Will Transform How We Live, Work, and Think*, John Murray Publishers; Pat Bates, Mike Biere, Alan Meyer, Bill Wong, Rex Wiederanders (2009) *New Intelligence for a Smarter Planet: Driving Business Innovation With IBM Analytic Solutions*, Lewisville (TX) : MC Press.

possible world.<sup>57)</sup> Moreover, from this viewpoint, we can better understand the significance of Marx's criticism of economics and Engels' end of philosophy.

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57) Shibata, Hideki. 2012. "Fetishism of Commodities and the Forms of Value," in *Journal of Economics* (Chuo-University). Vol. 52, No. 5 & 6, pp. 31-43; Shibata, Hideki. 2013. "Money and Class: A Reexamination of the Class Struggle in Marx," in *Journal of Economics* (Chuo-University). Vol. 53, No. 2, pp. 1-15.