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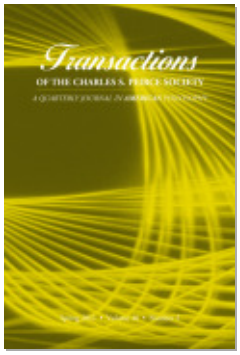

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Herbert Marcuse's "Review of John Dewey's Logic: The Theory of Inquiry"[1]

Phillip Deen, translator

Dewey's book is the first systematic attempt at a pragmatistic logic (since the work of Peirce). Because of the ambiguity of the concept of pragmatism, the author rejects the concept in general. But, if one interprets pragmatism correctly, then this book is 'through and through Pragmatistic'. What he understands as 'correct' will become clear in the following account.

The book takes its subject matter far beyond the traditional works on logic. It is a material logic first in the sense that the matter of logic (the 'objects', that with which logical thought has to do) is thoroughly included in the cycle of investigation, and logical 'forms' are discussed only in their constitutional connection with this material. Furthermore, logic is treated in conjunction with the development of the natural sciences, and to a lesser extent the social sciences as well. There are chapters on biology, culture, mathematics, and sociology. On the other hand, in stark contrast to the European tradition, it lacks a discussion with the history of western logic (apart from Aristotle's); transcendental logic remains unconsidered, Hegel does not appear, nor Husserl's attempt at a new foundation of logic.

Such a position is grounded in the essence of the logic itself. The starting point and overall level of the problem's treatment is such that a bridge to the European tradition is hardly built. As Dewey once formulates it when he addresses the basic problem of epistemology: the relationship of the concept's content to actuality is presented as a non-existent problem. These questions are, for him, not questions at all. They cannot appear in the consequent pragmatistic investigation.

Dewey holds together the principles of his logic in the following manner:

> 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 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 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[LW 12:11–12].[2]

These logical forms arise 'in operations of inquiry', 'inquiry' is their '*causa essendi*'. There are no unchangeable, universally valid and fundamental propositions or categories; the 'rationality' of logic is exclusively a concern of the relationship of 'means and consequences'. The fundamental propositions "state habits operative in every inference that tends to yield conclusions that are stable and productive in further inquiries" (LW 12:19). Their validity is based on the "coherency of the consequences produced by the habits that they articulate" (LW 12:20). Categories obtain their universality and universal validity as a result of operations, by which it is established that the determined qualities combined under a concept in praxis (many different things to one "type") yields useful consequences. "Modes of active response" (LW 12:257) are the ground of the universality of logical forms. As we will see later, 'praxis' (actions, modes of operation) for Dewey means fundamentally the praxis of science (inquiry) or is characterized according to the model of scientific praxis, once everything has been done in order to adjust scientific praxis to, on the one hand, everyday experience that lies in front of us (the world of 'common sense') and, on the other hand, to societal praxis.

Following these theses that logical forms, as the basic principles of inquiry, arise from the research[3] itself, remain referred to the sense of the research, and—just as much as their 'subject-matter'—alter themselves with the research, the 'components' of logical thought are then treated. The necessary discussion with Aristotelian logic consists essentially in reference to its historical embeddedness. The progress of science, the overcoming of the doctrine of the epistemological priority of the unchangeable and unmoved and of the substantial Forms, makes the thoroughly ontological logic of Aristotle useless. It was, corresponding to the class structure of Greek society, a logic of 'rational discourse'; its concepts were isolated "from the operations by means of which meanings originate, function and are tested" (LW 12:64). The endeavor to retain the forms of Aristotelian logic, when their material conditions ceased to exist a long time ago, is for Dewey the main reason for the empty formalization of logic.

From the functional idea of logic as a manifold of propositions and concepts representing the conditions of research, the following general determinations come to light:

1) Logic is a 'progressive' discipline that changes itself with the progress of research and not a final, self-enclosed system.
2) Logical forms have the character of postulates insofar as they formulate conditions which the research must fulfill in order to be able to lead to well-grounded results. In this sense alone logical forms may also be called a priori: as a contract regulates certain social undertakings in advance, so logic regulates scientific research enterprises in advance.
3) Logic is a 'naturalistic' theory insofar as there is a continuity between the natural (physical and biological) and the scientific types of human behavior. All of these kinds of behavior signify constant adaptation of the means to the ends to be achieved. But since man is 'naturally' a social organism,
4) Logic is at the same time a 'societal' theory. Research is conditioned by the total 'culture' of a time. Its basic principles and concepts cannot be separated from its conditioning.

The natural ('biological') and social ('cultural') conditioning of logic is examined next. The subject of research is never an isolated I, consciousness, or spirit. Rather, it is a living organism with 'natural' actions and reactions to and on its environment. The transition from animal to human behavior is determined essentially by the development of language. In connection with the ruling moral customs, habits, and institutions, language contributes decisively to the construction of rationality, objectivity and ('relative') universality of logic. It is first the universality of language which compels the individuals to work from a standpoint that is no longer an 'individual' one, but rather a 'common' one and that can lead to identical results for everyone.

The main part of the logical investigation begins with an analysis of the structure of research and the construction of judgment. Thought (in the logically relevant sense) means nothing but the means and ways by which men engage in research at a given time. Inquiry is "the controlled and directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations so as to convert the elements of an original situation into a unified whole" (LW 12:108). The transformation of an indeterminate situation into an adequately determined one happens through 'operations' which are oriented (since they consist in actions in which technique and the 'organs' of observation work together) to an essential part of 'existential' nature and genuinely change the present situation. This intervention of logic into factical alteration of the world is strongly emphasized by Dewey. Ideas present themselves as possible solutions. They are anticipations

of what will happen when certain undertakings are carried out under certain conditions. Ideas are to be so defined only functionally in regard to certain problematic constellations of facts. For their part, facts are adopted in the logic only as 'operational facts'. Only if these facts are organizable among themselves in a continuum of research can they serve as a 'test' for ideas and possess the character of evidence.

A judgment is the "settled outcome of inquiry" (LW 12:123). As such, it is delimited from 'proposition' (a delimitation which is not clearly maintained in the progress of the investigation): the judgment always has a direct 'existential' meaning, 'everything that exists in the judgment and for the judgment is spatio-temporal'. The judgment is essentially 'individual', since it always decides about a determinate existent situation, while the proposition is either universal, individual, or particular and can only be existentially referred to mediately through 'symbols'. The model for the judgment in the defined sense is the judgment of the court which determines (settles) a controversial case. There follows a discussion of the traditional 'components' of the judgment; subject, predicate, copula. First is the destruction of the concept of 'substance'—since Aristotle the given ontological subject of judgments. Substance is not ontological, but rather a merely logical determination. An object can be appealed to as substance if, on the basis of a number of operations, a multiplicity of coherent qualities has proven itself as usable, that is, it can be put to use as a unified whole. Such a multiplicity of coherent qualities that represent, for example, a chair or a meteor, "constitute in their ordered conjunction with one another valid signs of what will ensue when certain operations are performed. An object, in other words, is a set of qualities treated as potentialities for specific existential qualities" (LW 12:132). The predicate means the proposed possible solution of a given problem (determination of a still undetermined 'situation'). For example, if one judges of an object (sugar): 'that is sweet', it is also anticipated that when this object is put in fluid, the fluid becomes sweet.

Finally, the copula represents the actual execution of the constitution of the subject in a now well-grounded and determined 'situation'. Through this, the judgment is 'accomplished' in a strictly temporal sense. It comes to light as the result of a series of operations (partial judgments) according to the following model: any existing (and for the prevailing context of 'inquiry' not satisfactorily determined) facts of the case should become resolved as something determinate. Certain possible solutions (predications) are yielded out of this general ('cultural') and particular situation in which the research takes place. They will be 'tried out' and weighed against one another. If one of these possible solutions shows itself as one that determines the facts of the case in a way that is adequate for the goal of the research, the judgment is complete.

Such interpretation of judgments requires the determination of judgments to be strictly temporal. The 'is' of the copula always means

an 'is now' (in contrast to the 'is' in the proposition which establishes a non-temporal, purely logical relationship). 'This is red' says: this is red now, under these given circumstances, in this present situation. However, the proposition 'Justice is a virtue' intends a non-temporal relation between two abstractions and, as such, has no 'existential' reference.

We have now the decisive points of Dewey's doctrine for the development of concepts. The characteristics, by which a 'type' is conceptually determined, are selected and determined according to their suitability to allow the progress of research. No 'type' is 'universal' in itself, just as little as any quality is. Universality means exclusively universal usability within the research. "'Common' designates, not qualities, but modes of operation" (LW 12:250). Each concept that fulfills the requirements of such a universality and which therefore represents a 'possible mode of operation' (LW 12:72) can function as a 'category'. A category is the logical equivalent of that which in praxis is denoted as an 'attitude'.

From the theory of propositions let us emphasize only that truth and falsity are not qualities of propositions. Propositions are only mediating steps to reach a judgment within a context of research. They are therefore a means to an end. Means are neither true nor false, rather they are useful or useless. For example: "The syllogism 'all satellites are made of green cheese; the moon is a satellite; therefore the moon is made of green cheese' is formally correct. The propositions involved are, however, invalid, not just because they are 'materially false', but because instead of promoting inquiry they would, if taken and used, retard and mislead it" (LW 12:287–88).

The positive determination of truth in the logical sense is given only in a footnote which quotes Peirce: "Truth is that concordance of an abstract statement with the ideal limit toward which endless investigation would bring scientific belief; which concordance the abstract statement may possess by virtue of the confession of its inaccuracy and one-sidedness, and this confession is an essential ingredient of truth" (LW 12: 343n6). In fact, truth is not the regulative principle of this logic. If each concept and each proposition is what it is only by its function in the continuum of a determined research, then it is not truth, but order, that is the principle which decides the significance of concepts and propositions. The traditional distinction between the concept and its object (form and subject matter)—the foundation of the traditional definition of truth—vanishes, because each object 'is' only through the concepts by which the present research determines the object. Meanwhile concepts, for their part, are 'adapted' to the objective status of the research. Epistemologically formulated: as soon as reality becomes conceptually determined only by its relevant function within a research project, the difference between concept and reality does not exist at all.

The last part of the book, "The Logic of Scientific Method," concerns itself more closely with the relation of 'logical forms' to their object. "Logical forms accrue to subject-matter in virtue of subjection of the latter in inquiry to conditions determined by its end-institution of a warranted conclusion" (LW 12: 370). As legal forms, in the course of historical development, adapt to the changing conditions of societal action and its conflicts, and as new types of conflict evoke new legal forms, so also logical forms develop with the development of scientific research. This determination of the relation of form and matter in logic leads Dewey to a rejection of formalistic theory. Logical forms are never indifferent in regard to their application to a determinate material, so little that this application even constitutes its 'form'.

Given the basic position of Dewey's logic has already been touched on through the debate between pragmatism and positivism (that was presented at another place in this journal)[4] this critique will not be presented here. Let us only indicate a few tendencies that make this position and its criticism particularly clear. Characteristic is the universal leveling out of theory to mere method. It is important that Dewey lays such great value on decreasing the distance between science and everyday praxis, to show that theory does not genuinely do anything other than what everyday praxis—only unmethodically—does as well. 'Inquiry' is really hardly more than 'common sense' extended within the academic. The critical function of theory is restricted to the criticism of existing research methods and conclusions, the necessary consequence of a doctrine for which concepts function only as means of investigation and judgments only settle a context of research. This unbroken continuity which is established between a theory leveled to the work of science and everyday praxis grows into a continuum of 'common sense'. In *Studies in Logical Theory* (1903) Dewey once stated: "This point of view knows no fixed distinction between the empirical value of unreflective life and the most abstract process of rational thought. It knows no fixed gulf between the highest flight of theory and control of the everyday details of practical construction and behavior" (MW 2:305). Such hasty unification of theory and praxis must deliver theory in the whole over to a theory-less praxis. Theory is in truth more than methodological doctrine for scientific research. It always transcends the given praxis of what can be—can be not according to the ruling of research alone, but to Reason, Freedom, Right and similar 'metaphysical' authorities. Theory's fate depends on not covering up the chasm between 'empirical values' and Reason, between thought and reality, but on maintaining it and repeatedly opening it wide until it is closed by a praxis escorted by an unmutilated theory. Then alone would it be possible to no longer see a gulf between the highest flights of theory and the control of everyday praxis.

The shriveling of theory to the methodology of scientific experimentation and of praxis to the experimentation itself encroaches onto the theory of society. For social science, according to Dewey, there is only research as "complete abstraction from the qualities of sin and righteousness, of vicious and virtuous motives that are so readily attributed to individuals, groups, classes, nations" (LW 12: 488). Spinoza's thought that moral questions should be handled in the same manner as the genesis of thunder may be admitted—but can this 'naturalistic' attitude toward the facts still claim truth today? Even in social questions all goals to be achieved should be regarded as hypotheses which, in the same way as in all other sciences, must be tried out and verified. On the other hand, it is precisely the concepts of hypothesis and of verification that lead Dewey to a rejection of modern logical positivism. The hypothesis at least goes beyond the field of determined facts and their organization. Dewey emphasizes that facts can become determined and organized in a scientifically indisputable way without them being understood. They are understood only when their real meaning, that is, their consequences, are conceived. The consequences, in reference to the objects of the social sciences, are in turn sublated [*aufgehoben*] only in the societal praxis of humans. This praxis also alters the concept of verification. Verification may not be possible at a given time, yet a societal hypothesis may not in general be 'directly' verifiable without by that fact becoming meaningless. History has long shown that the verifiability of a hypothesis is not as important as its 'directive power'. Dewey unfortunately does not evaluate his own insights. They would have exploded the theory of the purely immanent-scientific function of concepts.

In the entire endeavor to materialize traditional logic as a pragmatistic instrument of concrete research, Dewey's logic remains (in its decisive moment) idealistic. The fixed point to which logical thought should be applied is the 'inquiry': the existing scientific investigation. Though the inquiry is seen in its organic and 'cultural' conditions, its structure will not be altered by these conditions. In fact, it 'produces' the world which stands in question for logic. It is a world by grace of science. This is expressed in many places. What exists, says Dewey, is in itself indifferent to the demarcations of beginning and end, origin and decline. All whence and whither is "strictly relative to the objective intent set to inquiry by the problematic quality of a given situation" (LW 12: 221). "*Event* is a term of judgment, not of existence apart from judgment" (LW 12:222). History is a 'selection' of movements which in turn is itself further determined through the task and condition of the research. The concept of a causal law is a 'figure of speech'. The category of causality has purely logical meaning: it serves research as a means of orientation until each of its given goals are accomplished. The subject of research is not analyzed by Dewey. All epistemological and

even metaphysical problems, which are sovereignly pushed aside, will reappear elsewhere unanswered.

While Dewey's logic is thus on the one hand idealistic, without the meaning and the consequences of such an idealism being clarified, it remains on the other hand naturalistic. The secure and firm unity and universality, which research can not provide, should be established by biology. "The experiential continuum has a definite biological basis. Organic structures, which are the physical condition of experience, are enduring. Without, as well as with, conscious intent, they hold the different pulses of experience together so that the latter form a history in which every impulse looks to the past and affects the future" (LW 12:244). Hume's attack on the necessity and universal validity of categories is answered by biology. The development of biology made Hume's well-worn unity of habit superfluous. The unity of man's 'organic behavior' can to a large extent take its place. How logical thought builds itself up out of these behaviors remains unclarified. Pointing out the continuity of 'lower' and 'higher' types of behavior is no answer.

NOTES

1. Originally published in *Zeitschrift fur Sozialforschung* 8 (1939–40) p. 221–28. I would like to thank Greg Sadler and Christiana Hochkoeppel for their aid in the translation. Also, I appreciate the permission granted by Douglas Kellner and Peter Marcuse to translate this piece.

2. All page references to Dewey's work are inserted by the translator.

3. Regarding the use of the term 'research' to translate 'Forschung': Though Marcuse had Dewey's term 'inquiry' in mind when writing the review, using 'research' calls to mind the Frankfurt School's Institute for Social Research (*Sozialforschung*). In addition, it draws attention to the difference between research, as Marcuse understands it, and Deweyan inquiry.

4. See this journal yearbook VI (1937) p. 4+. Marcuse here refers to Max Horkheimer's "Der Neueste Angriff auf die Metaphysik," reprinted as "The Latest Attack on Metaphysics" in *Critical Theory*, Matthew O'Connell, trans. Continuum Press.